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Excavations in the Mamillah Area, Jerusalem: The Medieval Fortifications

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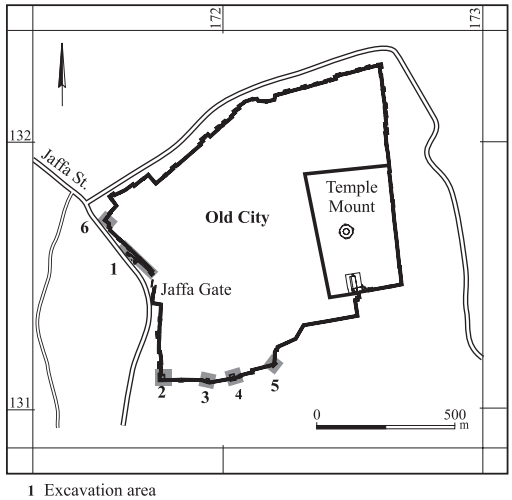
During the 1990s the authors conducted excavations in the Mamillah area of Jerusalem on behalf of the Israel Antiquities Authority.[1] The discoveries were described briefly in a preliminary report (Reich and Shukron 1994:94). The structural features described in the present report stretch along a narrow strip of land; the various parts were exposed and studied in different years.

Location

The line of fortifications described below extends along the outer side of the Jerusalem Old City wall, northwest of the Jaffa Gate, for about 110 m (Fig. 1). The built part of the fortification wall survived for c. 83 m from the gate; of the more distant (83–110 m) part of this wall, only the lower, rock-cut part remains.

The remains of this wall run parallel to the present Ottoman wall of the Old City to the west, about 6.25 m from it—or more correctly, the Ottoman wall was built parallel and east of the older wall (Figs. 2, 3; Plan 1).



1 Excavation area
2 Southwestern tower (Broshi)
3 Tower beneath the Zion Gate (Broshi and Tsafrir)
4 Tower in the Jewish Quarter (Avigad; Broshi)
5 Tower beneath Burj el-Kibrit (Ben-Dov)
6 Northwestern Tower (Weksler-Bdolah)

Fig. 1. Location map of the Jerusalem Old City with findings mentioned in the Historical Summary.

Previous Archaeological Work in the Area

The area along the Old City wall, from the Jaffa Gate and further to the northwest, was but little known. In 1887, C. Schick reported the discovery of a solid wall, paralleling the Ottoman wall (Schick 1887:213–214, No. 3, plan on p. 214), and mentioned that several years earlier, another wall segment with a tower had been discovered further to the north. Schick did not suggest a dating for these fortifications, but it seems that he had in mind the Second Temple period. In 1984, H. Goldfus exposed a small segment of this wall close to the Jaffa Gate (Goldfus 1984). The excavations in the Mamillah development area conducted by A. Maeir (1994) did not touch upon these features. Our excavations have now established the precise nature and date of this line of fortification.

Topography

Bedrock is exposed today only in the northwestern part of the area under discussion. It slopes southward, toward Wadi Rababeh (the Ben Hinnom Valley), away from our wall's line; apparently, the wall was built at the upper edge of the slope. The bedrock slopes

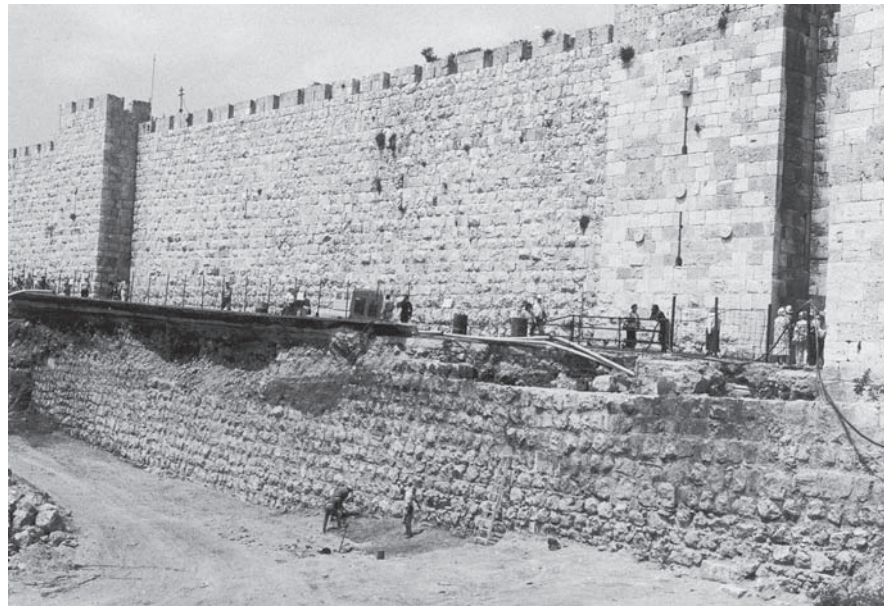
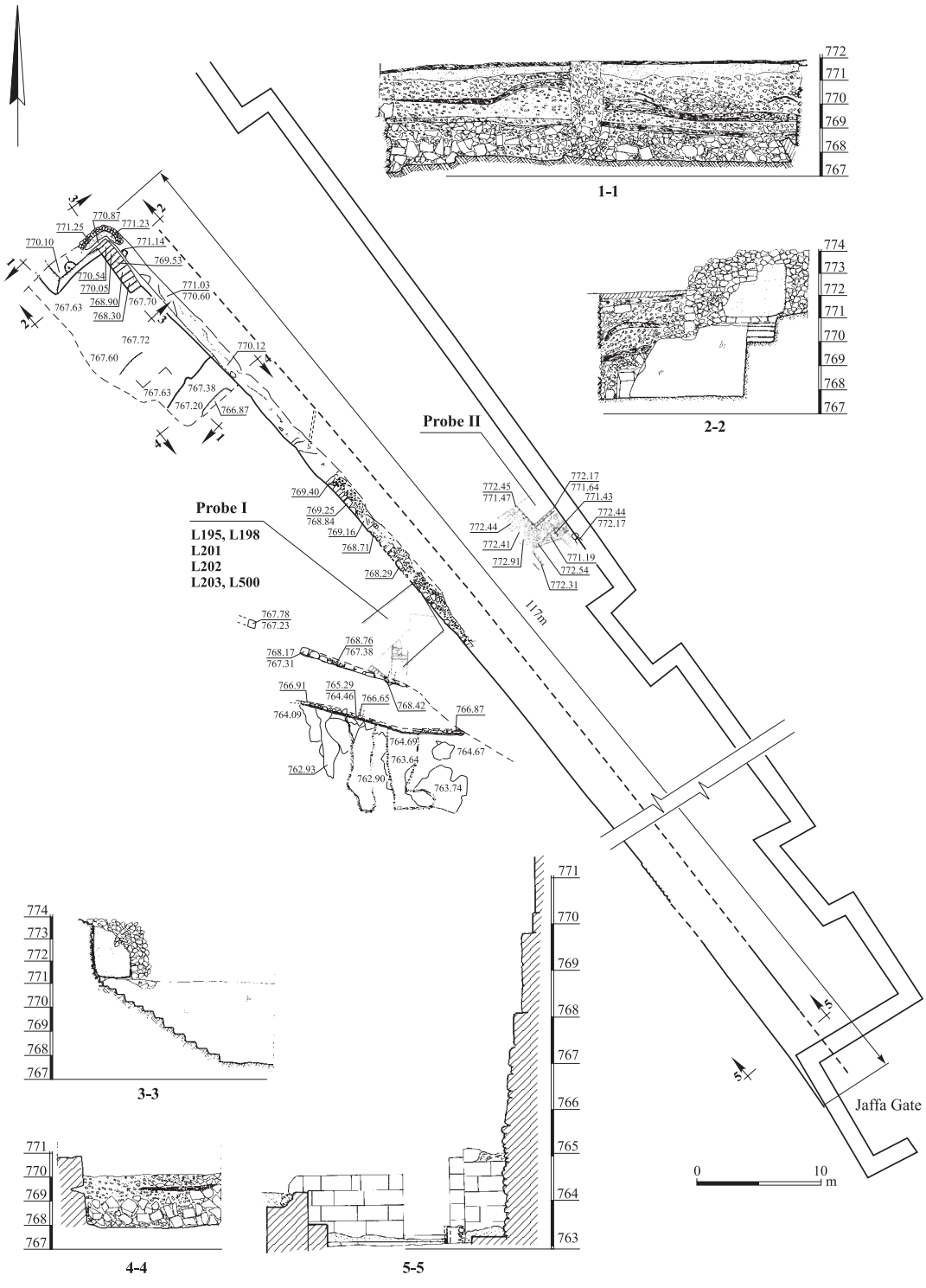


Fig. 2. General view of the Ottoman city wall and the Ayyubid city wall below, looking northwest.

Fig. 3. General view of the Ottoman city wall and the Ayyubid city wall below, looking southwest toward Jaffa Gate.



Plan 1. General area, plan and sections.

gently along the wall's line, from northwest to southeast. The builders of the wall cut into the rock on its northwestern side, while on the southeastern side, in the vicinity of the Jaffa Gate, the wall does not seem to reach down to bedrock and is based mainly on older building remains that were deemed firm enough to serve as foundations. In this particular area, the wall was founded on the remains of a Byzantine bathhouse (Plan 1: Section 5–5; Fig. 32).

ARCHITECTURE AND STRATIGRAPHY

The Rock-Cut Elements (Plan 1; Figs. 4–7)

In the northwestern part of the area the wall and a protruding tower are cut out of bedrock, which here is hard limestone of *mizzi* type. The rock-cut faces are smooth, showing signs of working with a large pointed chisel. A straight, slightly sloping rock face forms the lower part of the wall. At its western edge it reaches a height of 3.3 m, and diminishes in height toward the eastern edge. The upper part of the wall, which was constructed of stone over the rock-cut part, did not survive (unlike the eastern parts, see below).

Of the tower, only the rock-cut part survived. We exposed only the southern corner, but apparently, other parts which extend beyond the excavation limit exist below the modern surface. Both rock-cut sides, to the southeast and to the southwest, are inclined, especially the tower facade which faced southwest. At bottom level, the tower protrudes almost 6 m to the southwest, while at its upper part it protrudes c. 5 m.

A rock-cut staircase descends from the point where the wall and the tower meet to the level rock surface outside it (Figs. 4–7). The staircase is c. 1.15 m wide, with twelve steps having a

Fig. 5. View of the corner between the Ayyubid wall and its tower, with rock-cut staircase in between, looking north.

Fig. 4. Rock-cut part of the tower with staircase, looking northwest. On the right, the lower rock-cut part of the Ayyubid wall.

Fig. 6. View from above the rock-cut Ayyubid tower, wall and staircase, looking southeast.

Fig. 7. Rock-cut part of the Ayyubid wall and staircase, and the flat rock space in front of them.

moderate rise of 0.15–0.35 m. The treads of these steps show no sign of wear, indicating that they were not used.

We conjecture that above the rock-cut base of the tower, as above the rock-cut part of the wall, was a built upper structure that did not survive. However, in the inner part of the tower we cleared a chunk of construction made of small rubble and cement, which might have been part of the inner core of the tower whose outer ashlar facing was stripped off.

At first glance, the space in front of the tower and rock-cut wall seemed to have been part of a moat (similar to the rock-cut moat, probably from the same period, between the Ottoman city wall and the Karm esh-Sheikh hill, upon which the Rockefeller Museum is built). On the other hand, as the natural rock surface slopes toward the Ben Hinnom Valley, at this depth of rock-cutting this moat would have remained without a counterscarp, and so could not have been a moat. It seems therefore that at this particular spot the lower fortifications were cut slightly into the rock to create a flat, level rock-cut space in front of the tower.

The staircase obviously led to a small opening (not wider than the staircase, and perhaps even slightly narrower) at the corner of the tower—possibly a postern gate.

The Built Elements

The outer, southwestern face of the wall was traced along the entire excavation area, along c. 110 m. The northwestern face is almost unknown to us. Only in one location could we establish its width (Plan 1). This was done while following the digging of a pit for constructional purposes, just beyond the first tower of the Ottoman wall. Here, at a depth of c. 1.1 m below the promenade leading to the Jaffa Gate, the entire width of the wall was exposed, which is here 3.2 m thick.

The wall was built of stone blocks, averaging 0.5 × 0.5 m, with some of the stones reaching a length of c. 0.7 m (Fig. 9). The stones seem not to have been specifically quarried and cut for this purpose, and apparently the builders collected stones from various places in no particular order. The wall included ashlars from destroyed buildings. Some were nicely dressed, while others included profiled stones from destroyed portals and the like.

The stones were set in a grayish mortar, which contained large pottery sherds. The treatment

Fig. 8. View of the top of the Ayyubid wall. The face is built of large ashlars with a core of cement and small fieldstones. The base of the Jaffa Gate is built directly over the Ayyubid wall.

Fig. 9. The Ayyubid city wall. Above the fence is the Ottoman city wall, looking northeast; A decorated springer of an arch is incorporated in the wall (marked with an arrow).

of the joints between the stones clearly shows which part of the wall was below ground, and what was an upper structure. The difference is in the pointing of the joints. In the area below ground there was no pointing, while the wall above ground is characterized by a thick and wide (c. 5–10 cm) stripe of gray and fine mortar in the joints between the stones. Great care was devoted to round the protrusions of these pointing strips.

From these differences it is clear that at this particular area near the city the ground outside the wall was almost level, sloping slightly along the wall, from elevation 768.74 m on the west, 767.42 m further on the east, and to 767.00 m to beneath the Jaffa Gate. Hence, of the wall that we found, at the place of its best preservation, c. 4 m were foundations and c. 3 m were exposed upper structure.

Close examination of the extant constructed face of the wall reveals several notable features. Their location is marked on Plan 1, and their distance is given as measured from the rock-cut corner between the western tower and the wall.

1) At 47.0 m, elevation 769.33 m: An incorporated ashlar stone with typical oblique Crusader fine-comb dressing. Here the wall is preserved to elevation 770.21 m (Fig. 9).

2) At 49.0 m to 52.5 m, elevation 768.74 m: The fine pointing between several stones was preserved down to the original ground level (Fig. 10).

3) At 57.5 m to 61.8 m: Another area of fine pointing survived, similar to the previous one, down to the original ground level at elevation 767.50 m (Fig. 11).

Fig. 10. The Ayyubid city wall, detail of pointing between stones.

Fig. 11. The Ayyubid city wall, detail of pointing between stones.

Fig. 12. The Ayyubid city wall; dressed stones incorporated in the wall.

4) At 60.0 m to 62.0 m, elevation 765.85 m: Four ashlars, clearly in secondary use, were incorporated in a low stone layer near the current path (Figs. 9, 12), from left to right:
a) Reused roughly dressed ashlar set in the wall with the original face downward.

Fig. 13. The Ayyubid city wall: dressed stone bearing a mason's mark.

Fig. 14. The Ayyubid city wall, decorated springer of arch incorporated in wall (detail of Fig. 9).

b) Ashlar set in the wall with its original face on the left into the wall.
c) A hard limestone ashlar, its face worked with a pointed chisel, and the margins on the right and at the bottom carefully cut with a fine, flat chisel.
d) Soft limestone ashlar set one course lower than the other three stones, its face showing fine comb dressing, and bearing an asterisk-like mason's mark (Fig. 13), incised with a sharp instrument.
5) At 62 m, elevation 768.50 m: A decorated ashlar set in the seventh course above the current path. The flat faces are dressed with a fine-comb chisel. Originally, the stone served as a springer of an arch, and bears, in relief, the remains of a protruding molding which accompanied the arched opening (Fig. 14). Most of the molding or decoration was damaged. Only part of a four-

Fig. 15. The Ayyubid city wall, slanting 'seam' (marked with an arrow).

Fig. 16. Probe excavated near the Ayyubid wall northwest of the aqueduct. The stone collapse is covered with the black layer. At the bottom is the upper edge of a Second-Temple-period pool, looking southeast.

petalled flower, carved in high relief survived on the left edge.

6) At 72–73 m from the rock tower: A 'seam' in the wall, along eight stones, which terminated in one line (Fig. 15). The seam was not vertical, as usually is the case in such a feature, but slants from left to right (west to east). The horizontal stone layers, on both sides of the seam, were not aligned. However, the heights of the stone layers, as well as the material used to cement the stones together, were the same. This seam might point to changes in the line of the fortification that were carried out during the process of construction. As the existence of a city gate is anticipated in the vicinity (because of the presence of the Jaffa Gate in the Ottoman city wall which is built above the wall under discussion), probably further to the southeast, such changes in construction are expected.

7) At the western edge of the Byzantine bathhouse, the elevation of the fine pointing is at 767.42 m.

Probe I (Plan 1; Figs. 16, 17)

An elongated section 4 × 7 m was cut perpendicular to the face of the wall. At 2.8–3.3 m above bedrock, the entire space was covered with a thick and oily black layer.

Immediately below the black layer, the entire space was covered by a massive stone collapse. Most of the collapse consisted of separate ashlars, but included also a large chunk of destroyed wall of several ashlars still adhering together, at least 2.4 m thick.

A thick layer of brown debris, resting on bedrock, contained Byzantine pottery, a large amount of fragments of thin marble veneer from the facing of the bathhouse walls and

Fig. 17. Same as Fig. 15, looking northwest.

installations, bathhouse *tubuli,* and thin roof tiles. At the level of the brown debris the dig was narrowed to a section 1.5 m wide.

Here the foundation trench of the wall (L195, L198), which contained gray debris, clearly cut through the brown debris (Fig. 18). At its southwestern side a line of stones was exposed—the kerb of the open space, or path, along the nearby aqueduct. In the bedrock, a corner of a rock-cut plastered pool was filled with a collapse of small ashlars and late Second-Temple-period pottery. The dig was halted at a depth of 3.25 m from the top of the pool.

Fig. 18. Foundation trench (L195, L198) of the Ayyubid wall, cutting into the layer of earlier debris.

Probe II (Plan 1)

Probe II was cut next to the Ottoman city wall, northwest of the second tower. Below a thin layer of garden earth (top elevation 773.30 m), which contained modern coins of the State of Israel (old *sheqel*s, *lira*), two walls forming a corner of a room were exposed. The walls of this house were built of rubble set in cement, with slightly wider foundations.

The lowest elevations of the house foundation and that of the Ottoman city wall are similar (around 771.64 m); neither are founded upon bedrock, which is at this point c. 2 m lower. Below the Ottoman wall the probe revealed only another channel, probably for the flow of sewage toward the valley. The channel, probably of Byzantine-period date, cut into a brown/gray deposit containing Byzantine pottery, was not destroyed by the builders of the Ottoman wall.

One room was paved with modern concrete tiles (elevation 772.44 m). A channel runs along the Ottoman wall and through the wall of the house. North of the house, and not excavated, were edges of a vaulted basement.

ARTIFACTS

Pottery

The pottery listed below originates from four different layers, representing four different periods:

1) Pottery retrieved from the foundation trench (L195, L198) of the wall, which was cut into the brown debris that covered the bedrock in the entire area (Fig. 19). The layer itself dates to the Byzantine period, as the foundation trench contained only Byzantine pottery. In L195 was a medieval coin, which proved to be of considerable importance in dating the construction of the wall. The Byzantine pottery sherds found in the trench are irrelevant for dating, and only a few representative samples are given.

2) Pottery sherds originating from the debris of the large stone collapse, which marks the destruction of the wall (Fig. 20).

3) Pottery sherds found in the black layer that covered and sealed the stone collapse (Fig. 21).

4) The debris, which covered the black layer, contained a mixture of recent pottery sherds. No illustrations are given.

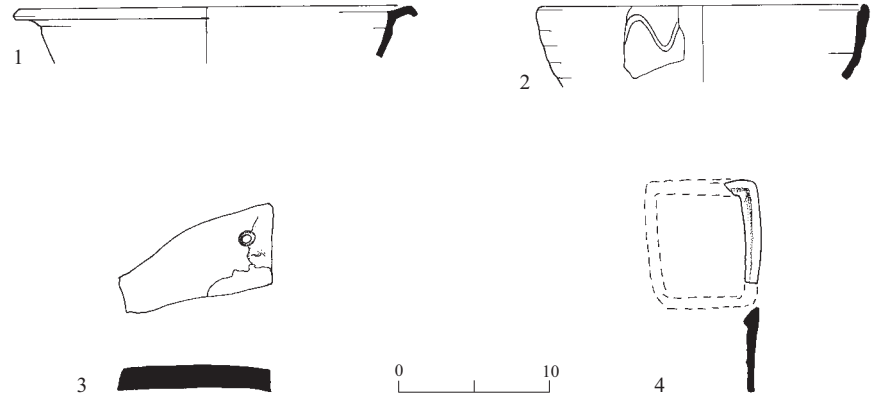


Fig. 19. Pottery from the foundation trench of the wall.

No.	Locus	Reg. No.	Type	Description	Parallels and Date
1	195	1491/5	Bowl	Out-flaring rim, brown clay	Roman period
2	195	1552/9	Small bowl	Simple rim, reddish/brown ware, well fired, outer incised wavy pattern	Byzantine, late 6th to 7th c. (Magness 1992: Fig. 8.15; 1993: FBW bowl, Form 1A:3)
3	195	1552/9	Roof tile	Fragment of thin tile, light brown clay, small circular impression	Byzantine
4	195	1491/11	Pipe	Fragment of square bathhouse pipe (*tubuli*), brown/gray ware, traces of soot	Byzantine

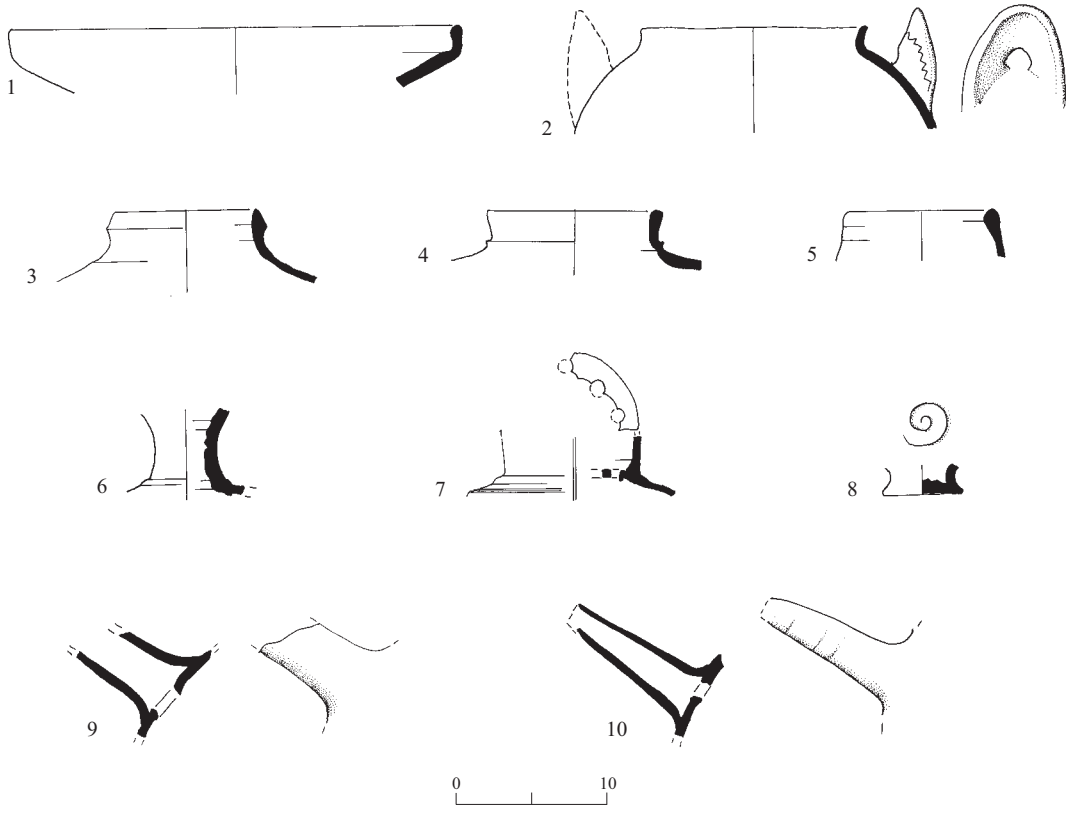


Fig. 20. Pottery associated with the stone collapse.

No.	Locus	Reg. No.	Type	Description	Parallels and Date
1	500	5005/15	Bowl	Rim fragment, light brown clay	
2	203	2005/2, 7	Cooking pot	Handmade, brown ware, black core, slightly brittle with many crystals (calcite?)	Late 12th and early 13th c. CE (Brosh 1986: Fig. 4:9; Pringle 1986:146, Fig. 48:36–38)
3	203	2005/8	Jar	Short simple rim, light brown ware	
4	500	5005/5	Jar	Rim fragment, brown/gray clay	
5	500	5005/13	Jar	Rim fragment, brown clay, gray core	
6	500	5005/14	Jug	Neck, yellowish clay	
7	203	2005/3	Jug	Neck fragment, traces of vertical strainer, yellow/greenish ware	Late 12th and early 13th c. CE (Brosh 1986: Fig. 5:1, 2, 4; Pl. V:9, 10; Bagatti 1984: Fig. 61:1)
8	500	5005/2	Jug	Base, yellow/greenish clay	Late 12th and early 13th c. CE (Tushingham 1985: Figs. 37:17; 40:28)
9	500	5005/9	Jug	Spout, yellow/greenish clay, applied on jug's body in which a hole was cut	Late 12th and early 13th c. CE (Tushingham 1985: Figs. 37:17; 40:28)
10	500	5005/8	Jug	Spout, light brown clay, applied to jug's body in which a hole was cut	Late 12th and early 13th c. CE (Tushingham 1985: Figs. 37:17; 40:28).

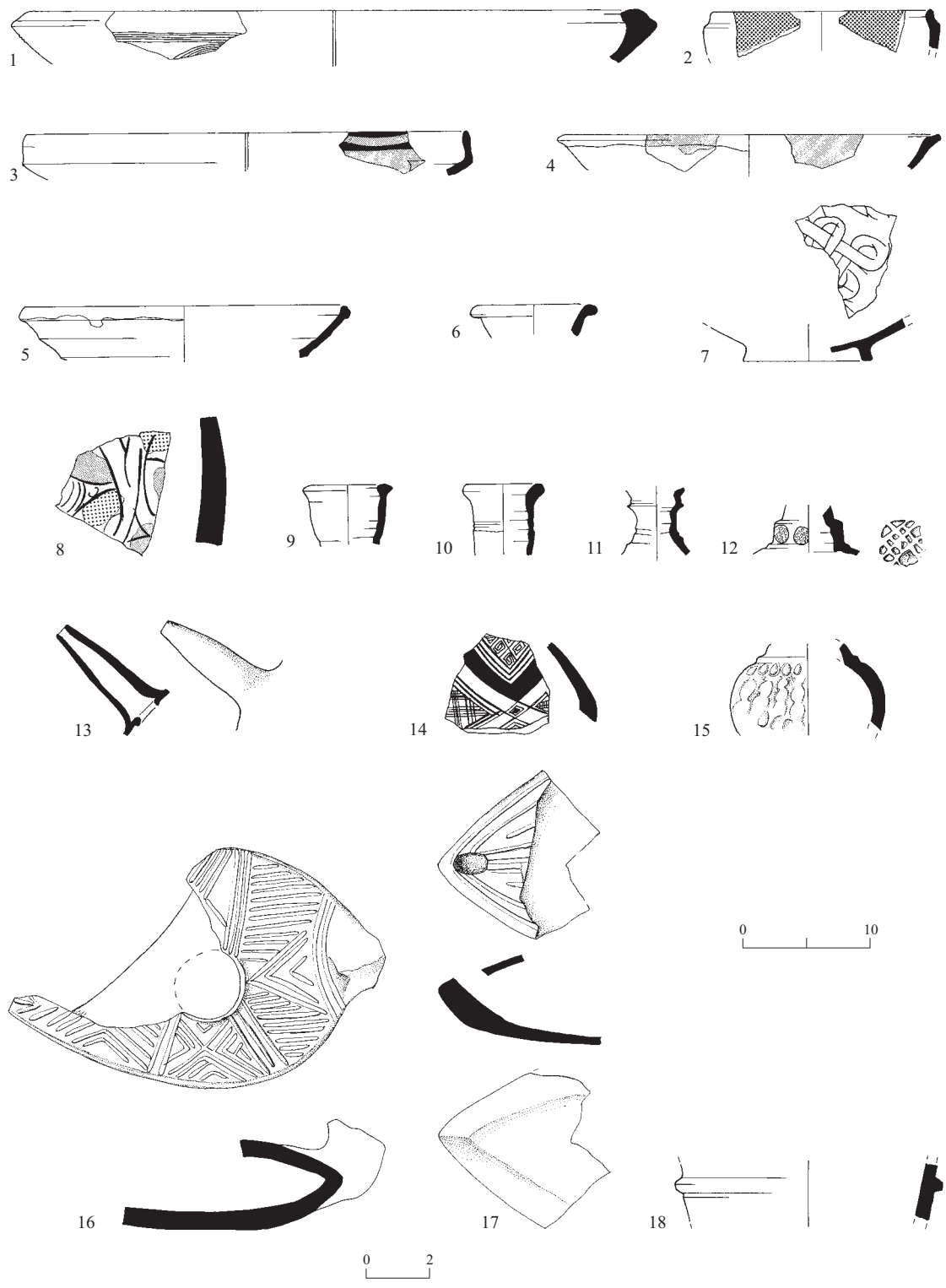


Fig. 21. Pottery from the black layer.

◂ **Fig. 21**

No.	Locus	Reg. No.	Type	Description	Parallels and Date
1	202	2002/1	Bowl	Light brown ware, combed horizontal and wavy bands outside	
2	202	2002/19	Bowl	Simple rim, gray/black ware, dark blue glaze inside and outside	
3	202	2004/10	Bowl	Simple rim, gray ware, green glaze inside and on rim	
4	202	2002/13	Bowl	Simple rim, greenish sandy ware, green glaze inside and outside	
5	202	2004/2	Bowl	Inverted rim, cream glaze inside and on rim	
6	202	2002/14	Small bowl	White ware, yellow glaze inside and outside	
7	202	2002/2	Bowl	Base, brown ware, yellow glaze on inner side with sgrafitto incisions; St. Symeon pottery, imported from Antioch	Late 12th and first half of 13th c. CE
8	202	2002/17	Bowl	Light brown ware, polychrome glaze and sgrafitto incisions inside; glazed band outside; St. Symeon pottery, imported from Antioch	Late 12th and first half of 13th c. CE
9	202	2004/8	Jug	Neck fragment, rim thickened outward, dark gray/black ware	
10	202	2002/6	Jug	Neck fragment, everted rim, yellow/greenish ware	
11	202	2004/3	Jug	Neck fragment, yellowish clay	
12	202	2002/12	Jug	Neck fragment, light brown/greenish clay, series of impressions with cross-hatched decoration around neck	Mid-13th c. CE (Tushingham 1985: Fig. 35:35)
13	202	2002/7	Jug	Spout, brown/orange ware, applied to body in which a hole was cut	
14	202	2002/10	Jar	Body fragment, dark gray ware with light gray slip, decoration in dark gray color of geometric patterns	Vessel was probably subjected to excessive heat which changed colors
15	202	2002/11	'Greek fire'	Fragment of bulb, thick side mold-made, green/gray clay, pattern of small oval scales	
16	202	2002/8	Oil lamp	Folded knob handle (mostly broken), yellow/greenish clay, geometric pattern of series of lines	13th–14th c. CE (Tushingham 1985:147, 151, Figs. 34:41; 37:6, 13; 38:14, 17; 43:17; 45:1–3)
17	202	2002/9	Oil lamp	Nozzle of lamp, mold-made, lower part knife-scraped, greenish clay, no soot on nozzle, pattern of lines	As No. 16
18	202	2002/15	Basin	Fragment of stone basin made of 'soapstone', ridge on straight side	

Architectural Fragments

From the large stone collapse we secured items of some architectural or artistic significance (Figs. 22–27). Another stone of this group is incorporated in the city wall (Fig. 14). Some of the stones bore parts of frescos (see below). These components presumably attest to a Crusader building in the vicinity, most probably a church. Among these are fragments of bases, pilasters, and archivolts.

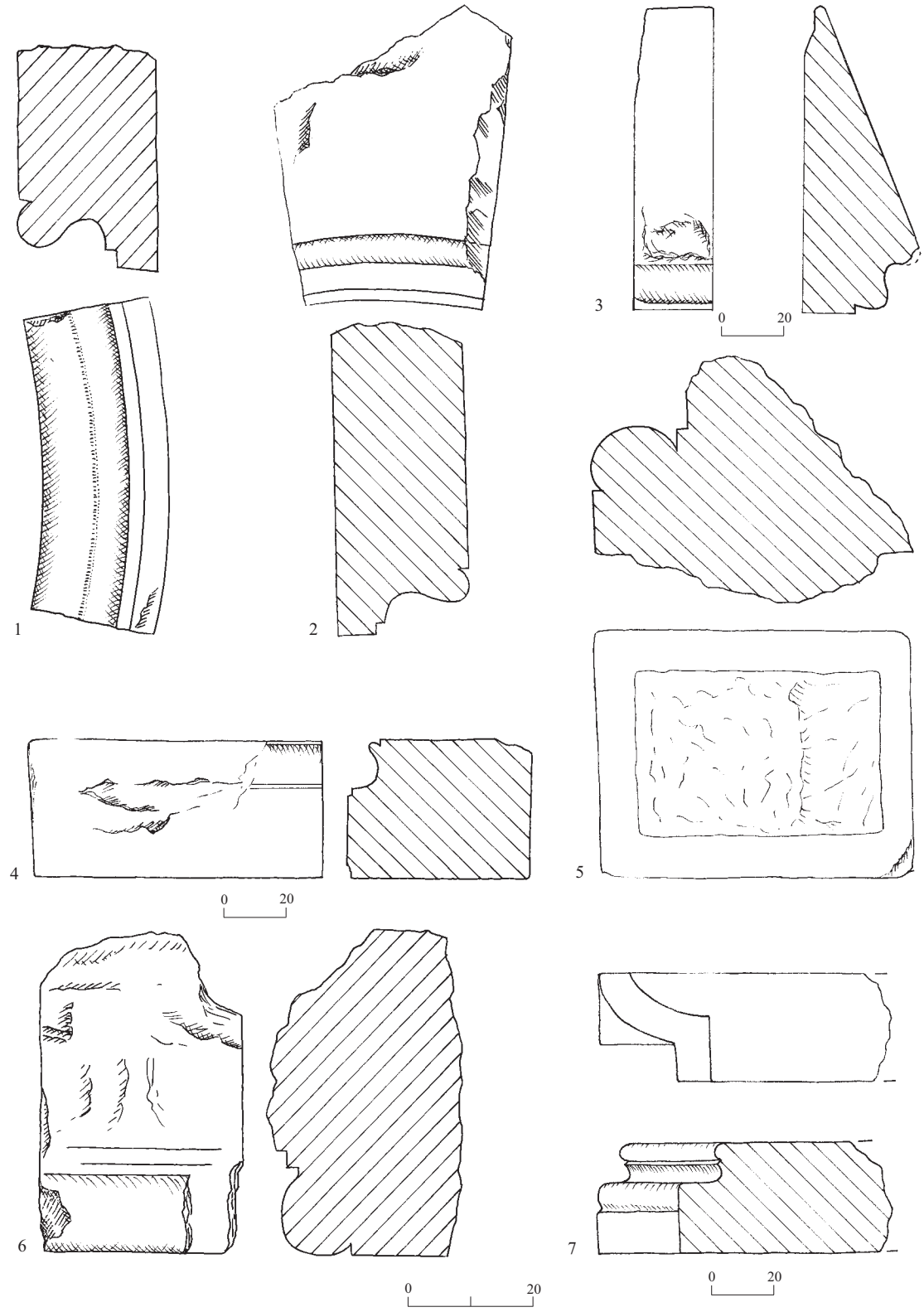


Fig. 22. Architectural fragments.

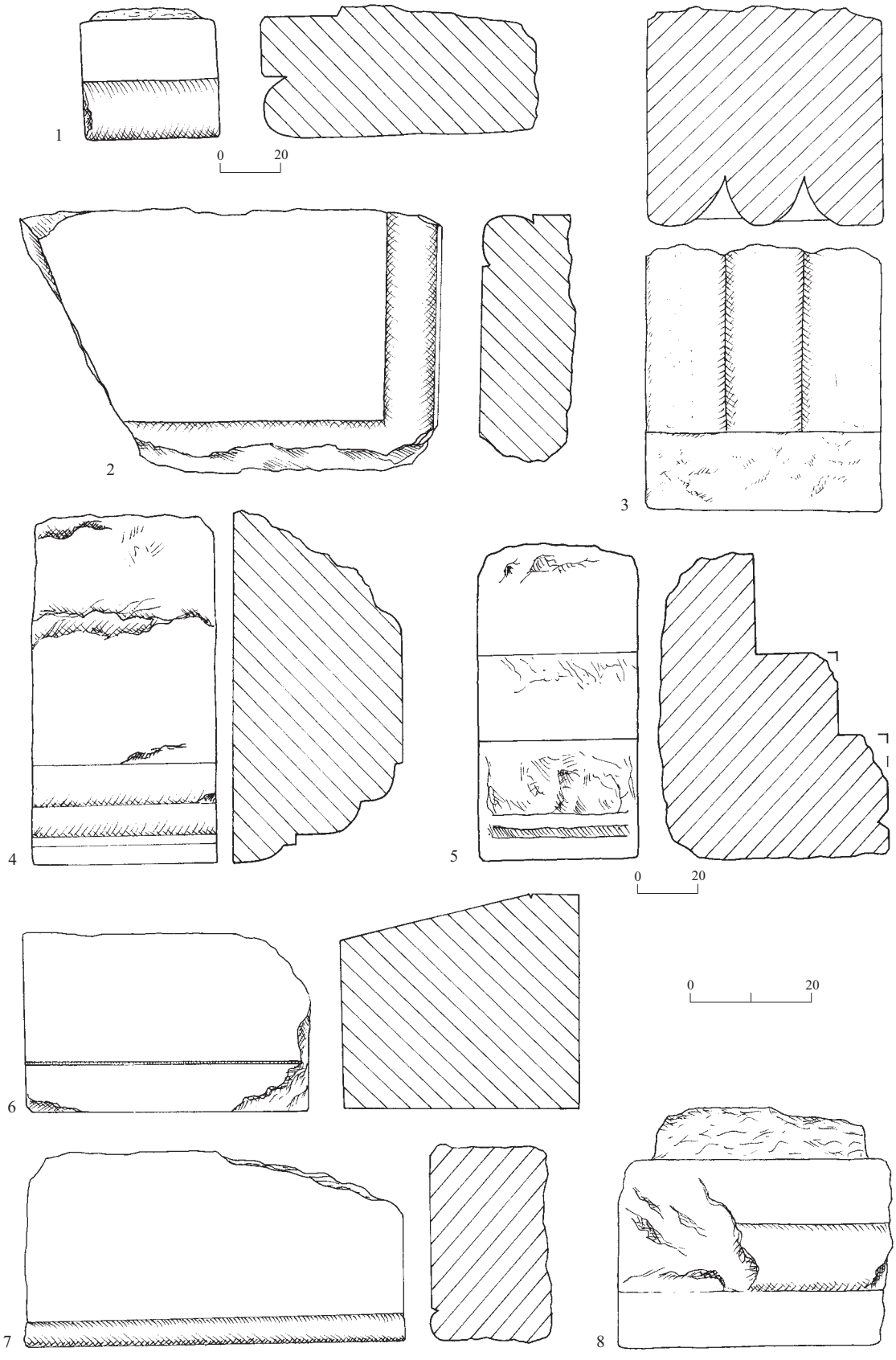


Fig. 23. Architectural fragments.

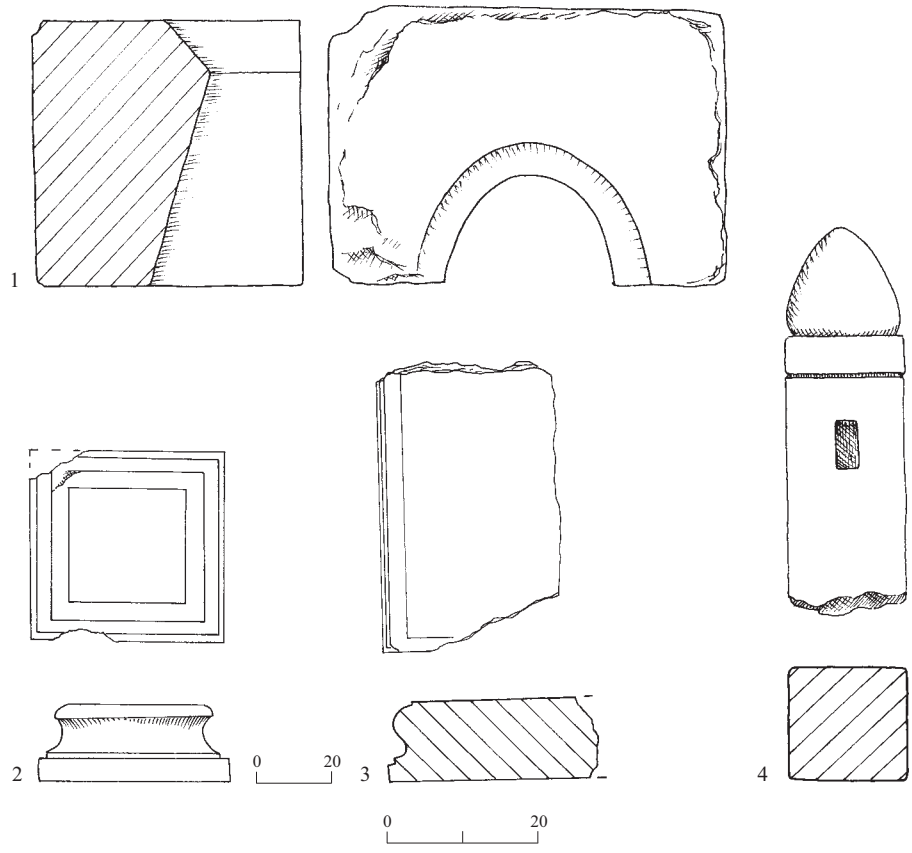


Fig. 24. Architectural fragments.

Fig. 25. Base of engaged column.

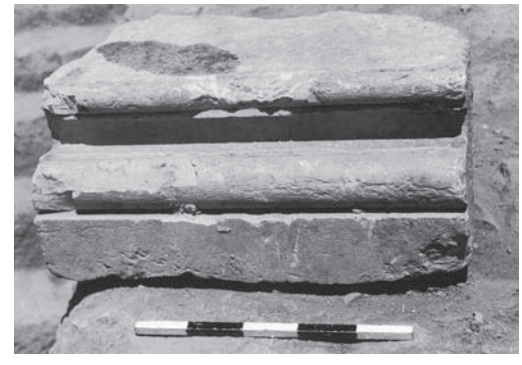


Fig. 26. Molded voussoir.

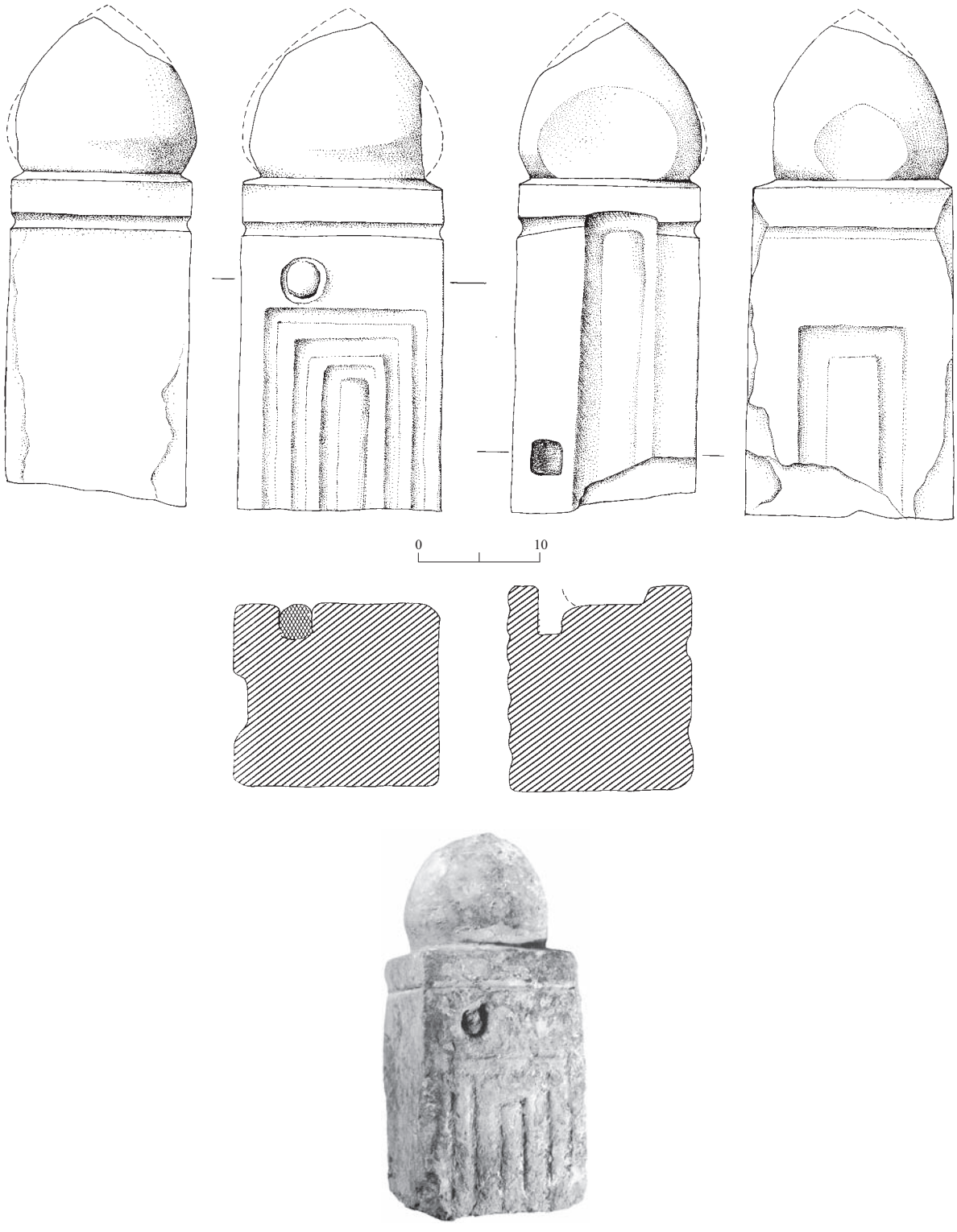


Fig. 27. Column of chancel screen.

Mason's Marks

Mason's marks were found occasionally on reused stones still incorporated in the wall (Fig. 13) and on stones found in the stone collapse (Figs. 28, 29). Most of the marks are geometric configurations, while only a few resemble Latin letters (Fig. 29:9, 10). In this group of 16 marks (15 on the collapsed stones, and one still in the wall), only two pairs were found (Fig. 29:12, 15; and the asterisk form which occurs on the stone still in the wall and in Fig. 28:6). Each one of the remaining twelve signs occurs only once. Since we deal here with *spolia*, the present dig does not contribute to the understanding of these marks. However, the varied nature of the marks, and the fact that each sign occurs not more than twice, clearly supports R. Ellenblum's suggestion that the marks served to match up pairs of dressed stones rather than as personal marks of the stonemason (Ellenblum 1992:173–175).

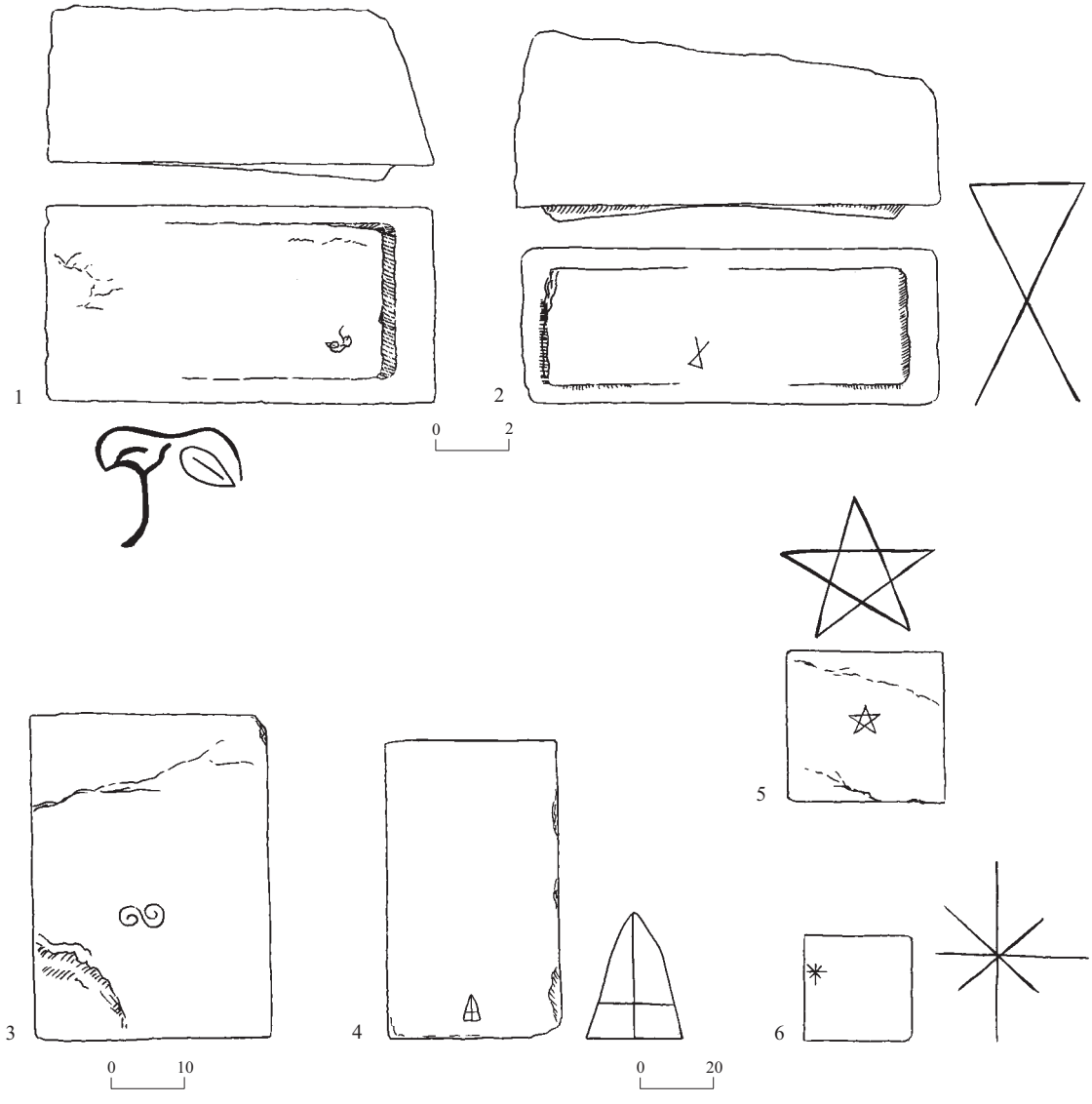


Fig. 28. Masons' marks.

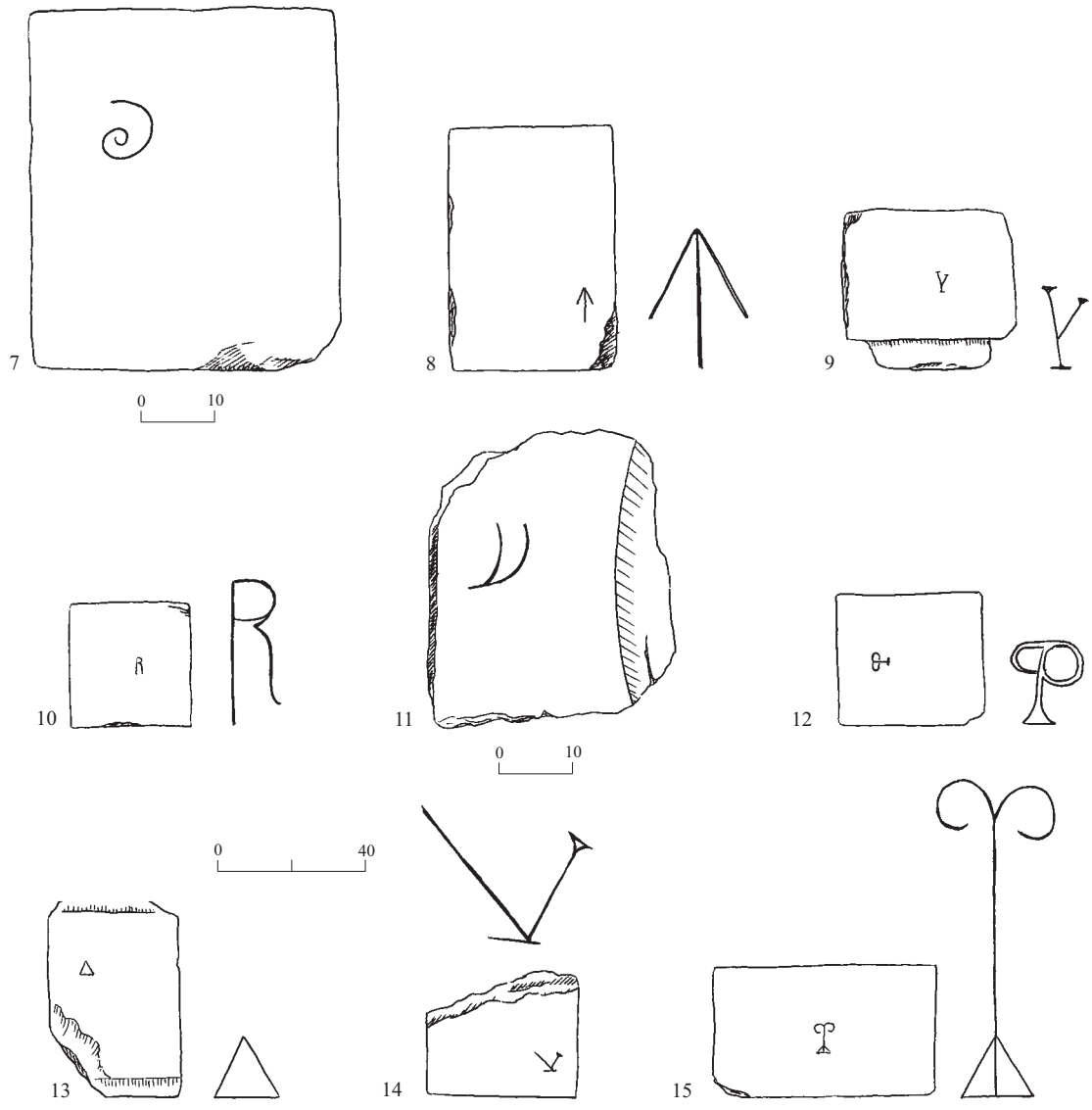


Fig. 29. Masons' marks (cont.).

Coins

Two coins of particular importance were found. They were kindly identified by Ariel Berman:

1. Reg. No. 1470, L195, IAA 83636.
Al-Kāmil I Muhammad Abû' a l-Maʿālī Nāsir al-Dīn (AH 615–635/1218–1238 CE), Dimashq.
Obv.: In center: الملك الكامل \ ناصر الدنيا وا \ لدين محمد بن ابي بكر
Rev.: In center: الامام المستنصر \ بالله ابو جعفر \ المنصور امير المؤمنين
Æ fals, 2.48 g, 22 mm.
Cf. Balog 1980:170, No. 467.

2. Reg. No. 330, Probe II.
Kingdom of Russia, St. Petersburg, 1862 CE.
Obv.: Double eagle; above: crown.
Rev.: ·15· / КОПѢЕКЪ within wreath; above: crown.
Æ 15 *kopeks*, 2.80 g, 20 mm.

Inscriptions

Two of the stones of the large stone collapse bear traces of Latin inscriptions, executed in lapidary style. The inscriptions are too fragmentary to enable a reconstruction. The inscription may have originated from the same destroyed church as did the painted plaster and architectural fragments.

1) Inscription, Area F1 (Reg. No. 2008). On limestone ashlar, c. 29 × 35 cm, 30 cm thick, on a smooth face of stone. Two lines of letters carefully carved, with traces (lower edges) of a third line at top. It seems that the original left-hand side of the inscription survived; it is cut through the letters on the right-hand side. The letters are 7.0–7.5 cm high. The size of the letters and their design, with pointed serifs, suggest a kind of dedicatory inscription. The inscription reads:

. . . . . .
SCAP[
?]PCP[

2) Inscribed tombstone (Area F1, Locus 500, Reg. No. 5009) upon a marble slab of which a fragment, 9.5 × 11.0 cm, of its upper left-hand side survived, c. 3 cm thick. The remains of three lines are extant, with letters 1.8–2.0 cm high. The inscription reads:

+ HIC: IA[CET …
IA: VXO[
DANI:[

3) An abbreviated inscription is painted in white on a fragmentary wall painting (see below).

Fragments of Wall Paintings

Four ashlars bore plaster fragments of a polychrome wall decoration. Apparently, the fragments were taken from a destroyed Crusader church, together with other architectural fragments found in the large stone collapse.

Head of Madonna (Fig. 30).— This patch of plaster, c. 33 × 40 cm, depicts the head of a young Madonna slightly inclined to the left. Since the distance from the edge of the chin to the line of the head covering on the forehead is c. 22 cm, the depiction is clearly larger than lifesize, by 25–30%. The head is on a yellow/ocher background which most probably is part of the halo, although its circular outline did not survive. The woman wears a robe which also covers the head. Her robe is painted in dark brown. Blue coloration (mostly ultramarine and some lighter blues) seems to render the shadows cast by the folds of the robe. The woman's skin is painted in light ocher, in several hues, while the shadows cast by her eye sockets and nose are painted in dark brown and gray.

Considerable parts of the plaster are damaged. Since the left eye of the Madonna is cut out completely, it seems that part of the damage was deliberate and predates the destruction of the edifice and the reuse of its stones.

Fig. 30. Fragment of fresco: head of Madonna.

Contemporary comparative material from Jerusalem is scant. The best and closest piece is a fragment of a wall painting depicting the head of an angel, found in the excavations in the Garden of Gethsemane (today kept at the Museum of the Flagellation Convent). There seems to be a similarity in the rendering of the facial features. Both faces are quite naturalistic. The Gethsemane angel and our Madonna suggest the work of a highly talented and trained Byzantine artist (Kuehnel 1991:344–347).

Other fragments of Crusader wall paintings, slightly less naturalistic, were discovered at the Damascus Gate (Hunt 1982), although the facial features of the angel depicted there did not survive. Hunt related these fragments to the scheme initiated by Queen Melisende in the 1140s to redecorate monuments.

During the year 2000 more Crusader wall paintings were discovered near Mary's Tomb in the Valley of Jehoshafat (Amit Re'em, pers. comm.).

Segment of a Halo and Monogram.— The size of the patch of plaster is 35 × 65 cm. Depicted is part of a circle 58–60 cm in diameter. A 1.0–1.5 cm wide brown band encircles a yellow, evenly painted circle. The rest of the area, painted in ultramarine blue, seems to be part of a representation of heaven. The yellow circle might be the small surviving part of the representation of a halo of a saint, or even of Jesus.

Painted in white upon the blue background part of a monogram, or two letters and a short abbreviation bar survived. The letters and bar are c. 10 cm high; the letters are considerably damaged. However, the letter 'C' with both its widened serifs is clear. The other letter might be an elongated 'J'. In this case we have an abbreviation of the name of Jesus, with the abbreviation bar below the letters. This identification together with the large halo suggest that this might have been the depiction of Jesus.

The painted pieces of plaster, together with some architectural remains, point to the existence of a destroyed Crusader church, or of some other ecclesiastic building annexed to a church. The Ayyubid builders helped themselves to construction material for incorporation into their fortification, which subsequently turned again into a stone collapse. No destruction of churches is known in the short time span between the Ayyubid conquest and the construction of the city walls. However, a moderate earthquake is recorded for the years 1202 CE (Amiran, Arieh and Turcotte 1994:270). Could this have caused the destruction of the unknown church?

RELATIVE AND ABSOLUTE DATING

It is a well-known stratigraphic fact that a line of fortifications is more difficult to date than occupation levels in houses. The construction of the fortification can almost only be dated by means of deposits excavated *intra muros*, related to the foundations of the fortifications. Deposits dumped onto the outer face of a wall or tower can occasionally provide some dating information for the period in which the wall was in continuous use, and for when it went out of use.

With the present line of fortifications we face the same difficulties, for we excavated only deposits which abut the outer face of the wall. The absolute dating of this line of

fortification is thus based on the following data and argumentation:

The general medieval date of this line of fortification is certain due to the fact that the wall was constructed directly over the ruins of the Byzantine bathhouse (Figs. 31, 32; Plan 1: Section 5–5). At one place the wall is built over (actually incorporating in its construction) the Mamillah aqueduct (Figs. 33, 34), which is also dated to the Byzantine period.

On the other hand, the wall is located directly below the foundations of the contemporary Jaffa Gate (*Bab al-Khalil*; Figs. 35–37). As the bathhouse was in use until the seventh century CE

Fig. 31. The Ayyubid wall and its foundation trench (dark debris) cut through walls of Byzantine buildings (at the edge of the area excavated by A. Maeir).

Fig. 32. The Ayyubid wall constructed above the wall with an opening to the Byzantine bathhouse, below the Ottoman Jaffa Gate.

Fig. 33. The aqueduct from the Mamillah Pool.

Fig. 34. The aqueduct from the Mamillah Pool, at the point where it is incorporated in the Ayyubid wall (detail).

Fig. 35. Jaffa Gate, constructed directly upon the Ayyubid wall.

Fig. 36. View of the Jaffa Gate built over the Ayyubid wall.

Fig. 37. The Ayyubid wall built into the Byzantine bathhouse, looking east.

(Reich and Shukron 2002), and the Jaffa Gate bears three inscriptions with the date AH 945 (1538/39 CE). It seems that these are the outer chronological limits of the wall.

Two additional elements seem to narrow these time limits. At the average elevation of c. 769.5 m, the area near the tower and the rock-cut wall is covered by a black and greasy layer, 0.2–0.4 cm thick. We also encountered this layer closer to the Jaffa Gate (Area A3, which will be published separately). This layer clearly abuts the wall and the tower (Plan1:Sections 1–1, 3–3; Figs. 38, 39).

The black layer, 1.2–2.0 m thick, covers an extremely large and widespread collapse of stones, as well as the rock surface of the

Fig. 38. Section below the modern Jaffa Street, opposite the rock-cut wall; stone collapse covered by black layer, looking south.

Fig. 39. Section through the debris abutting the Ayyubid wall. The layer of black earth (L202), which is here very thick, abuts the wall and covers the foundation trench (L195), looking northwest.

entire area. The stone collapse abuts the rock foundation of the tower and wall. However, we do not know how far away from the fortifications it extended. Some of the collapsed stones were still held together with cement.

The black layer covered the stone collapse and thus definitely provides a *terminus ante quem* for the destruction of the fortification and the creation of the stone collapse. As the black layer contained some pottery sherds (Fig. 21), the latest of which date to the thirteenth and fourteenth centuries CE, it narrows the dating of the destruction of the fortification.

The wall occasionally incorporates ashlars, suggesting Crusader masonry. They are smoothly chiseled diagonally with a fine-comb chisel (Figs. 12–14), and some bear mason's marks (Fig. 13). Moreover, in the stone collapse, which originates from the upper parts of this line of fortifications, there were also ashlars with these two features (Figs. 28, 29).

These observations point to the fact that there is a close resemblance in the repertoire of construction stones between those which are incorporated in the still solid and remaining part of the wall, and the stone collapse on the other side. However, we may safely conjecture that the stone collapse originated from the upper part of the destroyed wall. Moreover, these observations raise the possibility that this line of fortification was constructed while incorporating stones collected from destroyed Crusader constructions. These observations narrow the chronological limits of the date of construction and destruction of this line of fortification. Although we discovered no commemorative building inscription, archaeological data can provide more precise dating. Fortunately, the one coin found in the wall's foundation trench (L195) was identified as being minted under al-Kâmil Nâsir ad-Din Abû al-Ma'âlî Muhammad AH 615–635 (1218–1237 CE). A confirmation for this dating might be obtained by excavating archaeological deposits to the east of the wall, i.e., *intra muros*.

STRATIGRAPHIC AND HISTORICAL SUMMARY

The stratigraphical considerations and archaeological findings point to the fortifications under discussion having been constructed

after the Crusader period, and destroyed at a time predating the Mamluk period. These chronological limits and the nature of the destruction seem to point to a specific date. The stone collapse was noted along the entire stretch of wall that we exposed; that is, along 110 m from the Jaffa Gate to the northwest.

A stone collapse of the same nature was found in two other excavations, one of them conducted by N. Avigad in the Jewish Quarter of the Old City. In Area T4, adjacent to the southern Ottoman wall (Fig. 1:4), Avigad exposed a massive tower covered with a thick stone collapse (Avigad 1983:251–255). The other, southern side of this tower, was exposed by M. Broshi outside the Ottoman wall (Broshi and Gibson 1994:153–155). Here, however an Arabic inscription (Sharon 1977: Inscription B; Broshi 1987; Broshi and Gibson 1994:154) provides the identity of the builder, as well as the destroyer of the wall, namely the Ayyubid ruler, al-Malik al-Mu'azzam 'Isa (AH 576–625/1181–1227 CE).

Another inscription found close to the southwestern corner of the Ottoman city wall (Fig. 1:2) related to the same Ayyubid ruler (Sharon 1977: Inscription A; Broshi 1987).

Although we did not discover a new inscription, the nature and spread of the stone collapse is decisive. Fortifications in ancient times were occasionally breached during siege operations, resulting in destruction of the fortification in limited areas. Here we deal with a major action of deliberate destruction spreading over a wide area of several hundred meters of wall evidenced in Avigad's, Broshi's and our combined excavations. We know of no similar phenomenon in any other period along the fortification lines of Jerusalem through the ages. Similarly, we do not know of any ruler other than Mu'azzam 'Issa, who ordered the destruction of his city's fortification. According to the historical record, the destruction of the walls of Jerusalem started on Muharam 1, AH616 (March 19, 1219).

While the question of destruction is clearly answered, the construction of this line of fortification is not entirely so. The inscriptions by Mu'azzam 'Isa are dedicatory inscriptions. The inscription from the southwestern side, published by Broshi (1987) bears the date AH 599 (1202/3 CE). The inscription from the south dates to 1212 CE (Broshi 1976:77). Notwithstanding the dated inscription, they could have been inserted in an existing construction which was only slightly renovated. However, the occasional use of ashlars with characteristic fine-comb dressing and mason's marks points to a post-Crusader building.

Here the fortunate discovery of the coin in the wall's foundation trench comes to our aid. The coin was minted under al-Kamil Muhammad AH 615–635 (1218–1237 CE), which corroborates that the segment of wall unearthed by us was constructed by Mu'azzam 'Isa, somewhere between 1218 and 1219 CE.

As to the fate of the stone collapse, the following is of some importance. While in other parts of the city the masons of the Ottoman city wall may have helped themselves to the collapsed Ayyubid stones, reused them, and incorporated many of them in their city wall, in our area this is not the case. The black greasy layer, which can be seen in the cross section, completely covered the stone collapse.

The chronological sequence of the architectural and occupational elements in this area can thus be summarized as follows: (1) The construction of the bathhouse and aqueduct date to the Byzantine period. While the bathhouse might have been used into the Early Islamic period, but not after that, the aqueduct from the Mamillah Pool was in use up to the early twentieth century; (2) the Ayyubid fortifications were partly rock-cut and partly built; (3) the Ayyubid fortifications were destructed, thus creating the large stone collapse; (4) the layer of black debris was accumulated in the Mamluk period; (5) the Jaffa Gate and city wall were constructed under Suleiman the Magnificent, partly on top of the Ayyubid fortifications; (6) the houses in front of the Jaffa Gate were built during the Ottoman period.

List of Loci

Locus No.	Levels	Description	Remarks
195	763.97 762.42	Foundation trench of Ayyubid wall cut into deposits of brown earth (see Figs. 18, 31)	Byzantine-period pottery; a single Ayyubid coin
198	763.97 762.81	Foundation trench of Ayyubid wall cut into deposits of brown earth	Byzantine-period pottery
201		Layer of gray debris resting on top of black layer (see Figs. 16, 17)	
202		Layer of black and oily debris covering large collapse of stones and abutting Ayyubid wall (see Figs. 16–18, 38, 39)	
203		Large collapse of construction stones with gray earth between the stones (see Figs. 16, 17, 38)	
500	769.10–50 767.55	Near rock-cut tower, large collapse of construction stones with gray earth between the stones (see Fig. 4)	

NOTE

[1] The excavations were conducted by the authors on behalf of the Israel Antiquities Authority. Area supervisors: Yuval Barukh and Naser Sanduka; administrator: Ḥanan Sarig; area photography: Sandu Mendrea; studio photography: Clara Amit; surveying: Avi Hajian; drawing and preparation of plans for publication: Natalia Zak; pottery drawing: I. Lidski; architectural drawing: Mark Kunin. Coins were identified by Ariel Berman. The Ayyubid wall was preserved and reconstructed under the inspection of the conservation team of the IAA. Our thanks are extended to all.

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