

ARTILLERY SHOTS FROM RABBI YEHUDA ME-RAGUZA STREET, YAFO (JAFFA)

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INTRODUCTION

Twelve intact and fragmentary cannon balls were discovered in the course of excavations on Rabbi Yehuda Me-Raguza Street (see Arbel and Rauchberger, this volume), representing a wide range of guns, from small to very large types, listed below (Table 1; their poor condition may lead to deviations in some of the measurements).¹

THE CANNON BALLS

Fragment No. 1 (Table 1:1)² belongs to a heavy mortar, probably a 60-pound Austrian type (Dawson, Dawson and Summerfield 2007:178), although a 12.8-inch (12 pouce) French mortar cannot be ruled out. Fragment No. 2. (Table 1:2; Fig. 1)³ belongs to a heavy mortar, probably a 50-pound Prussian type (Dawson, Dawson and Summerfield 2007:178), although a 10.8-inch (10 pouce) French mortar should not be ruled out. Fragment Nos. 3–5 (Table 1:3–5) belong to a heavy mortar, probably a 10-inch British mortar; item No. 3 may have belonged to a 10.8-inch French mortar. Fragment No. 6 belongs to a heavy mortar, probably an 8.8-inch (8 pouce) French mortar or a 25-pound Prussian mortar. Fragment No. 7 belongs to a mortar or howitzer (Fig. 1). It may have belonged to an 8-inch British howitzer or mortar, a Prussian 18-pound howitzer, a 1-pood edinorog, or a 2-pood Russian mortar (Dawson, Dawson and Summerfield 2007:170–178).⁴

¹ Cannon identification is based on type and diameter. Differences in measurements may be the result of corrosion, and the fact that these are exploded fragments.

² A common shell is a gun shell with a relatively large cavity filled with a bursting charge. It is used against soft targets, mostly covered by obstacles such as trenches and walls.

³ Fragment Nos. 2 and 7 were cleaned in the IAA metals laboratory by Lena Kuperschmidt and Victoria Nosikovsky.

⁴ An *edinorog* (Russian for unicorn) is a hybrid weapon combining a howitzer and a cannon used in the Russian army during the period of the Napoleonic wars. A *pood* (or *pud*) is an old Russian weighing measure, cancelled in the early twentieth century, that equaled c. 16.4 kg.

Table 1. Projectiles found at the Siteⁱ

No.	Locus	Basket	Type of Shot	Diameter (mm)	Thickness of Shell Walls (mm)	Gun Type
1	514	5059	Common shell	300	54	Heavy mortar
2*	502	5012	Common shell	280	43–51	Heavy mortar
3	502	5013	Common shell	260	63	Heavy mortar
4	502	5178	Common shell	250	61	Heavy mortar
5	99	5062	Common shell	~ 250	51–53	Heavy mortar
6	514	5060	Common shell	229	58	Heavy mortar
7*	409	4099	Common shell	203	38	Mortar/Howitzer
8	829	8092	Common shell	~ 140	33	Cannon/Howitzer/Mortar
9*	429	4077	Common shell	~ 138		Cannon/Howitzer/Mortar
10	507	5020	Round shot	68		Cannon
11	500	5004	Common shell		20	Cannon
12	407	4063	Round shot/Grapeshot	37		Cannon/Howitzer

ⁱ Item nos. marked with an asterisk appear in Fig. 1.



Fig. 1. Common shells.

Two common shells (Table 1:8, 9)—one (No. 8) a fragment and the other (No. 9; Fig. 1) complete—probably belonged to a mortar or a 5.5-inch British howitzer (Franklin 2008:209) judging by the type of ammunition. Based on their diameters, they may belong to a 16–18-pound cannon, probably a Prussian or French production. Numbers 10 and 11 are balls belonging to a light, probably 3-pound cannon. Number 10 is a solid round shot and No. 11 is a fragment of an exploded common shell. Number 12 is a solid round shot of a very small cannon, or possibly part of a grapeshot fired from a large cannon or howitzer.⁵

DISCUSSION AND CONCLUSIONS

The artifacts were collected from a large area and therefore, the assemblage should not be regarded as a single, homogenous one. Nonetheless, it appears that at least a substantial portion of the finds can be dated to the post-Napoleonic era (first half of the nineteenth century).

Most of the ammunition is explosive, with approximately half the finds belonging to heavy mortars. Such weapons are usually used in siege activities and are nearly absent in the battlefield.

All the mortar heavy shells and the two light cannon balls were found within a narrow strip next to the southern-central part of the Flea Market. The shots were found in L502 and L514, as well as in L99, which represents the clearing of top layers above these two loci. The balls were recovered from shallow levels under the foundation bed of the present street. All seem to fit French or British guns, although a small part may be from Austrian, Russian or Prussian guns. This assemblage seems to be indicative of guns that belonged to the Ottoman army, which is known to have purchased artillery from a wide variety of sources, including some of domestic production under different standards, and military booty.⁶

From the end of the eighteenth century until the third decade of the nineteenth century, the area in which the finds were found was part of a field or orchard (see Arbel and Rauchberger, this volume) that must have been of strategic importance. There were no substantial buildings at this locale that would have justified such bombardment. However, while this location, which was apparently bombarded from the fort, would not have been suitable for a military camp, it would have been an excellent spot for setting up a siege battery by besieging forces. Such a battery would have aimed at three bastions (the southwestern, northwestern and northeastern), the walls between them and the main city gate. Indeed, documentation (Jonqui  re 1999:253) mentions a Napoleonic breaching battery not far away.

⁵ Grapeshot is a type of artillery shot assembled from small and medium-sized metal balls or pellets packed into a canvas bag, usually around a wooden stick. On firing, the balls spread out from the muzzle. Grapeshot is effective against massed short and mid-range infantry charges.

⁶ During this period, armies, particularly the Ottoman army, both purchased cannons and used the booty that fell into their hands. France and Britain were the main suppliers of purchased guns. The Turks apparently also used plundered Russian cannons.

Thus, the finds are indicative of a siege battery that must have sustained intense bombardment, probably by heavy mortars located on the bastions and from light cannons distributed on the city walls. No heavy mortars are mentioned in the list of guns captured by Napoleon at Yafo (Jonquière 1999:685). This, in addition to the types of ammunition retrieved, indicates substantial fighting during the first part of the nineteenth century, post-dating Napoleon's siege.

Three major sieges took place during this time. The first occurred shortly after the Turkish takeover of Yafo, when escalating tensions between Jazzar Pasha and the Grand Vizier resulted in a siege by Jazzar's forces against a Turkish garrison headed by Abu Marra, acting on behalf of the vizier. Abu Marra fled nine months later.

Following Jazzar's death, Abu Marra was nominated Pasha of Jeddah, but decided to reside in Yafo. He was expelled again after a short siege, this time by Jazzar's heir Sulayman Pasha.

In 1832, Yafo was conquered by Ibrahim Pasha and an Egyptian garrison was charged with the protection of the city, which became a major Egyptian base. Yafo was besieged again during the Peasants' Uprising of 1834 by rebel forces but held out until reinforcements arrived from Egypt and expelled the attackers (Glik 2017:17–21).

Regarding the battery, three arguments favor it belonging to the latest seige event: (1) the type of ammunition, which is typical of late weaponry; (2) the variance of shots, which was typical of the Ottoman and Egyptian armies of the time; (3) only the Egyptian garrison of Yafo is known to have possessed such heavy mortars. In addition, Arbel and Rauchberger (2017:163–165) mention post-Napoleonic reconstruction and rearmament at fortified Yafo, which ultimately would have been well-equipped with at least three or four heavy mortar types.

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