

# REMAINS FROM THE LATE BYZANTINE, EARLY ISLAMIC, MAMLUK AND LATE OTTOMAN PERIODS IN ZAHAL SQUARE TUNNEL, JERUSALEM

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## INTRODUCTION

In 2002, a rescue excavation was conducted in Zahal Square, 10–30 m outside and west of the Old City wall of Jerusalem, near its northwestern corner (map ref. 221410–529/631794–665; Fig. 1), in preparation for the construction of a traffic tunnel.<sup>1</sup> The excavated area is located on the northeastern slopes of the Hinnom Valley, c. 250 m northwest of Jaffa Gate. The excavation extended along a c. 100 m long and 5–10 m wide strip, comprising three areas: Area C in the north (25 × 10 m), Area E in the center (25 × 10 m) and Area D in the south (10 × 5 m). The remains uncovered in these areas date to the following periods: Stratum IV—the late Byzantine–Umayyad (sixth–eighth centuries CE); Stratum III—the late Early Islamic (late Abbasid–Fatimid; tenth–eleventh centuries CE); Stratum II—the Late Islamic (Mamluk; thirteenth–fifteenth centuries CE); and Stratum I—the late Ottoman (nineteenth–twentieth centuries CE). This report presents the excavation findings from the earliest to the latest, beginning with a description of the modified bedrock.

## THE EXCAVATION

### STRATUM IV: THE BYZANTINE–UMAYYAD PERIODS

The bedrock surface in the northwestern part of Area C sloped moderately from north to southwest, toward the Hinnom Valley (Plan 1: Sections 1–1, 2–2; Fig. 2). It is characterized

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<sup>1</sup> The excavation on the southern side of the Zahal Square Tunnel (Permit No. A-3605), initiated by the Moriah Company and conducted on behalf of the Israel Antiquities Authority, was directed by the author. Also participating were Vered Barzel and Keren Ben-Or (area supervisors), Vadim Essman (surveying), Tsila Sagiv (photography), Leah Di Segni (epigraphy), Ariel Berman and Robert Kool (numismatics), Ayala Lester (Ottoman small finds) and Raed Abu Khalaf (administration). Miriam Avissar identified and classified the pottery finds during the excavation and began preparing the final report; after her untimely death, Anna de Vincenz completed the study.

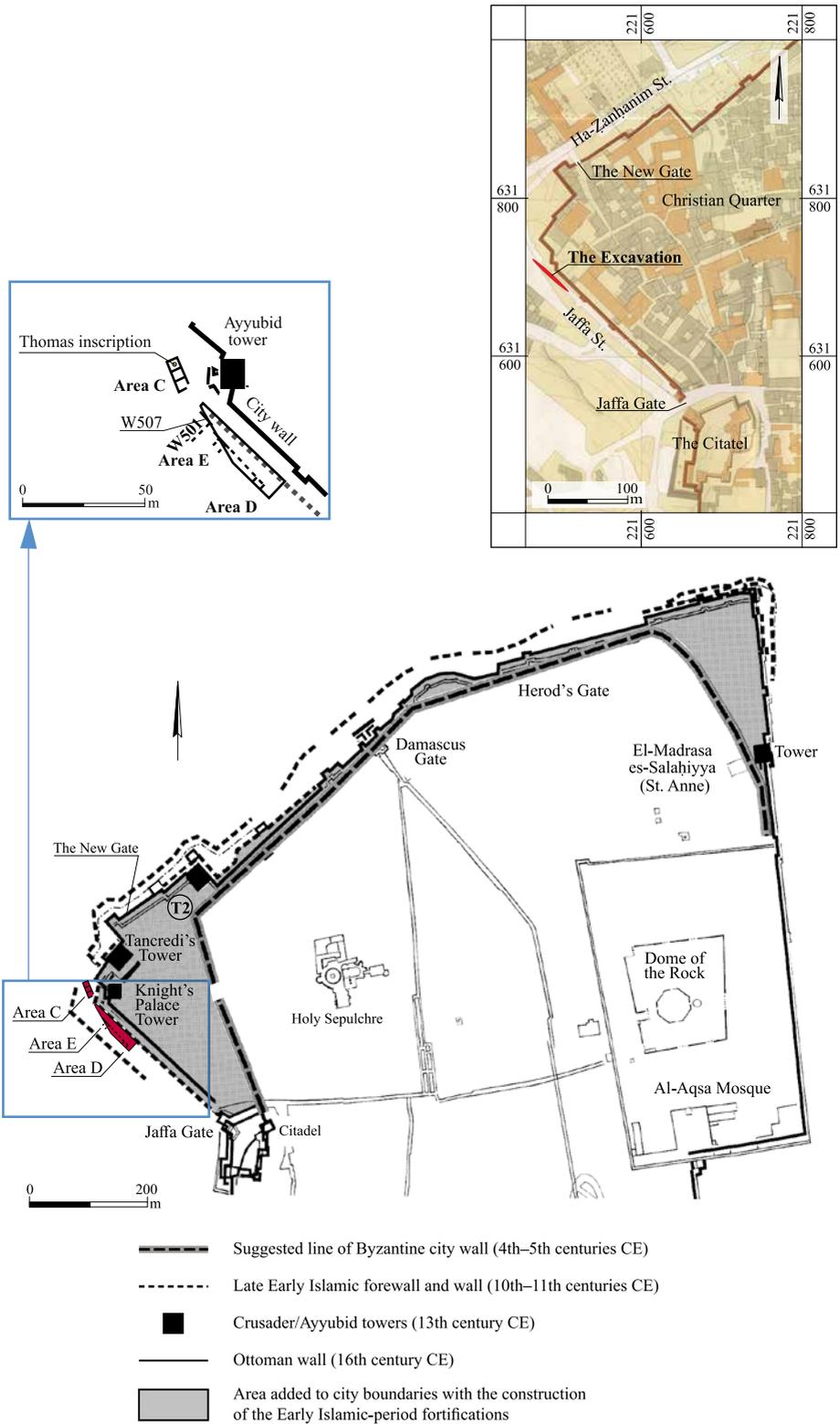


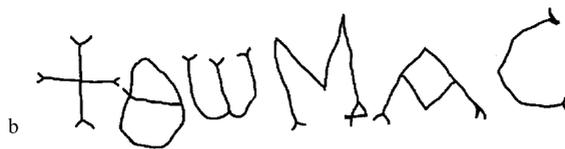
Fig. 1. Location map of the excavation areas in relation to the Ottoman city wall and based on the author's reconstruction of the Byzantine-Early Islamic wall line (see Weksler-Bdolah 2011b:127, Fig. 32).



Fig. 2. Area C, inclining steep bedrock cliff, looking west.



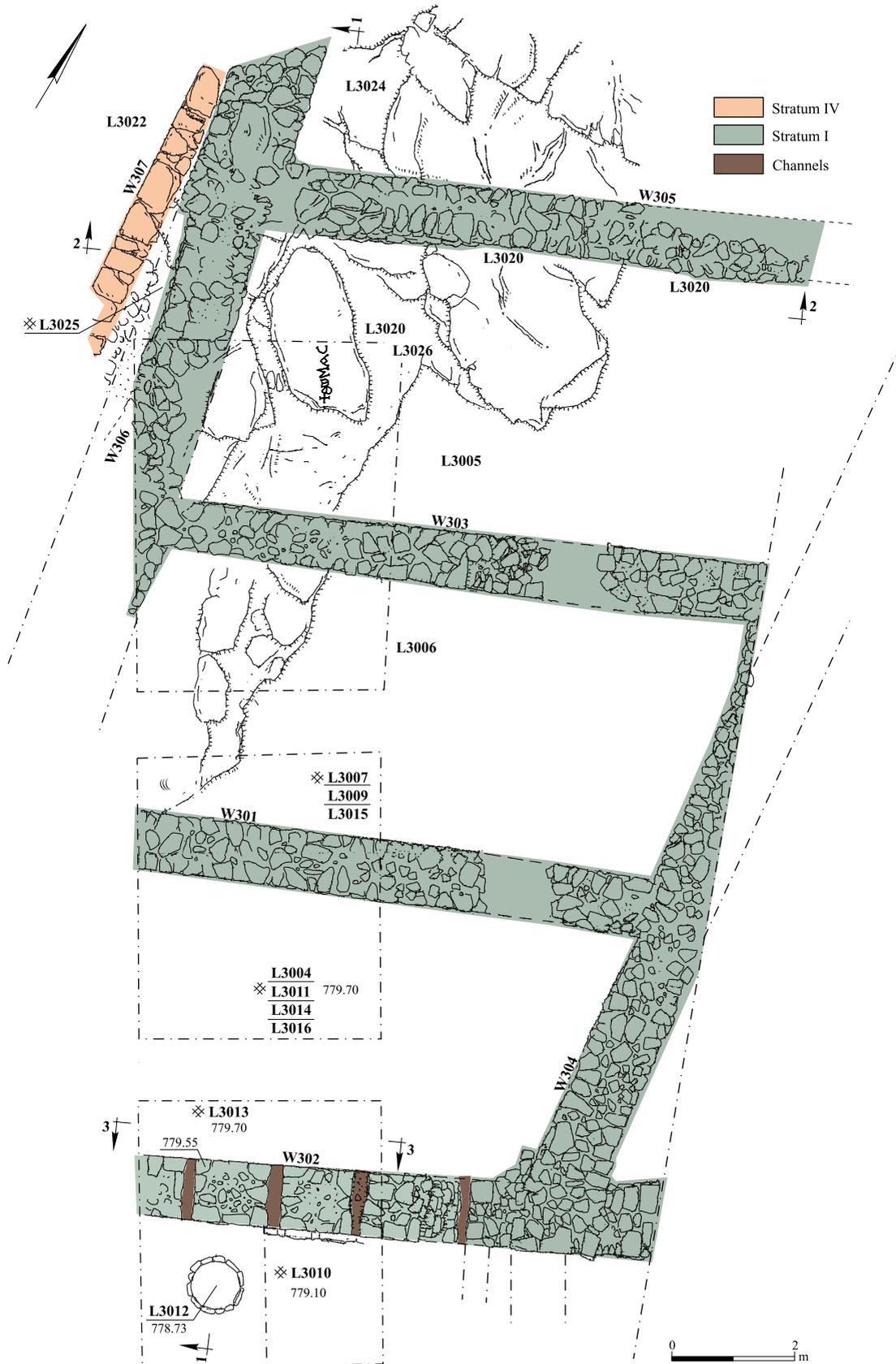
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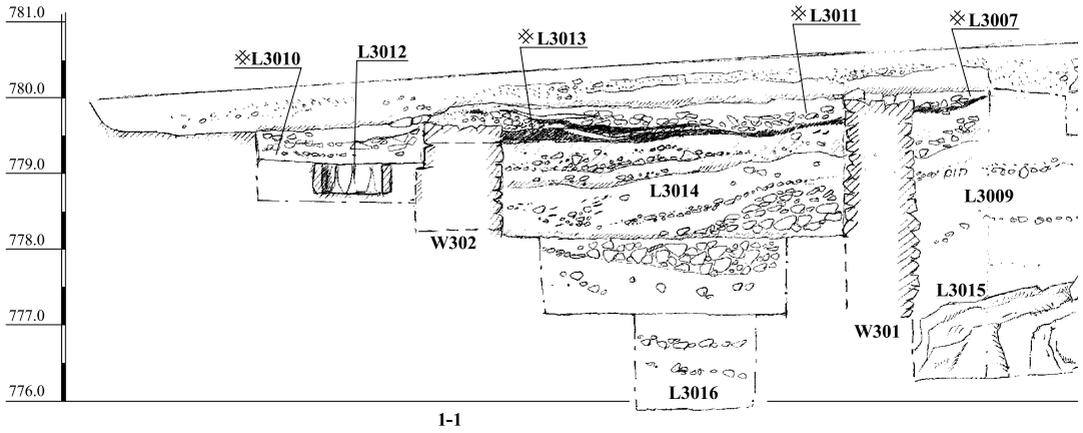
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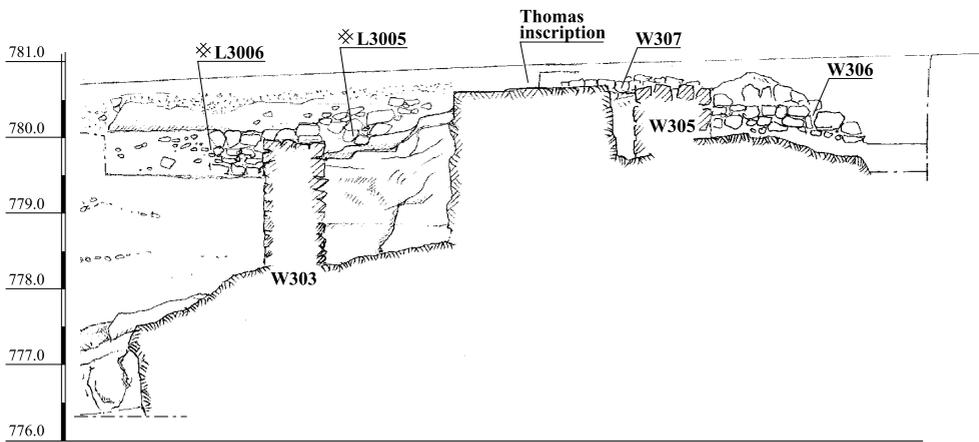
Fig. 3. Area C, Greek inscription.



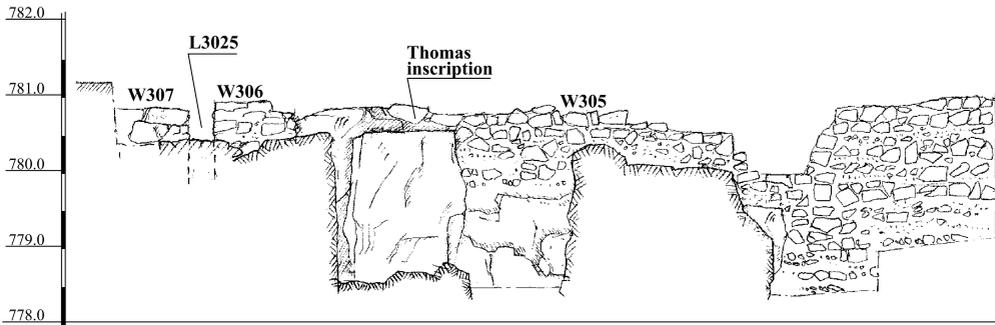
Plan 1. Area C, plan and sections.



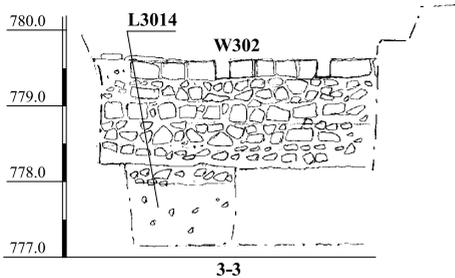
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by deep crevices (0.2–0.8 m wide, 0.5–1.0 m deep), a possible result of natural karstic activity. This uneven rock surface was leveled at c. 781 m asl in the Late Byzantine–Umayyad period, and structures were built atop it.

The earliest preserved signs of human activity comprise a one-line Greek inscription (0.72 × 0.12 m; Fig. 3), etched on bedrock in the northwestern part of Area C. The inscription was roughly incised with a pointed instrument on the edge of the steeply inclined bedrock scarp, its southeast–northwest orientation conforming to the oval shape of the boulder. The engraver would have been facing the Hinnom Valley to the southwest, standing on the leveled bedrock with his back to the city.

The inscription was studied by Leah Di Segni (*CIIP* I/2:120, No. 811). It opens with a horned cross (12 cm), followed by the name Thomas ([cross]ΘΩΜΑΣ). The letters display notable serifs that meet the main strokes at right angles; the *theta* is pointed and the *sigma* lunate. According to Di Segni, the inscription may have been written by a pilgrim. The shape of the letters indicates an Early Islamic-period date. The soil accumulation that abutted the bedrock bearing the inscription (L3024, L3026; Plan 1) contained potsherds of the late Byzantine and Umayyad periods, the sixth–seventh/early eighth centuries CE (see Vincenz, this volume: Fig. 1:1–4, 6, 8, 10, 12, 13, 15), and residual finds, including a roof tile fragment bearing a stamp of the Tenth Roman Legion and potsherds from the late Iron Age (not illustrated).

A north–south wall segment (W307; 5.0 × 0.8 m, height 0.6 m; Plan 1: Section 2–2), overlying bedrock, was exposed at the northwestern edge of Area C, c. 3 m west of the inscription. It consists of two courses of roughly hewn stones (0.6–0.8 × 0.5–0.6 m, height 0.3 m), with small fieldstones set in-between them. Wall 307 was abutted on its east by a small patch of a whitish earthen floor (L3025; 780.37 m asl) that was cut by a later Ottoman-period wall (W306). The dismantling of Floor 3025 yielded potsherds of the Byzantine–Umayyad periods (see Vincenz, this volume: Fig. 1:5, 7, 9, 11, 14, 16) and *ex situ* white tesserae. Approximately 10 m south of W307, an *ex situ* Umayyad-period coin was found in a tamped-earth floor of the Ottoman period (L3011; see Kool, this volume: Cat. No. 2).

The relationship between the Greek inscription and the nearby W307 and L3025 could not be determined. It seems, however, likely that the pilgrim inscribed his name at a time that the surrounding area was unbuilt. If W307 had been standing when the inscription was engraved, it would have blocked the view of the Hinnom Valley from the engraver as the elevation of its uppermost preserved course (780.90 m asl) is higher than that of the inscription (780.20 m asl); the wall would have been even higher when intact. The construction of the structure to which W307 belonged may have, thus, occurred in the Umayyad period.

Other remains of the late Byzantine–Early Islamic period found near the excavation area include drainage channels of the sixth–eighth centuries CE that were exposed on both sides of the Ottoman-period city wall (Weksler-Bdolah 2006:95\*–98\*, Stratum IV; Weksler-Bdolah and Avissar 2015:71–76, Stratum V; see Fig. 1); a street(?) pavement and an adjoining structure of the Byzantine period that were uncovered near the New Gate,

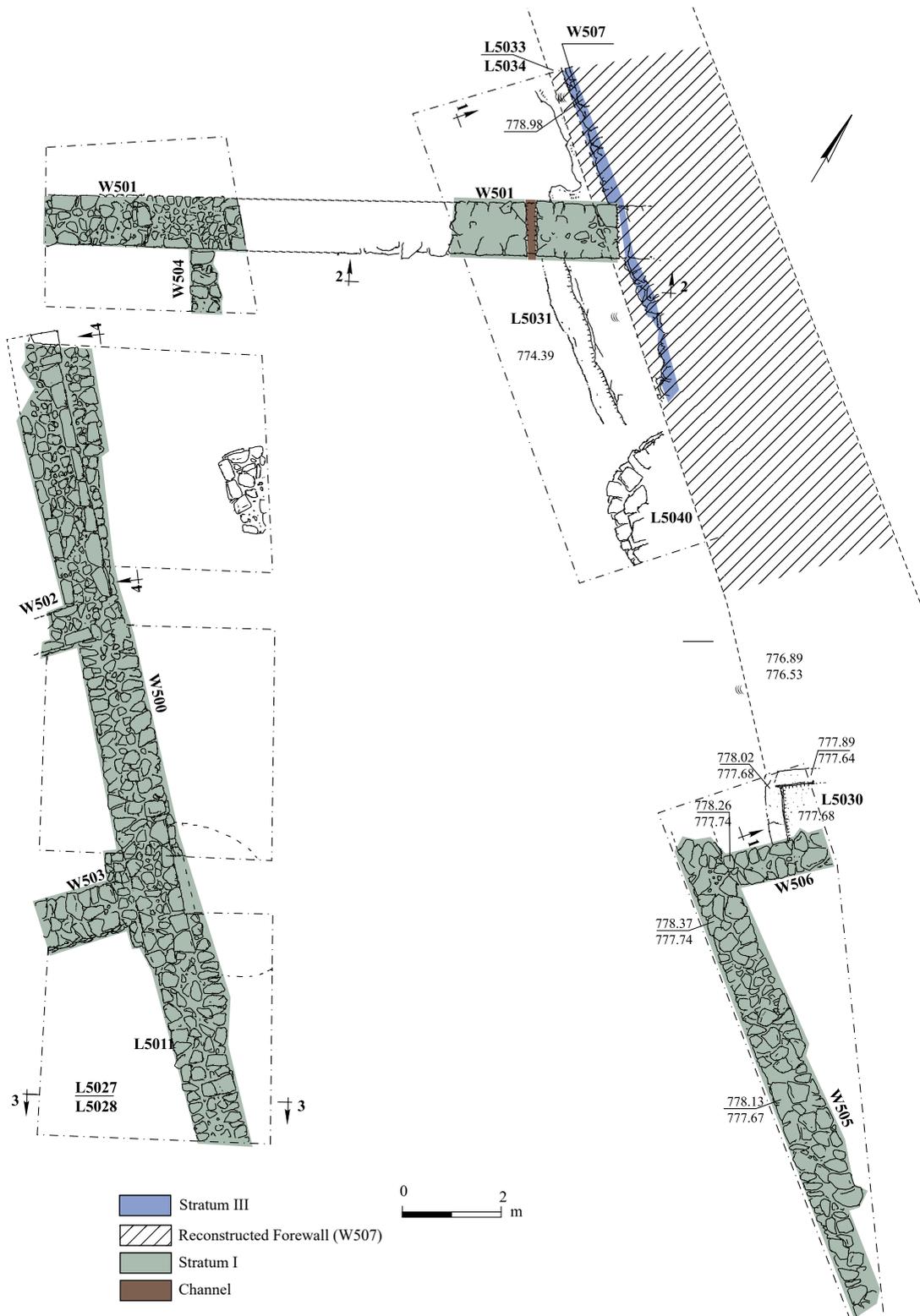
c. 25–40 m west of Zahal Square (Sion and Rapuano 2014); and remains of a Byzantine-period street lined with shops and an adjoining bathhouse that were revealed outside Jaffa Gate (Reich 2008). These remains indicate the expansion of municipal activity outside the city walls of the Byzantine period. The remains of the structure to which W307 and Floor 3025 belonged, c. 200 m west and outside the reconstructed line of the Byzantine-period city wall, were likely part of this process of urban expansion.

### STRATUM III: THE LATE ABBASID–FATIMID PERIODS

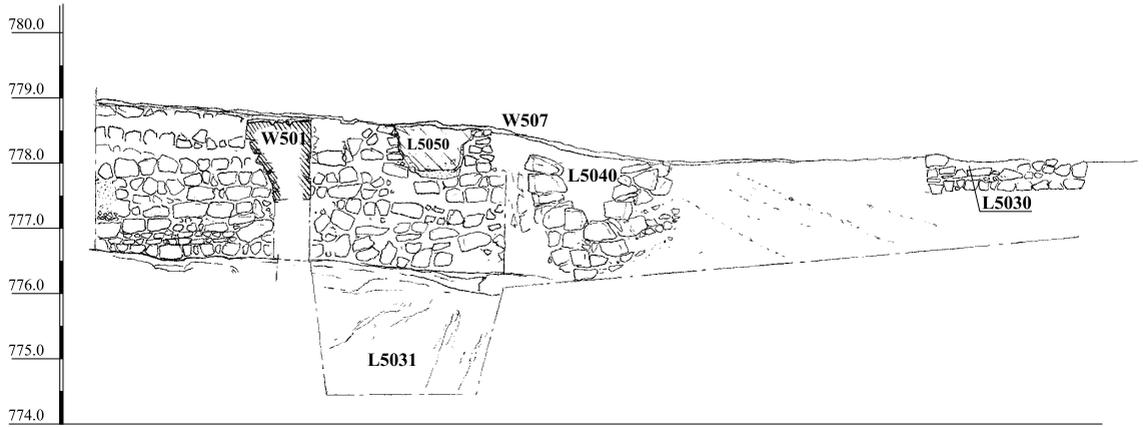
In the northern end of Area E, c. 20 m southeast of Area C, a northwest–southeast section of hewn bedrock was exposed (c. 7 m long, 1.5 m wide). The bedrock surface was leveled at 776.50–777.00 m asl, and dropped sharply to the southwest, creating a steep cliff, more than 2 m high (Plan 2: Sections 1–1, 2–2); excavation at the foot of the cliff ended at a depth of 774.60 m asl without reaching bedrock. The core of a massive wall (W507) was exposed atop this hewn rock wall, very close to its edge, and c. 8 m outside and parallel to the Ottoman-period city wall. Wall 507 (length >7 m, width >1 m, height 2.2 m; Plan 2: Sections 1–1, 2–2; Figs. 4, 5) follows the northwest–southeast orientation of the underlying rock edge. Only the core of this wall was exposed, as its western face was robbed in antiquity and its eastern face lay outside the excavated area; thus, its original width is unknown. It was built of medium-sized fieldstones bonded with hard gray material. A longer section of a wall of the same orientation as that of W507 was documented in this area by Schick (1889:63) in the late nineteenth century CE; it is quite possible that Schick's wall and W507 are one and the same, and that this wall survived only partially to this day due to its lengthy exposure above ground. Stratum III did not yield ceramic material suitable for dating.

It is suggested that W507 was part of the forewall of Jerusalem's fortifications during the late Abbasid–Fatimid period, and functioned together with a hewn moat below it (L5031). This identification is based on the following considerations:

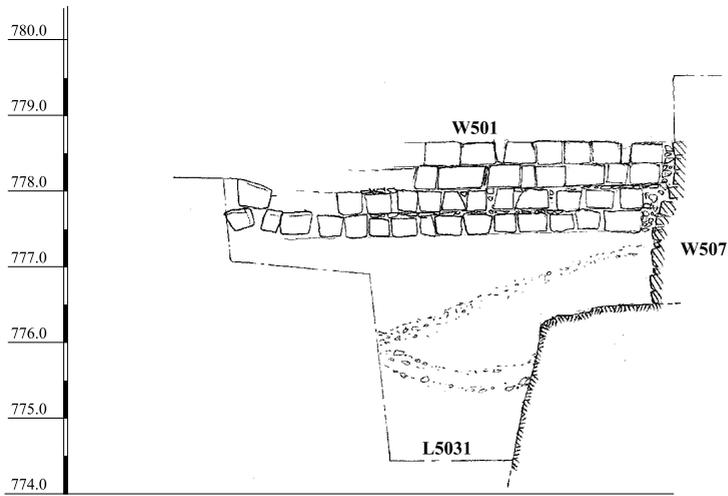
(1) Wall 507 was founded on the edge of a steep rock face, where visible signs of chiseling reveal that the rock was hewn. The steep rock face was exposed to a depth of 2 m, without reaching bedrock at its bottom. A similar steep hewn rock face was uncovered below the remains of an ancient city wall near Jaffa Gate, c. 60 m south and along a direct line from the present excavation; these remains were identified as belonging to the moat and forewall, respectively, of the Ayyubid period (Reich and Shukrun 2006). The remains of the forewall near Jaffa Gate were exposed for 110 m and showed that this wall was 3.2 m wide and built of roughly hewn stones of medium size, bonded with gray mortar. Other sections of the moat, comprising a similarly steep hewn rock face, sometimes stone-lined, were previously uncovered in several places along the northern part of the Ottoman-period city wall: in Zahal Square, below the Ottoman-period city wall (Bahat and Ben-Ari 1975); in three different locations c. 20–70 m northeast of the New Gate (Weksler-Bdolah 2011b:105–110); and at



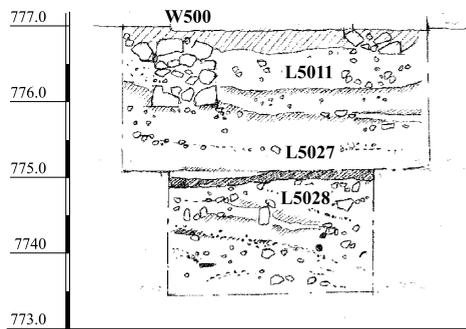
Plan 2. Area E, plan and sections.



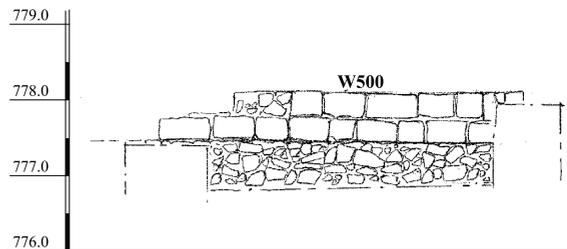
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4-4



Fig. 4. Area E, hewn face of moat and core of Wall 507 above it, looking north.



Fig. 5. Area E, corner of W507 (left) and W501 (right), looking east.

other excavations further east (for a summary of all known segments of the Early Islamic-period moat, see Weksler-Bdolah 2011a:424–440).

(2) The core of W507 is very solid, extending 1 m in width, and well-reinforced, suggesting that it was part of a massive wall system.

(3) The hewn rock face in Area E appears to have extended to a depth greater than 5 m. Although the earthen fills that accumulated against this rock wall were exposed to a depth of only 2 m, slightly further west they were excavated to 5 m below the Ottoman-period layer (Stratum I), without reaching bedrock. These fills contained small finds dated to the medieval period, the thirteenth–fifteenth centuries CE.

(4) The bedrock in the north of Area C, at a distance of c. 30 m from W507, steeply inclined to the east and may have formed the western face of the suspected moat. The earthen fills excavated in-between these two rock faces (L5031; Plan 2: Sections 1–1, 2–2) were exposed to a depth of several meters without reaching bedrock, indicating that a deep moat existed in this area.

In the author's opinion, the moat and the forewall uncovered in Zahal Square were part of Jerusalem's northwestern defenses in the Early Islamic period, and were built during the tenth or eleventh centuries, prior to the Crusader onslaught of the city in 1099 CE (Weksler-Bdolah 2011b:125, 128, Fig. 32:6; Weksler-Bdolah 2011a:423–429, Figs. 5:2; 9; see also Wightman 1993:247). This suggestion is reinforced by evidence on the stratigraphic position of the forewall uncovered near Jaffa Gate that in all likelihood was part of the same fortification system. Reich and Shukrun's (2006) excavation demonstrated that the ancient wall was founded atop walls of a Byzantine-period bathhouse and was sealed below the Ottoman-period tower of Jaffa Gate. Reich and Shukrun (2006) ascribed the construction of the fortifications near Jaffa Gate to the Ayyubid period, while Bahat (1991) and Wightman (1993) have argued for an earlier date suggesting that the forewall and the moat date to the Fatimid period, and Goldfus (1984), who identified two phases of construction of the forewall outside Jaffa Gate, suggested that the earlier phase should be dated to the Byzantine period.

## STRATUM II: THE MAMLUK PERIOD (LATE THIRTEENTH–FIFTEENTH CENTURIES CE)

The earthen fills that accumulated within the Early Islamic-period moat (L5031; Plan 2: Sections 1–1, 2–2) contained numerous fragments of pottery vessels dating to the Mamluk period, the late thirteenth–fifteenth centuries CE (see Vincenz, this volume: Fig. 2). Two Ayyubid-period coins (Kool, this volume: Cat. Nos. 3, 4) and ten Mamluk-period coins (see Kool, this volume: Cat. Nos. 5–14) were also retrieved from these fills, as well as from the make-up of Ottoman-period floors and the foundation of an Ottoman-period wall that sealed

these fills. One residual coin of King Herod was also found in these earthen fills (see Kool, this volume: Cat. No. 1). These finds suggest that the moat was filled in the Mamluk period, indicating that it was no longer in use at that time. It is possible that the moat went out of use and began to be filled at an even earlier time, perhaps soon after the destruction of the city walls of Jerusalem in 1219–1220 CE at the command of the Ayyubid Sultan al-Malik al-Mu‘azzam Isa.<sup>2</sup> This possibility could not be evaluated in the present excavation as it did not reach bedrock at the base of the moat. The finds from this excavation correspond with information from the historical sources and with other archaeological findings, indicating that the city of Jerusalem was unfortified between the destruction of its walls by al-Mu‘azzam Isa and the reconstruction of the city walls by the Ottomans in the second quarter of the sixteenth century CE.

### STRATUM I: THE LATE OTTOMAN PERIOD

The excavation partially uncovered remains of large structures in Areas C, D and E. The northern structure (Area C), consisted of at least four rectangular, parallelogram-like rooms (4.5–5.0 × 9.5–10.0 m each; L3024, L3020, L3007, L3011=L3013; Plan 1); another, wider room (L 3010; width > 8 m), or possibly an open area with installations, may have existed south of Room 3007. The four northern rooms were arranged side by side between two elongated walls, W306 (9.0 × 1.2–1.4 m) in the west and W304 (10.0 × 1.1–1.2 m) in the east. A continuation of W302 east of W304 indicates that additional rooms existed on that side as well. The orientation of this structure only slightly deviates from north–south, almost paralleling the orientation of the Early Islamic-period forewall and moat in the same area. The wall foundations (width 0.7–1.0 m, height 1–2 m) are built of medium-sized fieldstones, with dark bonding material, while the walls above the foundations comprise a core of fieldstones covered by ashlar stones on its external faces. Four narrow channels (width 0.25 m; Plan 1: Section 3–3; Figs. 6, 7), one of them plastered, traverse the ashlar faces of the upper course of W302 and are 1.0–1.5 m apart. It is not clear what these channels were used for; possibly, they are the negatives of wooden beams. A patch of an earthen floor (L3010) abuts W302 on its south. A round installation (L3012; diam. 0.75 m; Plan 1: Section 1–1; Figs. 6, 7) was sunk 0.4 m below the level of this floor; its walls are lined with thin rectangular stone slabs (width 0.20–0.25 m, height 0.4 m, thickness 0.1 m), some of which are rounded on their lower part.

Coins and pottery finds from the floor levels of the Area C structure and the fills below them indicate that it was built in the late Ottoman period, most likely not before the late nineteenth century CE. These finds include two seventeenth-century CE coins and five of the eighteenth–nineteenth centuries CE (L3005, L3006, L3009, L3010; see Kool, this

<sup>2</sup> The destruction of the city wall was described by the historian Abu Shama (see Prawer 1991:53–54; see also, e.g., Broshi 1987; Bahat 1991; Wightman 1993:278; Reich and Shukrun 2006).



Fig. 6. Area C, Installation 3012 and W302; W301 in center, and W303 and the bedrock on top, looking northwest.

volume: Cat. Nos. 15–21); one of the eighteenth-century coins was found in the fill below Floor 3007 (L3009; see Kool, this volume: Cat. No. 17), c. 1 m under the floor level. Pottery assemblages found in the floor levels, L3010 and L3020, and the fill below Floor 3011 (L3014), was of a late Ottoman date (see Vincenz, this volume: Figs. 3, 4).

The southern remains, in Areas D and E, possibly representing more than one structure, comprised two long northwest–southeast walls (W500, W505; Plan 2). Western W500 (14.5 × 0.7 m; Area E) possibly continues into Area D, extending to a total length of at least 45 m (W402; 1.25 × 0.8 m, height 0.8 m; Plan 3). Four perpendicular wall segments (W400,



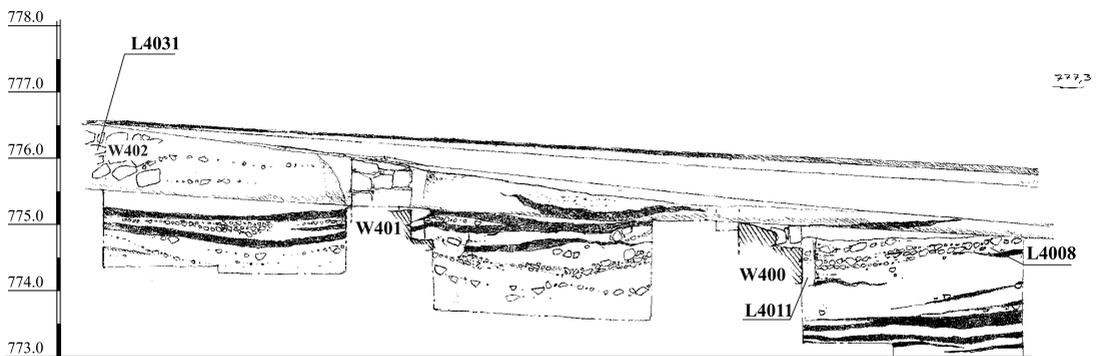
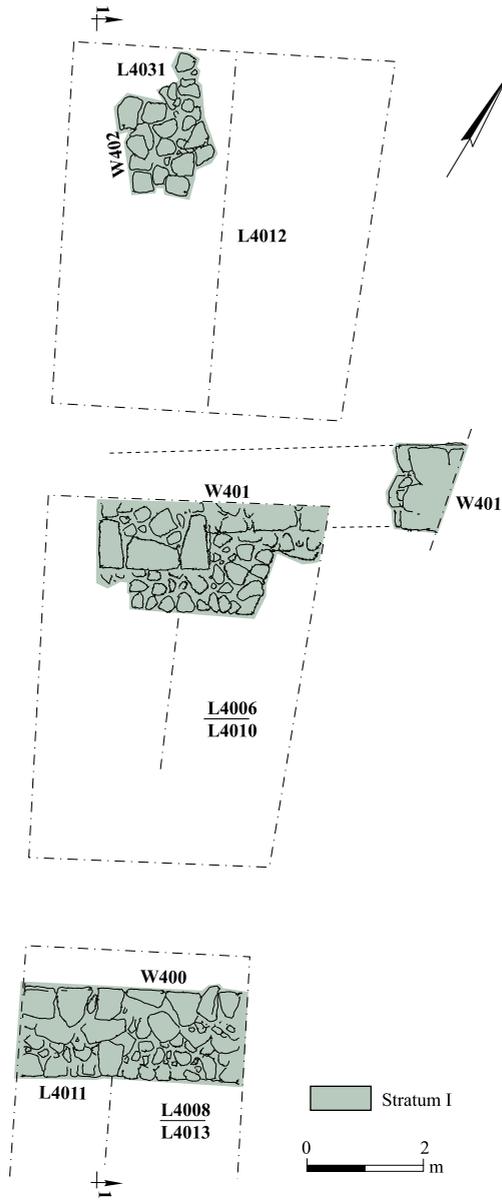
Fig. 7. Area C, Instalation 3012 and W302; W301 in center, and W304 and its corner with W301 in right.

W401, W502, W503), two abutting the western side of W500 and another two in Area D, indicate the existence of rooms; the width of one of these rooms, comprising W502, W500 and W503, was 5 m. A wall section uncovered below the northeastern edge of W500 (Plan 2: Section 4–4), is wider than this wall and does not exactly parallel its course; it is either the foundation of W500 or a separate wall.

Another wall (W505;  $8.5 \times 0.8$  m) was uncovered c. 10 m east of W500 and parallel to it; it was abutted by a narrower wall on its east (W506;  $1.75 \times 0.50$  m). It could not be determined whether W500 and W505 belonged to a single structure. A plastered, shallow rectangular installation was partly exposed near the northern edge of W505 (L5030;  $>1.00 \times 1.25$  m).

A southwest–northeast wall (W501;  $6.0 \times 0.9$  m, height 1.2 m; Plan 2), and a short wall segment abutting and perpendicular to it (W504;  $1.1 \times 0.4$  m), were exposed north of W500. Wall 501 abuts the Early Islamic-period forewall core (W507) on its northeastern edge. It has four preserved courses of small ashlar stones ( $0.4 \times 0.2\text{--}0.3$  m, height 0.25–3.00 m), and was founded on top of earthen fills that accumulated against Forewall 507 (Plan 2: Section 2–2). The width of the upper course of this wall is traversed by a narrow channel (Fig. 5), similar to the channels in Area C W302 (see above).

The foundation walls of the structures in Areas C, D and E were constructed in earthen fills dated to the Ottoman period (e.g., L3014; see Vincenz, this volume: Fig. 4). These fills were shown to predate the walls built into them, in cases where their foundation trenches



1-1  
Plan 3. Area D, plan and section.



Fig. 8. Two mother-of-pearl plaques:  
(1) from Area C; (2) from Area E.

could be identified, e.g., L4011 of W400 in Area D (Plan 3: Section 1–1). In all excavation areas, it could be shown that the Ottoman-period earthen fills accumulated on top of the medieval-period accumulations that filled and covered the Early Islamic-period hewn moat: L3020 in Area C (Plan 1: Section 1–1); L4011 in Area D (Plan 3: Section 1–1); L5011 in Area E (Plan 2: Section 3–3). In several places, dense accumulations of black organic sediments were interspersed with the Ottoman-period earthen fills. These accumulations abutted the upper courses of the Ottoman-period walls and are probably the remains of their habitation floors (Area C, Plan 1: Section 1–1; Area D, Plan 3: Section 1–1). The latest of the potsherds retrieved from these floor accumulations and the fills below them were dated to the late nineteenth–early twentieth centuries CE (see Vincenz, this volume: Figs. 3, 4).

The Ottoman-period earthen fills also yielded pre-nineteenth-century CE finds: the two seventeenth–eighteenth-century coins mentioned above (see Kool, this volume: Cat. Nos. 15, 16); clay pipes of the seventeenth century (see Vincenz, this volume: Fig. 4:10–13); and two mother-of-pearl plaques, dated to the seventeenth–eighteenth centuries (Fig. 8). The thin rectangular plaques are adorned with engraved floral patterns, one bearing a branch and leaves (L3020, B30116; 2.40 × 2.16 cm; Fig. 8:1) and the other, a tulip flower (L5018, B50059; 3.2 × 2.0 cm; Fig. 8:2), the characteristic decoration of Ottoman-period textiles and pottery.<sup>3</sup> The decoration was engraved in free-hand technique. The presence of black residue in the engravings indicates that they may have originally been filled with silver, which has oxidized. It is noteworthy that the plaque in Fig. 8:1 was found together with the Ottoman-period seventeenth-century coin. The plaques may have been inlays on the sides of a decorative box, likely a wooden one, a local imitation of an imperial type of box from Asia Minor (Ayala Lester, pers. comm.). Mother-of-pearl inlays, which are known to have adorned wooden or metal boxes or bowls, are not a common find in excavations of Ottoman-period sites and were presumably luxury items.

<sup>3</sup> The plaques were studied by Ayala Lester, Curator of Islamic Archaeology at the IAA.

The Ottoman-period buildings exposed in Zahal Square can be partly seen in an aerial photograph of the early twentieth century (Simons 1952: Pl. XXII); they were dismantled in the later part of that century.

### CONCLUSIONS

The excavation in the Zahal Square tunnel uncovered remains dating from the late Byzantine–Umayyad to the late Ottoman period. The excavation area, lying just outside the Ottoman-period city wall and at a distance of c. 200 m outside the reconstructed line of the Byzantine-period city wall (see Fig. 1), yielded remains of Jerusalem's urban expansion in different periods and its fortifications. The earliest remains comprise a Greek inscription, etched in the bedrock, and part of a structure dating from the late Byzantine–Umayyad period. These remains probably reflect a period of prosperity when Jerusalem expanded beyond its city walls. Evidence of this phase of urban expansion was also exposed in previous excavations, both northeast and southeast of the present excavation area (Weksler-Bdolah 2006:95\*–98\*; Reich 2008; Weksler-Bdolah and Avissar 2015:71–76). The Greek inscription, comprising the name Thomas next to a cross, seems to represent the signature of a Christian pilgrim who visited Jerusalem, possibly soon after the Muslim conquest of the city in 636 CE.

The exposed part of Jerusalem's fortifications from the late Early Islamic period, comprising the hewn walls of a deep moat and remains of the forewall, is an important addition to other segments of these fortifications that were uncovered in previous excavations nearby (for a summary of previous findings, see Weksler-Bdolah 2011a). These remains allow for a reconstruction of the fortification system in the northwestern corner of the Old City between the Early Islamic period and the present day. The city walls and the moat fell into disuse after their destruction by order of the Ayyubid Sultan al-Malik al-Mu'azzam 'Isa in the first quarter of the thirteenth century CE. Thereafter, the moat was filled with soil, a process that may have taken place mainly during the Mamluk period. The presently standing city wall was erected in the second quarter of the sixteenth century CE, by the Ottoman Sultan Suleiman the Magnificent. In the late Ottoman period, and not before the late nineteenth/early twentieth century CE, large structures were constructed along the Jerusalem–Jaffa road that led westward from Jaffa Gate.

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