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An Infant Jar Burial from Zarnūqa: Muslim Funerary Practices and Migrant Communities in Late Ottoman Palestine

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The article presents an exceptional late Ottoman-period funerary assemblage excavated in 2001 at the former Arab village of Zarnūqa, on Israel's southern coastal plain. The assemblage, which formed part of a small cemetery in which mostly children were buried, included three storage jars covered by a stone surface—one contained the remains of a newborn baby, another contained grains and the third had an unknown content. The burial and grain jars were of Egyptian origin. In this article we present an updated inventory of Muslim jar burials from historical Palestine. When analyzed against this database, the Zarnūqa assemblage raises key questions pertaining to Muslim funerary practices, religious belief and magic, and to the migration of Egyptians to late Ottoman Palestine.

Keywords: Muslim funerary practices, jar burials, Ottoman Palestine, Zarnūqa, Egyptian migration

Introduction

This article presents and reinterprets a late Ottoman-period[2] infant jar burial excavated in 2001 at the site of the former Muslim Arab village of Zarnūqa (presently on the southwestern outskirts of the city of Reḥovot; Fig. 1). The trial excavation, carried out by the Israel Antiquities Authority under the direction of Moshe Ajami,[3] was published in a final report (Ajami 2007), according to which the discussed jar burial was part of a cemetery. The burial context and details reflect some exceptional characteristics that justify a reassessment. Following a brief overview of Muslim funerary practices in the region in the discussed

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[2] In this article we follow the periodization of the Ottoman period established by Marom and Taxel (2023:52; 2024:87). Accordingly, the late Ottoman period begun at c. 1750 and ended in 1917 CE.

[3] Permit No. A-3363.

Fig. 1. Location map (illustration: E. Delerzon).

period, and of the village of Zarnūqa, we describe the jar burial and its context—based on the published report, unpublished archival files and examination of the finds—and suggest an interpretation of that burial against the background of Muslim funerary practices and the social-demographic structure of late Ottoman Palestine.

Muslim Funerary Practices in Late Ottoman Palestine

Although a certain degree of diversity in rituals and grave morphology does exist, Islamic burial tradition is broadly characterized by: (1) avoidance of delayed burial; (2) washing of the deceased (Arabic: *ghusl*) and inhumation in shrouds without the use of coffins;[4] (3) laying the body within the grave on its right side (in the Near East—in an east–west orientation), with the head to the west facing the direction of Mecca (the *qibla* axis).[5]

In Palestine, most burials involved a single deceased placed in a trench, either plain (pit burials) or lined with stones (cist burials). Both pit and cist graves were covered with stone slabs. Graves were clustered in designated burial grounds (Arabic: *maqābir*; s. *maqbara*) outside or on the fringes of settlements, while scattered burials are usually attributed to populations on the move, like nomads, pilgrims and merchants (Granqvist 1965; Simpson 1995:242–248; 2011:58–66; Insoll 1999:169–174; Halevi 2007; Milwright 2010:133–134; Petersen 2013:243, 245–251, 254; 2020; Galilee, Kark and Kressel 2018; Avni and Taxel 2024).

In contrast to earlier cultures, Islamic jurisprudence prohibits the inclusion of grave goods with Muslim believers (*Islamweb* 2004). Despite that, findings of jewelry and other minute personal belongings (and seldom ceramic or glass containers) are rather common in Muslim tombs, mainly those from Middle and Late Islamic times (twelfth to early twentieth centuries CE). In the Levant, at least, this divergence of religious proscriptions and actual practice is both noteworthy and prevalent (see, e.g., Simpson 1995; 2011).

Graves were marked by uninscribed headstones and footstones, a stone heap or, rarely, by a stone enclosure. For higher status individuals, a prominent tomb, sometime with a stepped construction or a domed structure, was furnished. Depending on the higher status individual's role in life, the tombstone might include a symbolling turban (*'imāma*), or an inscription. During the late Ottoman period, inscribed and/or dated tombstones became more common with the socioeconomic development and increased literacy in Palestinian urban centers and at some sites in the countryside. In several cemeteries, like the Istiqlāl Cemetery (Haifa) and ash-Sheikh Murād Cemetery (Jaffa), late nineteenth and twentieth century tombstones contain embedded and perforated ceramic jars for the planting of ornamental plants.[6] This development, associated as it is with urban centers, reflected an increased care for graves and attention to the esthetics of burial grounds, complementing the age-old use of flora like *Iris mesopotamica* (Mesopotamian iris), *Drimia maritima* (squill),

[4] Those fallen in battle, i.e., martyrs (*shuhadā'*), are left unwashed and are buried in their clothes.

[5] In regions located north of Mecca, including the Levant, the deceased's head commonly faces south; the direction changes in regions located, for instance, south or west of Mecca (e.g., Egypt, North Africa and southern Europe).

[6] Unpublished field surveys conducted by the Palestinian Rural History Project (PRHP), 2016–2023, curated by Roy Marom.

and more recently, various kinds of *agave*, for marking graves and adorning burial grounds throughout the country (Dafni et al. 2006).

Sometimes, the interment of infants and children in Palestine received less care than that of adolescents or adults, because they were regarded as minors and not as fully participant (and socially and religiously bound) members of society. Facing high levels of child mortality, such burials often took place in a more rudimentary way, and often left unmarked. Sometimes, families interred their infants and children in small, dedicated burial plots next to the residences or at holy shrines, separately from the adult members of the community. This phenomenon appears more common when local traditions demanded that adult members of the community be buried at designated *maqābir* farther afield.[7]

The Village of Zarnūqa

Zarnūqa was a late Ottoman–British Mandate-period Muslim village, located in the southern coastal plain, c. 4 km to the northeast of the larger village of Yibnā/Yavne. Surveys and small-scale salvage excavations revealed remains and finds associated with the Ottoman–British Mandate-period village, as well as with earlier phases of occupation from the Persian, Hellenistic, Roman, Byzantine, Early Islamic, Crusader and Mamluk periods (for preliminary survey results, see Fischer and Taxel 2008:25–26; Taxel [internal report];[8] for recent excavation reports, see, e.g., Marmelstein 2014; Shustin 2021).

The archaeological finds provide important evidence for the site's history, as Zarnūqa rarely figures in surviving pre-late Ottoman records. Zarnūqa is absent from Mamluk chronicles and religious endowment (*waqf*) deeds, nor does it appear in published early Ottoman cadastral records (Hütteroth and Abdulfattah 1977; Ipshirlī and al-Tamīmī 1982; Salahiya 1999; al-Khaṭīb 2007). Therefore, the village seems to have been established during the eighteenth century CE, perhaps concomitant with the construction of its main mosque, dated by an inscription to AH 1208/1793/4 CE.[9] During the nineteenth century, Zarnūqa developed into a medium-sized agricultural settlement in the sub-district of Ramla (Robinson and Smith 1841:118; Guérin 1869:52; Conder and Kitchener 1882:414). Like

[7] For example, residents of Khirbat Zalafa, a satellite village of ʻAttīl, Tūlkarm sub district, buried their children in a designated plot near the khirba instead of at the clan's neighborhood cemeteries at ʻAttīl, 13 km away. Another case concerns the deceased children of the ʻArab Sukrīr Bedouin tribe being buried at en-Nabī Yūnis (Tel Yona, Ashdod), while the tribe's adult members had to be buried at Abū Hurayra's shrine in Yibnā/Yavne, 12 km away (Marom, forthcoming).

[8] The surveys at Zarnūqa were carried out by Itamar Taxel in the early 2000s as a supplement to the survey of the Map of Yavne that was directed by the late Moshe Fischer and Taxel on behalf of Tel Aviv University.

[9] The still-standing mosque was documented in 1942 on behalf of the British Mandate Department of Antiquities (see Petersen 2001:321), and more recently by one of the authors (I.T.). The mosque's construction is attributed to Sheikh Aḥmad al-Raḥḥāl, and in the 1938 village map (Fig. 2) it appears as "Esh Sh. Muhammad." Note that the date of the as yet-unpublished entrance inscription given by Petersen (2001:321) as AH 1207—citing the British Mandate antiquities inspector—is erroneous.

other villages established in the coastal plain during that time, its population consisted of a core of resident 'peasants' (*fellaḥin*) and immigrants from Egypt, known locally as *maṣriyyīn* (cf. the village of Salama near Jaffa [Saqr 1989:35–43] and the region of 'Asqalān/Ashqelon [Sasson and Marom 2022; Marom and Taxel 2024]). In 1890, Jewish settlers established the colony (*moshava*) of Reḥovot in Wadī Deirān, inhabited originally by Bedouin from the Sawṭariyya tribe. Despite some conflicts, the development of Jewish colonies around Zarnūqa contributed to its economic prosperity and growth. During this time, Zarnūqa joined the orange cultivation zone around Jaffa, attracting further immigration from the mountainous interior and Egypt (al-Dabbagh 1991:595–597; Ben-Bassat and Alroey 2016). In 1945, British officials estimated the village's population at 2380 (Khalidi 1992:424–425).

Zarnūqa's main cemetery was located in an open area slightly to the east of the mosque. This cemetery appears on the village's British Mandate map (Fig. 2), and the area's investigation by Taxel from the late 1990s onward revealed disturbed remains of built cist graves and at least one infant burial in a Gaza Ware storage jar; especially noteworthy is

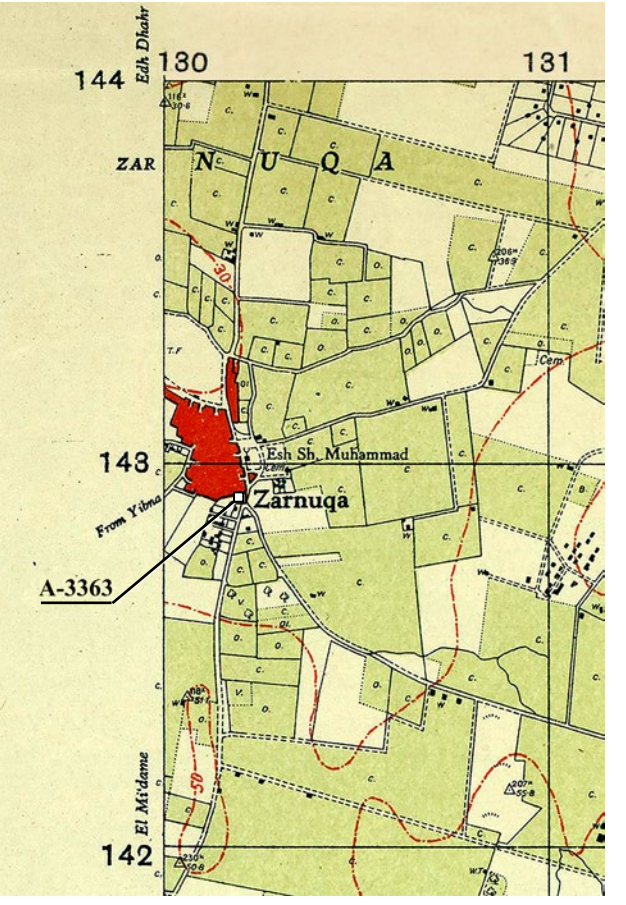

Fig. 2. Zarnūqa, British Mandate map, 1938 (Sheet 13–14, Er Ramle), marked with the location of the 2001 excavation (A-3363); note the location of the mosque (Esh Sh. Muhammad) and the main cemetery (Cem) (illustration: M. Shuiskaya).

Fig. 3. Zarnūqa, aerial photograph, 1946 (courtesy of the Survey of Israel), marked with the location of the 2001 excavation (A-3363) (illustration: M. Shuiskaya).

the discovery within the cemetery area of a large fragment of an Arabic-inscribed marble tombstone.[10] This find echoes the British Mandate antiquities inspector's report about "reused marble fragments" in the cemetery (cited by Petersen 2001:321).

The 2001 excavation carried out at the site testified to the existence of another, apparently smaller and secondary cemetery on the southern fringes of the village, c. 150 m southwest of the mosque. This cemetery, which forms the focus of the present study, is absent from British topo-cadastral maps, and by 1946 at the latest, it was turned into a built-up residential area as shown by British aerial photographs (Fig. 3) and the excavation results.

[10] The tombstone, dated to the Mamluk period, was studied by Nitzan Amitai-Preiss.

The 2001 Excavation and the Jar Burial

In 2001, the IAA conducted a trial excavation at Zarnūqa following the accidental discovery of antiquities during construction works c. 150 m southwest of the village mosque (see Figs. 2, 3).[11] The excavation comprised two squares: Sq A, where seven burials were found, and Sq B, which yielded remains of a wall and a floor. The description below refers mostly to the remains in Sq A, based on the excavation report (Ajami 2007; Nagar 2007) and on scant additional data that we were able to glean from the archival field diaries.

The seven burials unearthed in Square A included one jar burial (excavated as part of L102; see below), which constitutes the focus of this study, as well as three stone-built cist tombs (L105, L106, L109) and three simple pit tombs (L107, L108, L110). The uppermost funerary context (L102), exposed underneath a sub-topsoil layer (L101), constituted a surface (termed "pavement" by the excavator) of small fieldstones. The stone surface apparently continued north and west beyond the square's limits. The southern end of the surface was somewhat undetermined and was probably partially eroded, while the eastern edge seems to have been destroyed by a modern trench. Partially sunk under the western part of the stone surface and partially protruding c. 0.2 m above it and covered with fieldstones, were two storage jars (B and C; Fig. 4). After removing the stone surface, a third jar (A) was found

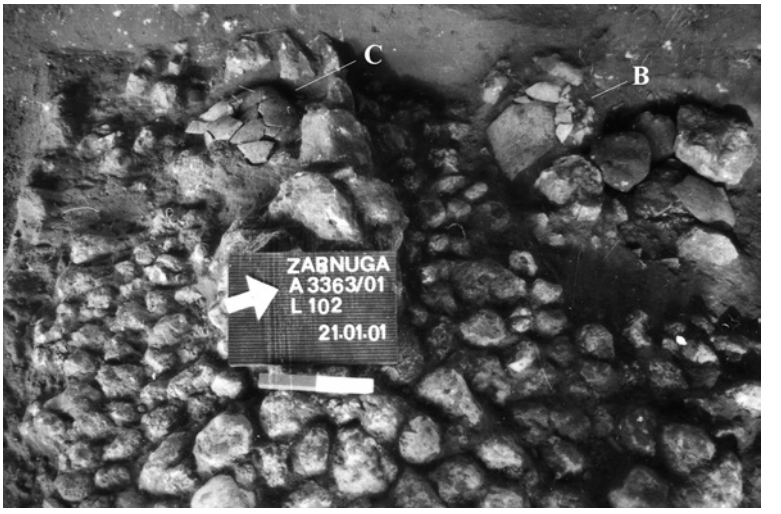

Fig. 4. The stone surface with protruding Jars B and C, looking west (photography: T. Sagiv; processing: M. Shuiskaya).

[11] We wish to thank Moshe Ajami (IAA), for the permission to republish the relevant finds from his excavation at Zarnūqa; Giulia Roccabella (IAA), for locating the excavation finds in the National Treasury storehouses; Yohan Nedjer and Svetlana Matskevich (IAA), for locating and scanning the excavation files in the archive; Dafna Gazit (IAA), for photographing the burial assemblage jars; interviewees of the PRHP, for sharing their knowledge of their ancestral burial customs; and Elena Delerzon and Marina Shuiskaya (IAA), for preparing the illustrations that accompany the article.

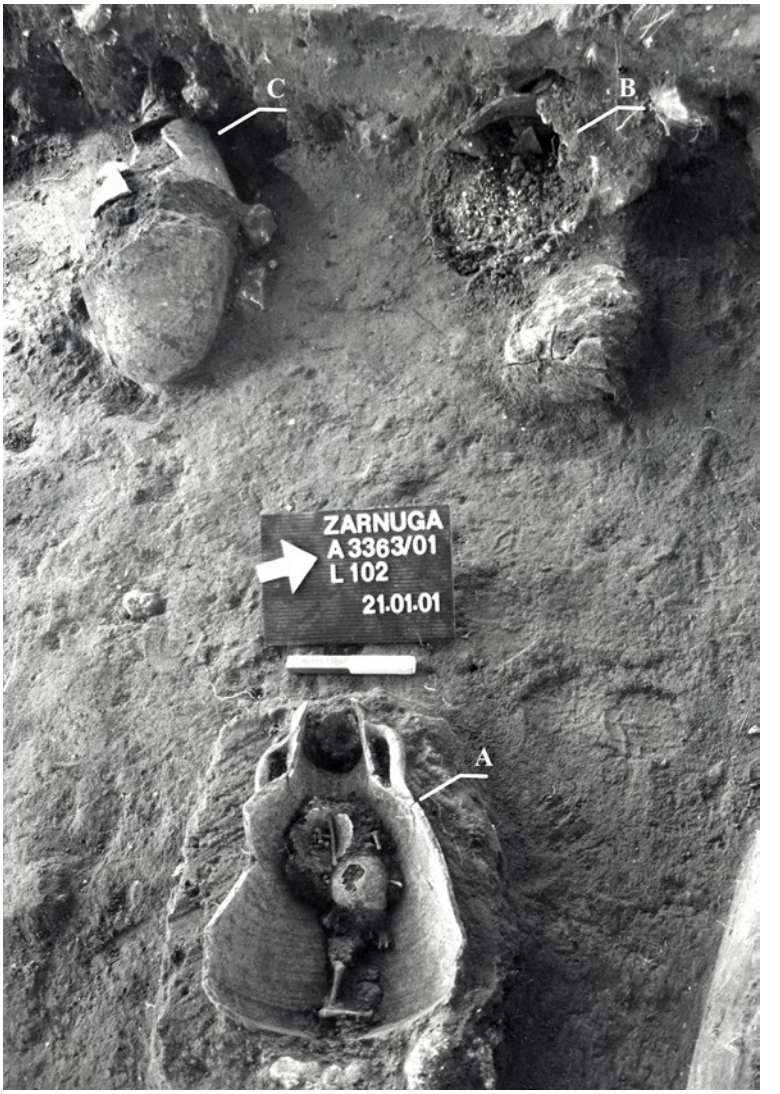

Fig. 5. Jars A, B and C after removing the stone surface, looking west (photography: T. Sagiv; processing: M. Shuiskaya).

c. 0.5 m to the east of the two previous jars, on a somewhat lower level and completely sealed by the stone surface and not protruding from it (Fig. 5).

The jars rested on their side in an east–west orientation. The easternmost and lowermost Jar A, with its neck to the west and its base partially broken, contained the remains of a human skeleton (Fig. 6:a). The deceased was placed in the jar through its broken base. The bones of the deceased were anatomically articulated, indicating primary burial. The deceased was laid with the head to the west, although it was difficult to determine whether the original position inside the jar was in full accordance with the basic Muslim custom described above. Two complete bones—a radius and an ulna—were measured at 52 and

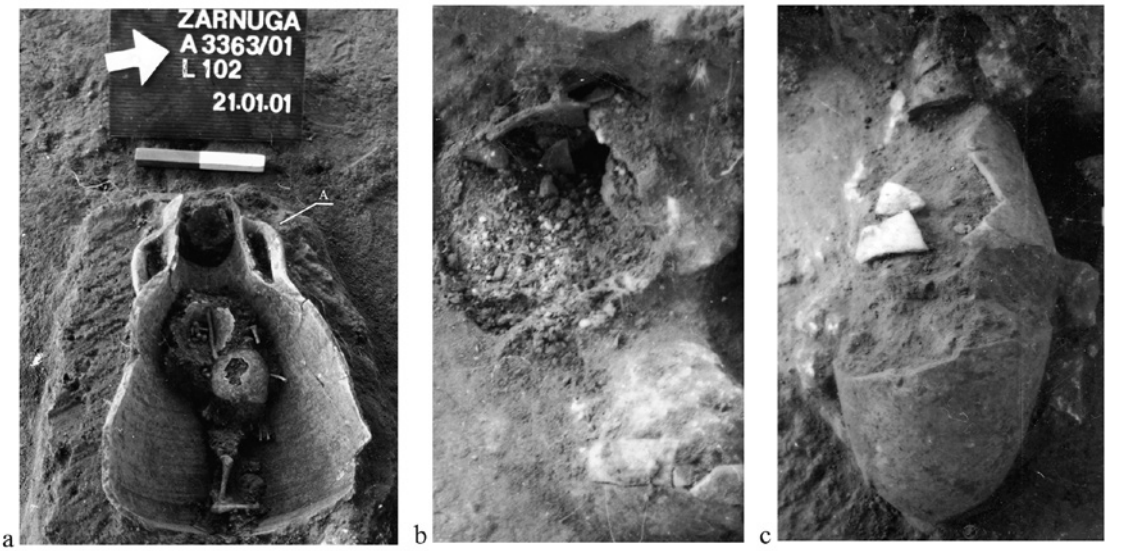

Fig. 6. Close-up of the jars, looking west: (a) Jar A, (b) Jar B and (c) Jar C (photography: T. Sagiv; processing: M. Shuiskaya).

60 mm respectively, suggesting a newborn of unknown sex (Kósa 1989). Northwestern Jar B, which was probably also laid with its neck to west, had a broken base and handles, and contained grain, perhaps wheat (Fig. 6:b; the organic finds were not kept or analyzed). Both jars represent the same type of an Egyptian bag-shaped jar (see below).

Southwestern Jar C contained no finds. Based on the field photograph (Fig. 6:c), this jar's neck or opening also pointed westward. Although the jar was not kept after the excavation, its overall oval/biconical (perhaps handle-less) shape differs from the two previous jars, but it too recalls other Egyptian storage-jar types.[12] The excavation of L102 also yielded stray pottery sherds—some were found in the earth deposit covered by the stone surface, while others probably originated in the earth accumulation over the stone surface (i.e., directly below L101). They include dark gray Gaza Ware bowls and a jug (Ajami 2007: Fig. 3:1, 3, 5, 6, 8), Pale Ware bowls (Ajami 2007: Fig. 3:1, 4) and a plain handmade bowl (Ajami 2007: Fig. 3:7). While some of these types may be dated to the eighteenth century CE, and even earlier, the assemblage seems to be most securely dated to the nineteenth century CE.[13]

[12] Such Egyptian jars, with an oval, handle-less body, were used for storing water and dates, and are termed, respectively, *zīr* and *deḥma* (Henein 1997:114, 119, 157, 159, Figs. 55:21, 22; 93; 94, Photographs 71–73, 97).

[13] As the original report does not specify the vessel types, the pottery from the excavation was examined and determined by one of the authors (I.T.) in the IAA storehouses. It should be noted that no glazed wares (local or imported) were present in the assemblage. Also noteworthy are two lily-type clay tobacco pipes (unpublished) that were found in L101; these pipes are dated from the mid-nineteenth to the early twentieth century CE. For an updated typo-chronology of Gaza Ware, see Taxel 2024. Pale Ware (after Tsuk, Bordowictz and Taxel 2016) is the term chosen for a Late Islamic ceramic family characterized by a pale-colored fabric, which shares some morphological features with certain Gaza Ware types.

The other six burials were found in various locations within the excavation square, their bottom level 0.7–1.2 m deeper than the bottom of the infant burial in Jar A (L102). Three of the burials were built cist tombs (L105, L106, L109), and three were simple pit graves (L107, L108, L110). As expected from Muslim burials, and in accordance with historical evidence of the Muslim religious affiliation of the residents, the tombs were generally oriented east–west and each contained the remains of a single interment:
L105: disturbed, 5–6 years old;
L106: supine, head to the west, 20–30 years old, sex undetermined;
L107: disturbed, newborn to 5 months old;
L108: supine, head to the west facing south, 1–2 years old;
L109: disturbed, 0.5–1 year old;
L110: head to the east(!), newborn to 5 months old.

Simple glass vessels and metal jewelry were found in tombs L105–107, and some late Ottoman-period pottery sherds, such as a Pale Ware bowl and a storage jar (Ajami 2007: Fig. 3:4, 9), were found in the earth deposit into which the tombs were dug.[14]

Square B of the excavation, located north of Sq A, revealed the remains of an east–west wall constructed of fieldstones and mud bricks; it was abutted by a thin mortar floor on the north. These remains (L100, L103) were dated by Ajami (2007) to the first half of the twentieth century CE,[15] and were likely part of a dwelling. Hence, they represent the southward expansion of the village during British Mandate times, as indicated by the comparison of the 1938 map and the 1946 aerial photograph (Figs. 2, 3), when the small nineteenth-century cemetery under discussion was probably forgotten and built over.

The Egyptian Jars

As noted, the jars that contained the infant burial (Jar A; B1004/1) and the grain (Jar B; B1008/5) were typically Egyptian. Jar A (Fig. 7:1) was made of a coarse but well-fired orange-brown fabric that contained small reddish-brown (granite?) inclusions. It has a bag-shaped body with a slight carination at its lower third, above the partially-missing rounded base, high vertical neck with a broad external fold over the rim, and long oval-sectioned handles that emerge from below the rim to the shoulder. The jar has an external cream-colored (self?) slip, and it is decorated along the carination line with a row of small oval impressions. In addition, on the remaining part of its base was preserved a layer of grayish mortar or plaster, perhaps evidence of a repair or reinforcement made to the jar when it was still in use.

[14] The earth fill that sealed tomb L105 (L104) yielded a fragment of a lily-type smoking pipe.

[15] One of the (unpublished) finds from L103 is a lily-type tobacco pipe fragment. Also found in the excavation (in an unknown context) is a disc-base-type tobacco pipe, commonly dated to the second half of the nineteenth until about the mid-twentieth century CE.

Fig. 7. Jars A (1) and B (2) (drawing: M. Shuiskaya; photography: D. Gazit).

Jar B (Fig. 7:2) was also made of a coarse but well-fired orange-brown fabric; however, it contained small to large white inclusions and imprints of organic (chopped straw) tempers. The jar, which shares the same morphology and decoration with Jar A, is coated with a whitish (self?) slip and its handles seem to have been intentionally detached before (perhaps upon) its reuse in the funerary context.

Jars A and B belong to an Egyptian ceramic type called *ballāṣ*, which are evidenced in the ethnographic, artistic and archaeological record between the end of the eighteenth century and the early decades of the twentieth century CE.[16] The earliest evidence appears in the second volume of the *Description de l'Égypte*, a compilation of scientific, archeological and ethnographic observations carried out during Napoleon Bonaparte's expedition to Egypt (1798–1801 CE). Among the Egyptian pottery forms drawn by the French explorers is a *ballāṣ*-type jar almost identical to the Zarnūqa jars, with a decoration of what seem to be small V-shaped impressions in addition to wavy incisions/combing. The French described the *ballāṣ* jar as an oil-storage container (Russell 2001:520, Pl. EE:21). Considering oil's rarity in Egypt, these jars were probably more frequently used for carrying and storing water. Indeed, a mid-nineteenth-century travelogue included a drawing titled "women and children of the lower classes" (Lane 1860:48), in which a *ballāṣ* jar is set upon one of the women's head in a manner in which water jars were carried throughout the Middle East. Additional *ballāṣ* jars, very similar to the present examples, were documented by Ellis in the late twentieth century in Egyptian villages in secondary use as pigeon coops and vessels for storing milk fat (2007:470–471, Figs. 7, 12); these were perhaps relatively old jars, which further indicates the type's continuation into the twentieth century. *Ballāṣ* jars also appear in two works by the Egyptian sculptor Maḥmoud Mukhtar (1891–1934)—"Returning from the river" and "*Fallaḥah* raising water" (Ziffer 2013:34, Figs. 5a, 5b).

Published archaeological finds of *ballāṣ* jars from Egypt are seemingly scarce. A jar's rim-neck fragment identical to the Zarnūqa jars was recovered from the post-Ottoman phase of the Ottoman fort of Quṣeir on Egypt's Red Sea coast (dated 1799 CE onward; al-Senussi and Le Quesne 2007:222, Fig. 88:13). Other jars from the site also exhibit rim-neck and sometimes handle profiles similar to the discussed type, and they are characterized by a wavy incised decoration. These jars are dated mainly to the eighteenth century and later (al-Senussi and Le Quesne 2007:225, Fig. 89). The Quṣeir jars were made of a "fabric formed from a mixture of red tufla (*ḥomra*) and Nile clay, tempered with evenly distributed flecks of limestone. The vessels would have been fired in high temperatures resulting in a homogeneous red fabric visible in fracture, which was also very hard. The surface is often cream, a result of the processes of firing rather than from a slip" (al-Senussi and Le Quesne 2007:222). A near-complete *ballāṣ* jar, reused as a flowerpot, with a missing base, rim and handles, was published from a context dated to the eighteenth century or later in

[16] Similar jars, but apparently with different rim-neck profiles, are still produced in Egypt. See https://mitsalsil2.blogspot.com/2015/04/blog-post_51.html

Luxor. The jar was made of a "medium coarse marl clay," and its body was decorated with a combination of horizontal incisions and small oval impressions (Masson, Naguib and Shafey 2012:134, Fig. 22) reminiscent of the Zarnūqa jars. According to them, these jars were "used for the transport and the storage of various goods and liquids, mainly water but also black honey" (Masson, Naguib and Shafey 2012:134).

To the best of our knowledge, no other *ballāṣ* jars have been published from sites in Israel so far. Their apparent rarity in local contexts, and the above-mentioned data about their native uses in Egypt, suggest that they were brought to Zarnūqa with people, perhaps nomads or itinerant/seasonal workers arriving from Egypt. The Egyptian origin of the jars does not presuppose the origin of the young deceased. This point, for its particularity, does carry weight for discussing various candidate populations in relation with the Zarnūqa jar burial.

Discussion: Muslim Jar Burials

This section offers an examination of the Zarnūqa jar burial against the broader context of Muslim jar burials in the Southern Levant and the local and particular context of the Zarnūqa case, including its uncommon characteristics and its possible relation to migrants of Egyptian origin.

Muslim Jar Burials: Review and Preliminary Insights

The reuse of ceramic containers for the primary burial of infants, including stillbirths, was prevalent in the Southern Levant since the Pottery Neolithic period. The archaeological record shows evidence for its continuation, albeit not with the same intensity, until the first half of the twentieth century CE. Yet, as noted above, this burial custom became marginal in the Islamic-period Levant compared to the preceding Roman and Byzantine periods. Here, we present for the first time an up-to-date survey of published and unpublished examples of primary jar burials from Palestine. Our analysis of this sample indicates that the practice of jar burials declined sharply after the seventh century CE (cf. Taxel 2018:98–99). Only a single example of Early Islamic-period jar burials, from Ṣarafand el-Kharab, has been published so far (Gorzalczany 2004; for more or less contemporaneous infant jar burials from Tebtynis in Egypt, see Gallazzi and Hadji-Minaglou 2012). A certain revival of the custom did not occur before the late Mamluk period (fourteenth or fifteenth century CE) and continued throughout the Ottoman and British Mandate periods on a small scale (Gophna, Taxel and Feldstein 2007:26, 28; Taxel 2018:168). Geographically, the custom of infant jar burials was restricted, with almost all the archaeologically or ethnographically documented examples originating in the central and southern coastal plain and north-northwestern Negev, and a few borderline sites along the western foothills of Jabal Nablus/the Samaria Hills frequented by coastal nomads (see Table 1).

The data summarized in Table 1 indicate that the burial in ceramic containers throughout the Mamluk and British Mandate periods was rather marginal compared to pit or cist burials. This is especially prominent in cemeteries such as Tell el-Ḥesi (Toombs 1985:64; Eakins

1993:20, 30), Bayyārat Ḥannūn and Ṣummeil, where a large sample of fetuses, infants and children up to 10 years old were found, yet the number of jar burials was negligible (5 out of 532, 1 out of 13, and 3 out of 120, respectively). In a few instances (e.g., ʻAqir and Ḥorbat Kasif [North]), a single jar burial was found with no evidence of additional tombs. Nagar and Sameora-Cohen (forthcoming) suggested that this custom is age-related, and was practiced for stillborn babies, whereas individuals who were born alive were buried in regular pit or cist graves even at a very early age-at-death. Based on this hypothesis, one can easily understand the Tel Mevorakh example, where three individuals of perinatal age were found: two of them, estimated as fetuses, were interred in jars, while the third, who died soon after a live birth, was buried in a regular tomb (Arensburg 1978).

In this respect, the largest number of jar burials reported from a single cemetery (at Jindās, nine burials) is an exception, as it constitutes one-quarter of the 36 identified burials of fetal to 10-year-old children (Eshed 2023b:62, Table 3.2). Three of these burials were not fetuses, but infants, as was customary in the earlier periods in the Southern Levant, before the advent of Islam; however, the preliminary data from which the specific age-at-death for each of these infants was estimated is not available and thus, the accuracy of these identifications could not be verified. Moreover, in all the other examples where infants aged less than 3 years old abounded, none except for those estimated as fetal or neonate were buried in jars.

The distribution of jar burials in the discussed period shows that this practice was apparently customary only among some sections of the Muslim population of central and southern Palestine, and that it was common in sedentary town- and village-based and nomad or semi-nomad communities alike. It may also be assumed that Muslim migrants from neighboring regions—notably Egypt—who settled in Palestine mainly during the late Ottoman period, may have practiced the custom of burying stillborn babies in jars, even if this custom was much less familiar, if at all, in their countries of origin. As suggested below, this was probably the case of the Zarnūqa jar burial, and may easily explain the presence of jar burials in Jaffa or Ṣummeil, whose population was characterized by a substantial component of Egyptian migrants.

The ceramic vessels (re)used for the burial of perinatal individuals were usually storage jars, almost exclusively local variants of the long-lived bag-shaped form; the Egyptian bag-shaped jars used in the Zarnūqa cemetery are exceptional in this regard. Most of the remaining examples—especially those dated to the late Mamluk and early Ottoman periods—represent biconical beehive (or beehive-dovecote) vessels, which due to their size and wide opening were also convenient for this specific purpose (see Taxel 2006).

The reasons for using jars and the like for burying stillbirths and possibly neonates in the discussed period or earlier, are not fully understood. As noted by Perry and Joukowsky (2006:174) with regard to a single Roman or medieval jar burial discovered in Petra, at least in the Levant, there are no noticeable physical, gender or status differences between infants buried in jars (regardless the period) and those interred in conventional tombs. However, it is legitimate to suggest that in certain cases, the relatives of a deceased fetus or infant

Table 1. Middle and Late Islamic Infant Jar Burials in Palestine (see Fig. 1)

Site	Region	Dating[i]	No. of Burials	Burial Container	Age of Interred	References
Tel Mevorakh	Central coastal plain	Early/middle Ottoman	4	Storage jars, jug, beehive vessel	Fetus, 8–9 gestational months–newborn	Arensburg 1978 Stern 1978:4–5, Fig. 1:1–4, Pl. 21
Bayyārat Ḥannūn (Netanya)	Central coastal plain	Late Ottoman–British Mandate (post-1890 CE)[ii]	1	Storage jar	-	Nagar, forthcoming Terem, unpublished[iii]
Jaffa, Qishle	Central coastal plain	Late Ottoman	2	*Sāqiya* (water-wheel) jar	Fetus, 6 gestational months	Arbel 2021b:46 Nagar 2021:352
Jaffa, Qishle[iv]	Central coastal plain	Late Ottoman	1	Storage jar	Perinatal	Nagar 2024
Jaffa, Razi'el Street	Central coastal plain	Late Ottoman(?)	1	Storage jar	Fetus, 8 gestational months[v]	Sion and Rapuano 2017
Ṣummeil	Central coastal plain	Late Ottoman	3	Storage jar	Perinatal	Nagar and Sameora-Cohen, forthcoming
Al-Shaykh Sa'd (Ramat Ha-Sharon)	Central coastal plain	Late Ottoman	2	Storage jars	Fetus, 8 gestational months[vi]	Eshed 2023a Sulimani 2023:103, Figs. 8; 22:2, 4
Ḥorbat Migdal	Western Samaria Hills	Early Ottoman	1	Storage jar	-	Neidinger, Matthews and Ayalon 1994:14
Ḥorbat Zikhrin	Western Samaria Hills	Late Mamluk–early Ottoman	2	Beehive vessels	-	Taxel 2006:208, Figs. 13:3, 4; 14
Ṣarafand el-Kharab	Southern coastal plain	Late Ottoman	4	Storage jars, beehive vessels(?)	-	Glick 1998:74, Fig. 134:10, 11 Gorzalczany 2016:102–103

[i] The dating of some of the published burials is slightly updated based on a reappraisal of the finds by one of the authors (I.T.).

[ii] For the site's dating, see Marom 2022:295.

[iii] The IAA excavation southeast of the site of Bayyārat Ḥannūn (Permit No. A-8987) was directed by Durar Masarwa and the pottery was studied by Shulamit Terem. We wish to thank them both for the permission to mention here the jar burial retrieved from the excavation. According to Vered Eshed, who examined the anthropological remains from the jar, it contained only very small pieces of bone, which prevented the determination of age at death.

[iv] License No. B-361/2016; directed by Boaz Gross and Meir Edrey, on behalf of the Israeli Institute of Archaeology and Tel Aviv University.

[v] Based on the humeral length (reported as 48–50 mm), the age-at-death of this individual was re-estimated, following Kósa (1989).

[vi] Based on the clavicular length (reported as 32 mm), the age-at-death of this individual was re-estimated, following Kósa (1989). The excavator mentioned two jar burials—L1033 and L1053 (Sulimani 2023:103)—but only the former is described in Eshed's report.

Table 1. (cont.)

Site	Region	Dating[i]	No. of Burials	Burial Container	Age of Interred	References
Jindās	Southern coastal plain	Late Mamluk–early Ottoman	9	Storage jars, beehive vessels	Fetus–3	Eshed 2023b Eshed, Toueg and Krispin 2023:70 Toueg, Eshed and Krispin 2023:39–40, Figs. 2.19, 2.20 Vincenz 2023:76–77, Figs. 5.3:5; 5.4:1, 2
Khirbat ed-Duheisha	Southern coastal plain	Late Mamluk–early Ottoman	-	Storage jars	-	Kaplan 1957:202[vii]
Zarnūqa	Southern coastal plain	Late Ottoman (and British Mandate?)	2	Storage jars	Newborn	Ajami 2007 Taxel (see n. 8)
ʿĀqir	Southern coastal plain	Ottoman	1	Storage jar	Perinatal	Marmelstein 2025
Al-Nabī Qanda	Southern coastal plain	Late Ottoman	1	Storage jars	-	Fischer and Taxel 2006 Taxel 2018:168, Fig. II.6
Tel Mor	Southern coastal plain	Late Ottoman (and British Mandate?)	2	Storage jars	-	Barako 2007:39–40, Figs. 2.44; 2.45
Shaykh Nūran	Southern coastal plain	Late Ottoman (and British Mandate?)	-	Storage jars	-	Canaan 1927:8, n. 1
Tell el-Ḥesi	Northwestern Negev	Middle/late Ottoman	5	Storage jars	Fetus–0.5	Eakins 1993:12, 18, Pls. 13, 14, 16–19, 28, 29 Toombs 1985:39–40, 107, Pls. 26, 27
Ḥaluẓa (Elusa)	Northwestern Negev	British Mandate	-	Storage jars	-	Kressel, Bar-Zvi and Abu-Rabiʿa 2014
Tel Seraʿ	Northwestern Negev	Late Ottoman–British Mandate(?)	-	Storage jars	-	Stern 1978:8, n. 10
Tel Beʾer Shevaʿ	Northern Negev	Late Ottoman–British Mandate(?)	-	Storage jars	-	Stern 1978:8, n. 10[viii]
Ḥorbat Kasif (North)	Northern Negev	Late Ottoman–British Mandate	1	Storage jar	Perinatal	IAA database[ix]

[vii] There is no certainty that the jars documented by Kaplan at Khirbat ed-Duheisha were used for infant burials, as later excavations at the site revealed cist tombs covered with jars and other vessels, a phenomenon familiar from additional late Mamluk–early Ottoman-period Muslim cemeteries between the Yavne region and the Lod Valley (Gorzalczany 2016; see also Toueg, Eshed and Krispin 2023:49–50).

[viii] Stern also mentioned a jar burial published from Tel Zeror in the Sharon. However, although this jar—which seems to be of a late Mamluk or early Ottoman date—was found with association to Muslim burials, it is not discussed in the site's excavation report or described as containing skeletal remains (see Ohata 1967:9–10, Pl. 13).

[ix] Anthropological Report of Ḥorbat Kasif (North), Permit no. A-6316/2012. The jar was found in a Byzantine-period burial cave, excavated by Alexander Fraiberg and Yotam Tepper.

wished to provide them with a special treatment, such as relatively protected conditions in the graveyard, perhaps even such that symbolized a mother's womb. This assumption is reinforced by a testimony of a Bedouin elder from the Negev quoted by Kressel, Bar-Zvi and Abu-Rabi'a (2014:22), according to which "If a newborn is buried before he has been named, the jar will serve him as a womb until the time of resurrection. It is a different matter with a child who already has a name and clothes, both symbols of a personal identity".[17] Al-Būjī and al-'Ēle, former residents of the nearby village of Yibnā (Yavne), al-Būjī being of a Bedouin descent, provide an extraordinary native account of infant jar burials in domestic contexts, with spiritual meaning: "Among the traditions which the people of Yibnā inherited from the Canaanites is the burial of dead children in ceramic jars beneath the walls of their houses [...] So that the spirits of the children could flutter in tranquility among their kin" (al-Būjī and al-'Ēle 2000:51). Both explanations are in accordance with the above suggested "stillbirth theory," as individuals in this age have not yet successfully managed to live outside the womb.

The reason for enclosing the infant interred in a ceramic container, instead of a shroud, could have been economic; however, although most classes of ceramic vessels for daily use in antiquity and early modern times were mass produced, they were rather costly, surely for the lower classes of society (see Taxel 2018:18–30). Alternatively, considering the high rate of fertility and infant mortality, the use of ceramic vessels was more economic than linen, whose production was labor intensive and likely less easy for most people to concede for funerary purposes; a still useable cloth being more valuable than a useable ceramic vessel, all the more so a defective or even repaired one, as demonstrated by the repaired Jar A from Zarnūqa and maybe also by the broken handles of Jar B.

Interpreting the Zarnūqa Jar Burial

The Zarnūqa jar burial assemblage may be considered exceptional not only because of the Egyptian origin of at least two of the jars, but also due to two other details—the incorporation of the jars in a stone pavement and the deposition of grain in one of the jars (and perhaps other foodstuff in the third jar) very close to the jar which contained the interred. To the best of our knowledge, none of these practices has parallels among the documented Islamic-period jar burials in the country, or elsewhere. The careful covering of the discussed jars with stones has no satisfactory explanation unless one interprets this as an ad hoc decision of the deceased's relatives to protect the burial and maybe to distinguish it from other nearby tombs. The construction of low plaster platforms over infant/child burials is documented in urban cemeteries (at Ramla, Lod and Haifa) from the nineteenth and the first half of the twentieth century CE (PRHP).

[17] Cf. Boeyens et al. 2009:225, 232, who suggested such an interpretation regarding jar/pot infant burials among nineteenth-century CE native South African villagers.

The second, and more intriguing and potentially important practice, concerns the placement of grains as a burial deposit. For Muslims, the burial of life-sustaining grain may have symbolized a hope for a new or renewed life. In the Qur'an, the germination of wheat from seemingly lifeless seed is given as a testament of God's truthful promise of the Resurrection: "Verily! It is Allah Who causes the seed-grain and the fruit-stone to split and sprout. He brings forth the living from the dead, and it is He Who brings forth the dead from the living" (Qur'an 6:95), and "He [God] brings forth the living from the dead and the dead from the living. And He gives life to the earth after its death. And so will you be brought forth from the grave" (Qur'an 30:19). The third, empty jar may have contained a liquid like water, which is also directly associate in Muslim thought with life: "We made every living being out of water" (Qur'an 21:30).[18] Taken against this background, the burial of wheat, and possibly water, may have functioned as apotropaic acts aimed to protect the recently deceased child, ensure its life after birth, and perhaps increase the fertility of the parents by providing them with other offsprings.

The discussed jar burial might relate to the presence of itinerant Domari (Arabic: *nawar*, colloquially: gypsies) or nomads, like 'Arab al-Suwṭariyya, who lived around settlements in the southern parts of the country, with dependents from Egypt and close family ties to co-tribespeople in Egypt. This might explain why jar burials figure prominently in the osteological record of excavated Ottoman-period nomadic cemeteries like those at Tell el-Ḥesi, Tel Mevorakh, al-Shaykh Sa'd and al-Nabī Qanda, among others. Still, we cannot preclude the possibility that the people associated with the Zarnūqa burial were actual Egyptian migrants, probably itinerant workers associated with the growth of Zarnūqa following Ibrahim Pasha's rule (1831–1840 CE), and the economic boom of citrus fruit cultivation in the late nineteenth, and more so, in the early twentieth century (cf. Marom 2022:344). The fact that this small cemetery was built over sometime after its abandonment supports its association with some itinerant population, presumably with affiliation to Egypt, as a still-active cemetery with associated population in the region would remain in communal property and not turned into private domain for housing.

Indeed, the presence of Egyptians is well-attested in the archaeological record of Early Islamic to British Mandate Palestine (Taxel 2019; Arbel 2021a), and has been studied by historical geographers and historians alike (Grossman 2011:45–61; Kressel and Aharoni 2013; Marom 2022:168–176; Sasson and Marom 2022). These studies showed that migrations from Egypt during the discussed period were demographically most dominant on the southern coast, between Rafah and Jaffa. Zarnūqa is in the epicenter of this range. As noted above, in addition to resident *fellaḥin*, the Palestinian Rural History Project records

[18] Noteworthy in this regard is the discovery of sealed glass bottles filled with water inside some family tombs (some with interred children and adults) in the Muslim cemetery of the village Qālūnyā, alongside ceramic jugs. The cemetery was excavated as part of the IAA Moẓa mega-project (Permit No. A-8613), directed by Uzi 'Ad and Anna Eirich-Rose, under the supervision of Yoav Arbel (pers. comm.).

show that late Ottoman and British Mandate Zarnūqa was home to numerous families of Egyptian origin, colloquially called *maṣriyyīn,* like al-Buḥayrī, Ḥasanayn, al-Shurbājī, al-Maṣrī and Qazzāz clans.

In addition to these permanent residents, during the heyday of the citrus cultivation in the plains, many Egyptian laborers of low economic and social status came to attend the citrus groves on a seasonal or temporary basis, and then returned to Egypt. The Zarnūqa cemetery and associated jar burial may be related to such a group. One example of this is provided by Bayyārat Ḥannūn, an agricultural estate and orchard grove near modern Netanya, which was inhabited between c. 1890 and 1948 CE (Marom 2022:326–347). The orchard belonged to a rural notable family from Ṭūlkarm and was primarily cultivated by seasonal Egyptian laborers and nearby semi-nomadic tribespeople (Marom 2024). While adults among the estate's inhabitants were buried at Ṭūlkarm and at neighboring villages several kilometers away (PRHP interviews), children and infants were buried within the ruins of a nearby Roman-period farmstead, just outside the planted area of the orchard, as indicated by the results of the recent excavation there (see Table 1). A similar practice is also discerned in the *bayyāra* (an irrigated plantation, usually a citrus grove) of the Qāsim ʻAbd al-Qādir family in Ghābat at-Ṭaiyiba al-Qibliyyā. Residents of the *bayyāra*, in operation c. 1920–1948, used to bury miscarriage fetuses, stillborn babies and young children within a specific cave in the adjacent Byzantine-era ruins of Khirbat Jayyūs, 200 m north of the *bayyāra*. Itinerant, mostly Egyptian, workers were buried nearby at Khirbat Jayyūs, while the owning family and its permanent workers, both from eṭ-Ṭaiyiba, would bury deceased adults in their hometown, 14 km away (cf. Marom 2022:257; on the Ghābāt, see Marom 2019:217–223).

Jar burials are seemingly absent from the archaeological record of Mamluk to early modern Egypt. Indeed, according to Blackman (1927:101), "[…] among the Copts, if a child dies before it is baptized it is placed naked in a *ḳāddūs* (an earthenware jar, several of which are attached to water-wheels). This jar is buried under the floor of one of the rooms in the house, it does not matter which, and is covered again with the mud of which the floors are usually made in the houses of *fellāḥīn.* This is believed to ensure the mother having another child." However, Blackman and other ethnographers did not mention a similar practice with relation to Egypt's Muslim population. Hence, it can be assumed that burying infants in ceramic vessels was alien to the latter, although this fact seemingly did not hinder Egyptian Muslim migrants to Palestine in the nineteenth and early twentieth centuries CE to occasionally perform this funerary practice.

Summary

The infant jar burial excavated at Zarnūqa is another example of a rather modest group of Muslim jar burials from Palestine dated to the Mamluk through British Mandate periods, and primarily to the late Ottoman period. The Zarnūqa burial, however, reflects some exceptional characteristics, namely the deposition of two additional jars that contained grain

and perhaps water beside the jar that contained the deceased newborn, the Egyptian origin of at least two of these jars, and the careful covering of the entire burial assemblage with a stone surface. These finds, analyzed against an updated database of Muslim jar burials in the country, contribute to the body of knowledge about Muslim funerary practices in late Islamic times and about the socio-ethnic components of the population.

Regarding the first aspect, the following points are noteworthy: (1) the Late Islamic jar burials can be identified primarily with a specific age group, i.e., perinatal babies; (2) the burial practice was limited to sedentary and nomadic/semi-nomadic Muslim communities in central and southern Palestine, specifically in the coastal plain and the northern Negev; (3) the number of jar burials in a given cemetery was usually negligible, sometimes only a single burial, while sometimes an isolated jar burial is found with no relation to other tombs; (4) the infant jar burials formed part of a cemetery designated predominantly or even exclusively for the burial of children; (5) the reason for using a ceramic vessel for burial could be either emotional/sentimental or economic; (6) the seemingly uncommon deposition of grain and other commodities beside a burial may be interpreted as an apotropaic act interpreting Qur'anic phrases associated with rebirth and fertility.

As for the social aspect, the Zarnūqa burial assemblage provides material evidence for the presence of migrants from Egypt in late Ottoman and British Mandate Palestine, for which only a limited corpus of direct archaeological findings has been published so far. Jar burials from Zarnūqa and other sites, in which a population of Egyptian origin resided, suggests that these migrants adopted jar burials as a funerary custom from the living tradition practiced among lower-class and itinerant groups in Palestine's coastal plain and southern regions. Thus, this paper may lay the ground for follow-up studies exploring other facets of jar burials within varying socio-cultural and material culture contexts of late Ottoman- and British Mandate-period Levant.

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