Between private and public: The use of marble in Late Antique Caesarea Maritima

Abstract: Late Antique Caesarea was a city of marble. Marble cargoes continued to arrive at the port after the 4th century AD as plain blocks, half-finished or finished products; these constituted a significant addition to the available Roman marble products, which were used as-is or recycled in streets, as well as private, public, and semi-public constructions. Large-scale sawing, cutting and carving took place in Late Antique Caesarea. Craftsmen were employed in producing *opus sectile* panels, in paving, veneering, and carving architectural members, champlevé reliefs and lattice screen panels, and in mounting all marble products comprising the exterior and interior decoration of each complex. In all structures marble was used for similar purposes, although each was unique in terms of quantity, quality, and diversity of the material. The examples discussed show that at every stage of the city's existence the Caesareans were familiar with the most up-to-date fashions and were no less innovative than their counterparts in the region and beyond. The aesthetic principle of *varietas*, which became fashionable in Late Antiquity and was adopted by the Caesareans, found its way from the public to the private and semi-public spheres, and is manifested in most, if not all, of the complexes discussed in this paper.

Keywords: Colored marble stones, marble architectural members, pilasters, wall facing, champlevé reliefs, local production, *opus sectile* workshop, screen panels

Rivka Gersht[1]
Peter Gendelman[2]

[1] Tel Aviv University
[2] Israel Antiquities Authority

Polish Archaeology in the Mediterranean 32/1
Gersht and Gendelman 2023: 123–179
https://doi.org/10.37343/uw.2083-537X.pam32.1.06

INTRODUCTION

Excavations conducted at Caesarea Maritima since the mid-20th century have yielded a huge amount of whitish, grayish, and colored marble stones, the majority of which were found in Late Antique contexts (5th–7th centuries AD). Extensive use of marble at Caesarea Maritima, a city built by Herod between 22 and 10 BC, started only around the middle of the 2nd century AD, after the city became the capital of the Syria Palaestina province; since then, until the 7th century AD, the use of diverse marble stones steadily increased.

As the amount of the material is enormous and surpasses the scope of one paper, we had to settle for a selection of finds —all from the excavations of the Israel Antiquities Authority (IAA)— with the aim to provide the most comprehensive overview attainable concerning the quantities and varieties of the stones and their usage in Late Antique Caesarea. We had to decide on which examples to focus and which to put aside. Ultimately, it was decided to exclude free-standing sculpture, tabletops and table supports, sarcophagi, and funerary inscriptions, and focus on architectural elements from public, private, and semi-public constructions. The structures chosen to demonstrate the public use of marble in Caesarea of the 5th–7th centuries are colonnaded streets, the Octagonal Church Complex [*Fig. 1:a*], and the portico of a partly excavated complex, probably a bathhouse [*Fig. 1:b*]. The use of marble in the private sphere is demonstrated by finds uncovered in two mansions: a seaside mansion in Insula W2S4 [*Fig. 1:c*], and one that occupied Insula E1S6, next to the theater [*Fig. 1:d*]. The Semi-public Complex in Insula W2S3 [*Fig. 1:e*], located between the Late Antique praetorium and Insula W2S4, closes the discussion.

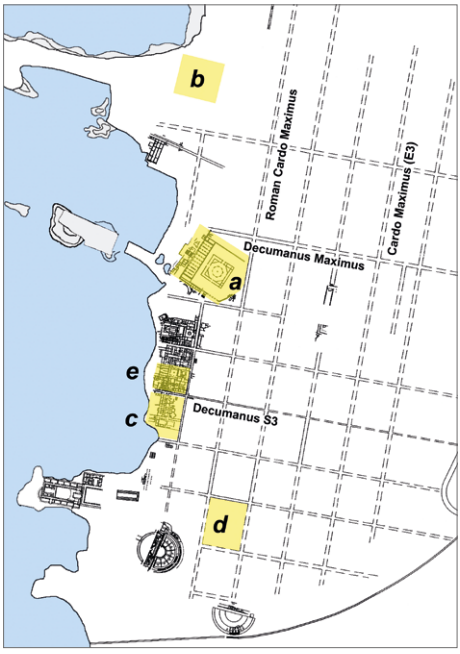

Fig. 1. Map of Late Antique Caesarea: a – Octagonal Church Complex; b – late 5th century AD portico; c – mansion in Insula W2S4; d – mansion in Insula E1S6; e – Semi-public Complex in Insula W2S3 (Processing R. Gersht and P. Gendelman)

PUBLIC SPHERE

Discussing the public sphere requires a distinction between streets and their sideway porticoes, and public buildings that served Caesarea's communities.

COLONNADED STREETS

To date, it has been possible to identify only four colonnaded streets where marble was in use in Late Antiquity. In

the early 5th century AD, the calcareous sandstone (*kurkar*) column bases, drums and capitals of the Roman colonnade of Decumanus S3 were replaced with marble ones [*Fig. 2:a–b*], at least in the area excavated during the 1990s, between

Fig. 2. Decumanus S3: a, b – IAA 1990s excavations, *in situ* marble column and base (a: photo P. Gendelman; b: IAA | photo T. Sagiv); c – 2023 excavation (Photo P. Gendelman)

Insulae W2S3–W2S4 and W1S3–W1S4.[1] Two months after the submission of this article, another 14-meter-long section of Decumanus S3 between Insulae E1S3 and E1S4 was exposed by one of the authors (P.G.) [*Fig. 2:c*]. The corpus of finds from this recent excavation includes two complete and four fragmentary column shafts, six column bases *in situ* and one out of place, along with eight Corinthian capitals, all made of marble: white, dark gray, grayish with dark gray veins, and *cipollino verde* (*marmor Carystium*). In terms of style, the capitals belong to three different groups: two groups of two capitals each, and one group of four capitals, one of which is unfinished and heavily damaged. Next to the latter, a fragmentary column shaft, also crudely worked, was found. Since the Roman phase of this section of the street was not excavated, it is impossible to know whether the Roman colonnade, if it indeed existed, was made of calcareous sandstone (*kurkar*), as was the case in the previously excavated western parts of this decumanus.

Unlike Decumanus S3, both the Roman Decumanus Maximus, which served as a main east–west oriented street until the Crusader period (12th–13th century AD), and the Roman Cardo Maximus (Cardo 0; Levine and Netzer 1986: 182–183, Fig. 157; Mesqui 2014: 278), which ceased to function as the main north–south oriented street in the late 4th or early 5th century AD, had been adorned with marble architectural members already in the Roman period. However, as only small sections of these streets have been excavated, the number of original Roman elements that remained in use in Late Antiquity is impossible to determine.

Reliable evidence for paving streets in marble was found by Peter Gendelman in 2008. The excavation of a 14-meter-long section of the Cardo Maximus (E3) —dated to the 5th century AD— next to its intersection with the Decumanus Maximus, yielded dozens of recycled architectural members formerly belonging to one or more demolished Roman constructions. The sculpted pieces were mainly laid face-down (Gersht and Gendelman 2019: 55); many were notched with parallel lines, perpendicular to the direction of traffic, to prevent their surfaces from becoming slippery [*Fig. 3*].

The marble architectural members of the colonnaded streets have yet to be studied. However, a significant find worth mentioning is an unfinished, partly broken Corinthian capital (Gersht and Gendelman 2019: 55–56; Gendelman and Gersht 2010: 29–31, Fig. 4). The capital, recovered during the abovementioned 2008 excavation, was found lying on its upper face, next to the northern portico of the Decumanus Maximus. The outlines of its ornamentation were marked with rather deep incisions on all four sides, but the sculpting was not executed. Whatever the reason for leaving the capital unfinished, be it the stone's assumed fragility, insuf-

1 The preliminary observations made by Porath (1996: 114) during the "Caesarea after Two Millennia" symposium in January 1995, and referred to by Bejor (1999: 67), and Burns (2017: 132 and note 87), were offered a few years before the completion of the excavations in 1998; the conclusions, as presented in this study, are refined in the final report (Gendelman and Porath forthcoming).

Fig. 3. Cardo Maximus (E3): recycled marble architectural members as pavement (Photo P. Gendelman)

ficient funds, or lack of skilled craftsmen, the piece clearly manifests the practice of importing capitals in their quarry state, with the intention to complete the carving on the spot. It is impossible to know whether the capital was used at all, nor is it certain that other unfinished capitals were mounted on the street's column shafts, as the excavation exposed only a small section of the northern portico of the Decumanus Maximus.

OCTAGONAL CHURCH COMPLEX

Evidence of using marble in Caesarea's public buildings is much more comprehensive than in its streets. The Octagonal Church Complex, for example, which was built on top of the demolished Temple of Augustus and Dea Roma in the last decade of the 5th century AD, yielded an impressive quantity and variety of marble stones used for *opus sectile* paving, wall facing, screen panels, screen posts, columns, colonnettes, capitals, and bases. A fine corpus of finds uncovered by the Combined Caesarea Expedition (CCE) in the 1989–2003 excavations, conducted by the University of Maryland and the Haifa University, was recently published by Edna Dalali-Amos (2020). Yet the seven-year excavations of the IAA (2015–2021) conducted at the complex by Peter Gendelman, Uzi 'Ad and Muhamad Hater produced a much larger assemblage of marble objects, the majority of which was found within the collapsed vaults at the western façade of the Temple Platform [*Fig. 4*].

A preliminary study of this huge assemblage of marble finds has shown that the greatest variety of stones was employed for making *opus sectile* pieces [see below, *Table 1; Figs 34, 35*], while the slabs mounted on the walls were mainly

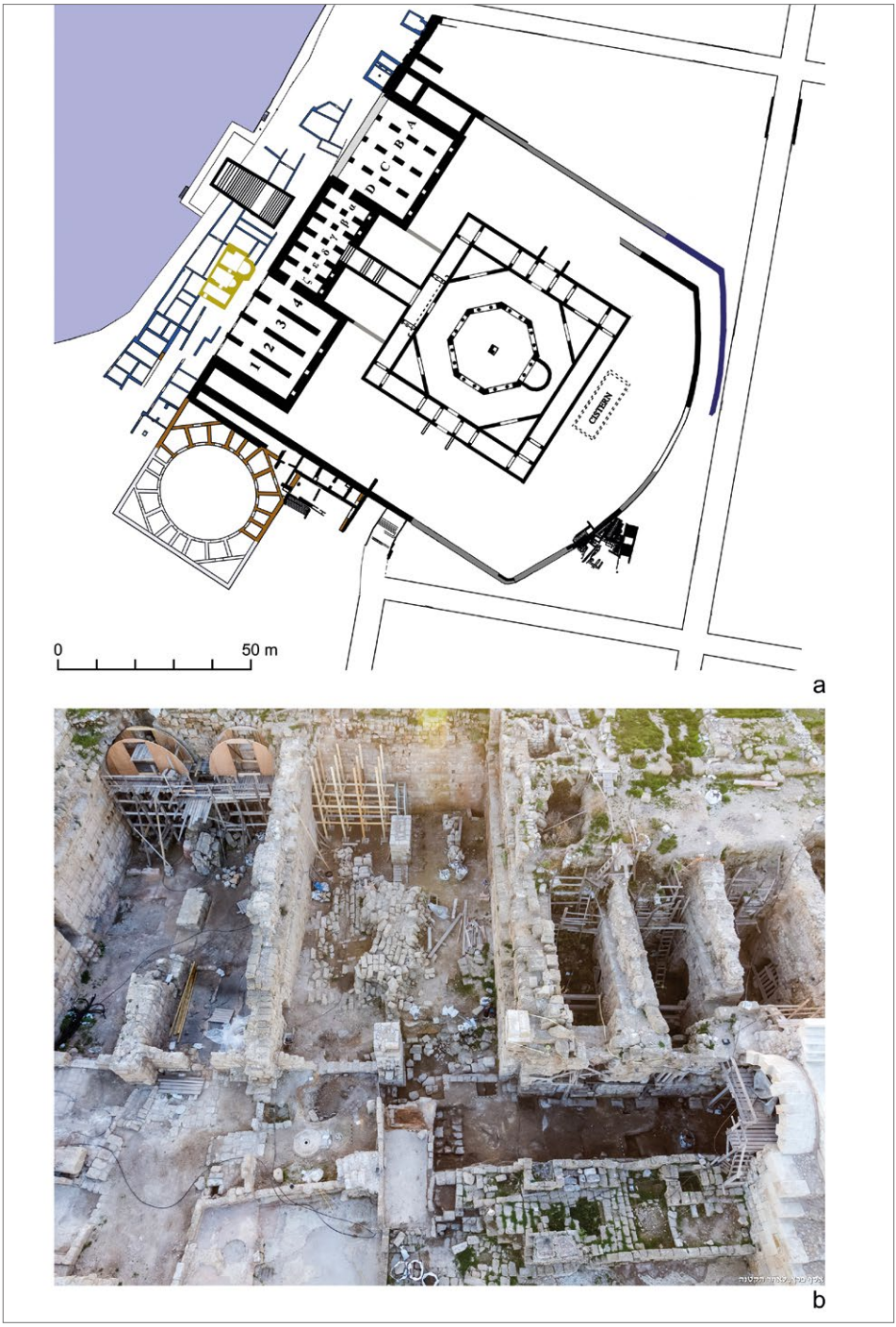

Fig. 4. Octagonal Church Complex: a – ground plan (Drawing A. Iamim and P. Gendelman); b – aerial view of the western façade vaults (IAA | photo A. Peretz)

of whitish and grayish marbles. Many of these slabs preserved dowel holes, some with traces of bronze clasps. Other finds included dozens of molded slabs used as fillet-spacers,[2] a number of fragmentary molded cornices, and champlevé reliefs (see Gersht 2022: 199–202, 205, Figs 7:6, 8, 10:3, 12:2, 13:1–2).

Champlevé reliefs

One of the champlevé reliefs [*Fig. 5:a*] is particularly remarkable, as it shows *peltae* arranged in pairs that alternately face towards and away from each other, forming intermediate spaces in the shape of bifid calyces. These are, likewise, arranged in pairs that alternately face and turn away from one another (Gersht 2022: 205, Fig. 13:1a–b). No other champlevé relief of the kind is known to us, although the pattern itself is attested by many tessellated Roman mosaics (e.g. Levi 1971: Pls 37a, 42a). The rounded upper rim of the relief precludes its use as wall veneer, and since the 2.8 cm thickness is not enough for a screen panel, it has been suggested by Gersht that the fragment belonged to the ambo, a preacher's pulpit, whose base was found in the Octagonal Church by the CCE team in 1998 (Stabler and Holum 2008: 30, Fig. 31; Dalali-Amos 2020: 260, Cat. No. 72).

Fig. 5. Octagonal Church Complex, champlevé reliefs: a – peltae relief and its proposed reconstruction (Photo and processing R. Gersht and P. Gendelman; drawing T. Meltsen); b – pilaster capital (Photo and processing R. Gersht and P. Gendelman)

Another fragmentary champlevé relief [*Fig. 5:b*] is part of a pilaster capital featuring a "mirrored trumpet", a motif also found on champlevé pilaster capitals from Antioch (Stillwell 1941: Pl. 26, Nos 461–462, 473, 477; for other examples from Caesarea, see Gersht 2022: 195–197, Fig. 3:4–7). Only the upper right corner of the Caesarea capital, ornamented with the trumpet motif and acanthus leaves in its lower part, has been preserved. Pilaster shafts and bases found within the collapsed vaults suggest that there were more pilaster capitals of this kind, as well as other ones in bas relief.

Pilaster shafts and bases

Of the fragmentary pilaster bases [*Fig. 6*], one [*Fig. 6:a*], although missing the plinth and upper torus, was unquestionably of the Attic type, akin to the specimen found in Insula W2S3 (see below). Another base

2 Revetment fillet-spacers (termed "projecting billets" by House and Megaw [2007: 217]) were placed both horizontally and vertically to separate and support the fields of wall revetments, always protruding about 1 to 2 cm from the revetment surface (cf. Gwiazda 2015: 129, Fig. 3; Marasović and Marinković 2018: 845–846, Figs 11–12).

[*Fig. 6:b*] preserved part of its plinth with a triangle-shaped left foot (cf. House and Megaw 2007: 206–207, Cat. Nos J35, J41 for similar plinths from the Episcopal Precinct, Kourion). The lower torus is flat, and it is unclear if it was followed by a scotia, or if the molding was composed of a series of bands separated by deep channels.

The pilaster shafts were either fluted or plain, as demonstrated by a fluted fragment of Phrygian *pavonazzetto* (*marmor Phrygium*) [*Fig. 6:c*] and by a plain pilaster carved as one piece together with its Attic-like type base [*Fig. 6:d*]. A fragment of a large Corinthian pilaster capital [*Fig. 7*], with dimensions that probably matched

Fig. 6. Octagonal Church Complex, pilaster shafts and bases (Photos and processing R. Gersht and P. Gendelman)

the size of the base with the plinth with triangle-shaped feet [see *Fig. 6:b*], was found in a destruction layer above a 6th–7th-century floor at the entrance to vault ζ. The capital had the shape of a calathus whose upper part flared to the sides, and it was ornamented with a whole acanthus leaf between two halves. The ridged stem crowned with the inflorescence bud of the acanthus occupies the area between the volutes, while the bud itself is placed at the center of the double-band abacus. Unfortunately, neither the aforementioned fragments nor the other architectural and decorative items excavated by the IAA were recovered *in situ*; the majority were found dumped into the collapsed vaults of the western façade of the Temple Platform.

Marble leftovers

Dozens of leftovers of sawed marble stones with parallel slits were also found within the collapsed vaults [*Fig. 8:a–d*] (Gersht and Gendelman 2019: 58–59).

Fig. 7. Octagonal Church Complex, pilaster capital (Photo and processing R. Gersht and P. Gendelman)

These leftovers showing variation in the width of the slabs indicate that at least a part of the marble slabs for flooring and wall facing were sawed on the spot. The device used for this purpose was a water-powered multi-blade sawing machine, perhaps like the one depicted in the Hierapolis relief, or the original structures fragmentarily preserved in Ephesos and Gerasa (Ritti, Grewe, and Kessener 2007; Kessener 2010: 284–290; 2012). The water needed for operating the machine(s) must have come from one of Caesarea's four aqueducts, either directly or indirectly, via a major water consumer such as a nymphaeum or a public bathhouse (both were available on the spot). The location of the device(s) has yet to be determined.

Not only raw material, but also column shafts were sawed into slabs using the water-powered machine. The slabs obtained were employed in wall revetments and pavements, as well as for manually shaped *opus sectile* pieces. We are convinced that fillet-spacers and cornices, just like the *opus sectile* pieces, were shaped on the spot. Pumice and sandstone abraders found in the area support this hypothesis [*Fig. 8:e–f*] (cf. Rockwell 1993: 48–49; Wootton, Russell, and Rockwell 2013: 9, Fig. 25).

Screen panels and posts

About 160 fragments of screen panels and six screen posts came from the IAA excavation of the Octagonal Church Complex. The largest group of fragments represents openwork panels [*Fig. 9:a–d*]. The lattice strips are sometimes bifid on one or both faces, and sometimes plain; they either intersect or merely touch each other. Based on the diversity of the

screens in terms of width and design, it seems that some, if not all, were made locally. Among the solid fragments, more than half are double-faced [*Fig. 9:e–g*]. The difference in quantity between openwork and solid fragments can be explained by their potential for reuse. The solid panels could easily be reused for flooring, while the lattice ones were only suitable for lime kilns.

Fig. 8. Octagonal Church Complex, marble leftovers and abrasive stones (Photos and processing R. Gersht and P. Gendelman)

In contrast to the large number of screen panels, the Octagonal Church Complex yielded very few screen posts. They differed in dimensions and marble colors: whitish green/*cipollino verde*, whitish gray, and gray [*Fig. 10*]. The small num-

Fig. 9. Octagonal Church Complex, marble screen panels (Photos and processing R. Gersht and P. Gendelman)

ber of screen posts can be explained, to a certain extent, by the deep slots cut into some column bases to receive the screen panels [*Fig. 11*] (for similar bases uncovered by the CCE, see Dalali-Amos 2020: 267, Cat. Nos 13–14). The other posts were likely sawed and reused; at least two posts —one of *cipollino*, and the other of grayish white marble with dark gray veins, perhaps of Prokonnesian origin— were found next to an Umayyad-period lime kiln, within vault D. Another fragmentary screen post uncovered by the CCE is interesting, as it has four grooves, one on each of its faces.

Fig. 10. Octagonal Church Complex, marble screen posts: a – *cipollino verde*; b – whitish-gray marble; c – gray marble (Photos and processing R. Gersht and P. Gendelman)

Edna Dalali-Amos (2020: 286, Cat. No. 77), who studied the piece, suggested that the post had two phases of use. In the second phase, two grooves were added, one in its molded face and the other in the back. How and where the post was used is unclear.

Capitals

Of the capitals uncovered by the IAA team within the Octagonal Church Complex, two groups are of special interest. One comprises medium-size Corinthian capitals bearing a cross either on the calathus in place of helices, or on the boss of the abacus. Neither the capitals, nor their crosses are identical to each other. The most impressive is the *crux gemmata* preserved on a capital boasting beautifully carved lower foliage with eyelets, made of whitish marble with wide, gray veins [*Fig. 12:a*]. In another capital, made of the same marble as the former, the cross is deeply carved into a medallion/shield occupying a large area of the calathus below the boss of the abacus [*Fig. 12:b*]. A cross on a medallion/shield, though carved in high relief, appears on other Corinthian capitals from the Temple Platform area: one was found by Negev, and the other by the CCE (Dalali-Amos 2020: 280–281, Cat. Nos 58–59). These capitals, as well as others from Caesarea with a plain medallion/shield (Fischer 2011: 71, Fig. 26:4–5), belong to a group of Corinthian capitals of the so-called "medallion" type. The type and the motifs adorning the medallion/shield are discussed by Barsanti (2014; 2017). The group of medium-size Corinthian capitals uncovered by the IAA team includes yet another capital, which, unlike the aforementioned ones, bears a cross deeply carved into the boss of the abacus [*Fig. 12:c*]. Assuming that the capitals comprising the group crowned columns encircling the naos of the Octagonal Church, it is plausible that the assortment was an expression of the aesthetic principle of *varietas*, which became fashionable at the time (cf. Niewöhner 2010: 413, 438–441, 447–456, 458–459; 2018).

Fig. 11. Octagonal Church Complex, column bases slotted for screen panels (Photos and processing R. Gersht and P. Gendelman)

Another interesting group of capitals uncovered by the IAA team comprises large basket-type capitals in a quarry state, incised with crosses [*Fig. 12:d*]. Apart from the sketchy crosses, the capitals are devoid of ornamentation.

Fig. 12. Octagonal Church Complex, Corinthian and basket capitals (IAA | photos A. Peretz; processing R. Gersht and P. Gendelman)

One would expect that in a complex as impressive as the Octagonal Church, the capitals, of which the shorter ones were probably used as imposts of an arched gallery, would have been richly ornamented, or at least polished or well smoothed.[3] As a matter of fact, Caesarea yielded several basket-type capitals that were skillfully ornamented with acanthus leaves. One was published by Fischer (2011: 71, Fig. 27), and another, only partly preserved, is on display in the Sdot-Yam Museum. Two more ornamented basket-type capitals were uncovered by the IAA team, one in the front of vault 1, and the other above the Late Antique pavement of Cardo 0, about 30–35 m north of its intersection with Decumanus Maximus and about 40–50 m east of the Octagonal Church Complex [*Fig. 12:e*]. The ornamentation of all four capitals is identical; thus, they undoubtedly formed a set that likely originated from the Octagonal Church Complex.

LATE 5TH-CENTURY PORTICO

While the abovementioned architectural members from the Octagonal Church Complex are all contemporary to the constructions they were part of, those uncovered in the partly excavated portico of a public complex from the late 5th century AD are all *spolia* [*Fig. 13:a*]. The portico, located northeast of the Sebastos port, next to the Northern Gate Tower of the Crusader city, was excavated in 2017–2018 by Uzi ʻAd and Peter Gendelman (ʻAd, Gendelman, and Hai 2020). It yielded four Corinthian capitals, eight column shafts and seven Attic-type column bases, all taken from one or more earlier structures. The capitals are all made of white marble with wide grayish veins, but they differ in ornamentation and relate to different groups or subgroups in Fischer's classification (Fischer 1990). The upper faces of two of the capitals are engraved with Greek letters, one with Θ and the other with ΙΘ.

Two of the capitals bore noticeable remains of red pigment. Some of it was extracted using a scalpel and subjected to SEM-EDS analysis in order to determine if the capitals were gilded.[4] The results showed no trace of gold, but identified the samples as iron oxide, one of the pigments used as a preparation or ground layer prior to gilding, as well as a component of red paint (cf. Zink and Piening 2009: 113; Grupče et al. 2010: 566–568, 571; Siotto 2019: 187, 194). In this case, it seems more likely that the iron oxide had been used as ground for the gilding, which disappeared over time. Analysis of additional samples will hopefully confirm this hypothesis.

Of the monolithic column shafts recovered, six are of grayish or grayish-white marble with dark gray veins, perhaps of Prokonnesian origin. Of the

3 For examples of ornamented capitals of this kind in Istanbul and on other sites, see Kautzsch 1936: Pls 37:586–588, 38:617–618, 630, 632, 39:651, 653, 41:675, 677; Firatli 1990: 118–119, 121–123, Cat. Nos 223–224, 227–231; Barsanti and Paribeni 2018: Figs 36, 37, 51.

4 The samples were collected by Ahuva Beeri and analyzed by Tomer Reuveni using a Quanta 200 FEG environmental scanning electron microscope at The Wolfson Applied Materials Research Centre, Tel-Aviv University.

other two, one is of Phrygian *pavonazzetto* marble, and the second is of red Aswan granite. Although in Caesarea these two stones are less common than Prokonnesian marble, they are attested in other architectural members, sculpture and *opus sectile* pieces recovered from the city ruins. Three of the column shafts that stood on the western side of the portico each bear two Greek letters on their undersides: ΚΓ, ΚΔ, ΚΕ.

The Attic-type bases are carved of grayish-white marble with dark gray veins. Two of the bases located on the

Fig. 13. Late 5th century AD portico: a – general view (IAA | photo A. Peretz); b – Attic-type base with a depression (Photo P. Gendelman)

western side of the portico each bear a pair of Greek letters, ΙΔ and ΚΗ, incised into their upper faces. On three of them, pairs of peculiar, shallow, elliptical depressions were cut into the lower tori [*Fig. 13:b*]. The purpose of these marks remains unexplained. Equally baffling are the rectangular holes cut into the scotia on one of these objects. Otherwise, the Attic-type bases are rather similar in profile and execution.

The assemblage of Roman architectural members associated with the colonnade of the portico dated to the 5th century AD is another illustration of the abovementioned aesthetic principle of *varietas*. The four pairs of letters —ΚΓ, ΚΔ, ΚΕ, and ΚΗ— on three column shafts and one column base suggest that the four members belonged to one set, while the Θ and ΙΘ on the Corinthian capitals and the ΙΔ on the column base belonged to one or two additional sets. The surviving non-consecutive marks and the absence of marks on the other twelve members uncovered in the excavation likely resulted from the reuse of marked Roman architectural members, and perhaps also from the fact that only a small part of the portico was excavated.

PRIVATE SPHERE

The large and spacious mansions of the elite, each boasting at least one triclinium, a peristyle court, a garden, and a private bath, were decorated with marble no less abundantly than the public constructions. In all mansions, floors were paved and walls were faced with *opus sectile* and marble panels, and the porticoes of the peristyle courts were supported by marble columns. All mansions yielded screen panels, but unlike those from the Octagonal Church Complex, the ones from private buildings were mainly solid, with one or both faces decorated, often with crosses and other emblems from the typical repertoire of Late Antique screen panels. They varied in dimensions and function; some were used to separate one space from another, to reduce the size of large openings, to hide potentially dangerous facilities, to line the edges of galleries, and to define areas within gardens and courtyards.

The tesserae and *sectile* pieces for floor- and wall mosaics of each mansion were cut and assembled on the premises. Evidence for this practice is a temporary *opus sectile* workshop that functioned in the first half of the 7th century AD in one of the rooms of the mansion occupying Insula W2S4 (Gersht and Gendelman 2019: 57, Fig. 5a; Gendelman and Porath 2022: 181, 190). The room was allocated for use as a workshop as part of the owner's preparations for a major renovation project planned for his property. However, the work stopped abruptly and the temporary workshop was sealed shortly before the house was abandoned. The abandonment may have been caused by one of the major events that affected Caesarea, the AD 614–628 Sassanian conquest of the province, or the conquest of Caesarea by the Muslims in AD 640/641; more likely the latter.

When the IAA team excavated the room, a large number of broken *opus sectile* panels, originally prepared for the

mansion's walls, were found lying on the floor along with stone and iron tools, a substantial quantity of tesserae, stone and glass raw materials, and *spolia* (mainly of marble) collected to produce *sectile* pieces and tesserae (Dray 2011; Gersht and Gendelman 2019: 57; 2021: 134).

MANSION OCCUPYING INSULA W2S4

The three-level mansion in Insula W2S4 (Porath 2008: 1660–1661; Gendelman and Porath 2022) was in use from the late 4th or early 5th century AD until the first, or more likely the second, quarter of the 7th century AD. It occupied most of the Insula (about 7200 m²) and yielded a huge amount of marbles in spite of continual stone looting activity and damage caused by later intrusions [*Fig. 14*]. Piles of marble items, intended either for lime kilns [*Fig. 15:a*], which the looters constructed within the triconch triclinium [*Fig. 14:3*], or for reuse in Caesarea or elsewhere, were found during the excavation of several spaces inside the mansion [*Fig. 15:b*]. Luckily, for obscure reasons, the robbers failed to carry out their intentions.

In both phases of the mansion's existence, all parts of the residential unit were paved with tessellated mosaics, in which the gray tesserae were of marble, and with *opus sectile* mosaics made using white marble and a large variety of gray and whitish marble pieces with gray veins [*Fig. 16*]. The northern entrance [*Fig. 14:1*], the pool [*Fig. 14:2*], the fountain of the peristyle court [*Fig. 14:4*], the "marble court" [*Fig. 14:5*], and the northern sidewalk of the pergola in the mansion's lower-level garden [*Fig. 14:8*] were all paved with marble slabs.

That the aesthetic principle of *varietas* found its way from the public to the private sphere is manifested by the architectural members of the peristyle court, where Prokonnesian and *cipollino* column shafts were mounted on Attic-type bases and crowned with Corinthian capitals. Some of the column shafts bear traces of ancient repair; a few are marked with Greek letters, but their small number allows no logical interpretation of their meaning.

Some walls of the mansion were decorated with plain revetment plaques, whose remains are still preserved in the triconch triclinium [*Fig. 14:3*], the lower-level garden pergola [*Fig. 14:7*], the peristyle court, and the "marble court" [see *Figs 14:4–5*]. However, more striking were the colored champlevé reliefs, which ornamented the walls of the mansion in both its phases. A large marble fragment, measuring about 0.60 m x 0.84 m when intact [*Fig. 17:a*], was found covering a gutter in the north part of the mansion (Gersht and Gendelman 2019: 62–63, Fig. 8b; Gersht 2022: 203, Fig. 11:2); it was likely one of the panels decorating the mansion in the early phase of its existence. The workmanship of this piece is rather good, but the overall design is imprecise. The pattern consists of two rhombuses, one within the other. The inner one is decorated with a flower that has four petals, two of which are elongated. The larger rhombus and the triangular spandrels, each housing a double-headed axe, are bordered with rows of spindles arranged in uneven zigzags.

Another large marble fragment was found lying on the floor of the western

apse of the triconch triclinium (Gersht 2022: 198–199, Fig. 7:2). Its decoration consisted of squares or rectangles bordered by a swastika-meander adorned with four-petaled flowers and a wide, plain outer band. The same pattern

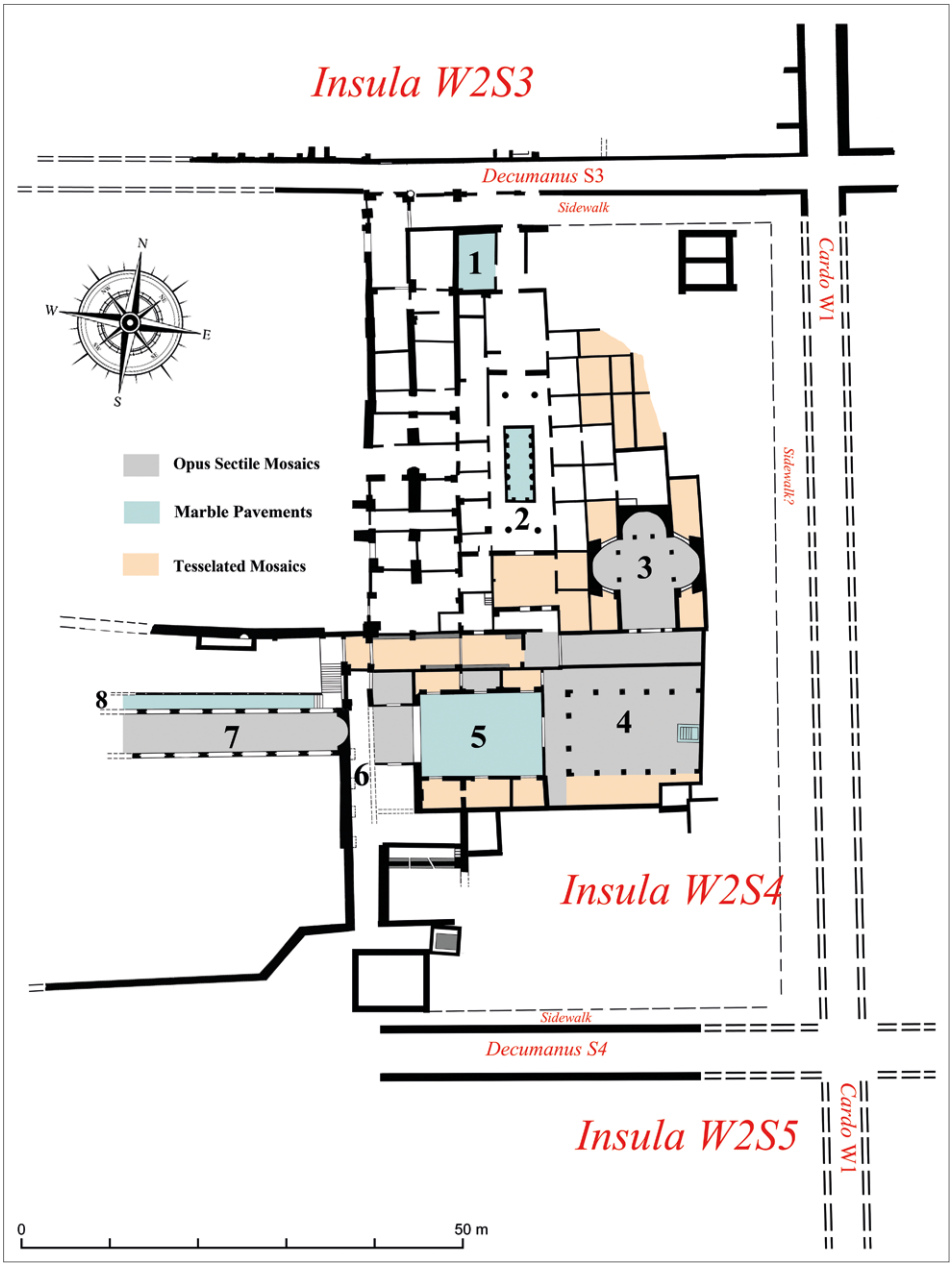

Fig. 14. Insula W2S4 mansion, ground plan (Drawing R. Mishaev and P. Gendelman)

appears on six additional champlevé fragments [*Fig. 17:b*], of which two were found in the peristyle court next to the triconch triclinium, and the other four in the vicinity of the northern entrance [see *Fig. 14:1*] and the pool [see *Fig. 14:2*].

Fig. 15. Insula W2S4 mansion, piles of looted marble items (a: IAA | photo T. Sagiv; b: IAA | photo A. Peri)

This pattern seems to be a simpler version of the double latchkey meander separating figural rectangles on a number of champlevé panels from Seleucia Pieria, Antioch (Stillwell 1941: Pls 20–21, Nos 395, 397, 401, and 404).

Fragments of several Corinthian pilaster capitals decorated in the cham-

Fig. 16. Insula W2S4 mansion, *opus sectile* pavements (Photos P. Gendelman)

Fig. 17. Insula W2S4 mansion, champlevé reliefs (Photos and processing R. Gersht and P. Gendelman)

Fig. 18. Insula W2S4 mansion: a–d – champlevé pilaster capitals; e – sunken relief depicting a krater with an emerging plant (Photos and processing R. Gersht and P. Gendelman)

Fig. 19. Insula W2S4 mansion, screen panels from the fountain in the peristyle court (a, b: photos and processing R. Gersht and P. Gendelman; c: IAA | photo T. Sagiv)

Fig. 20. Insula W2S4 mansion: a–c – screen panels from the "marble court" and exedra; d – ground plan and proposed reconstruction for the screens' display; e – Attic-type base; f – balustrade screen (a–d, f: photos and processing R. Gersht and P. Gendelman; e: IAA | photo A. Peri)

plevé technique [*Fig. 18:a–d*] indicate that at a certain point at least one space in the mansion was adorned with pilaster columns, bases, and capitals. In three of the fragments [*Fig. 18:a–c*], like in the champlevé pilaster capital

Fig. 21. Insula W2S4 mansion, screen panels and posts (Photos and processing R. Gersht and P. Gendelman)

from the Octagonal Church Complex [see *Fig. 5:b*], the abacus was ornamented with the "mirrored trumpet" motif. One of these pieces [see *Fig. 18:a*] retained one of the two crosses, which had originally occupied the areas between the volutes and the helices (Gersht 2022: 196, Fig. 3:4).

An interesting piece is a sunken relief depicting a krater with an emerging plant, of which only a part of the stem survived [*Fig. 18:e*]. The slanted position of the vase and of the bands bordering it suggests that it was part of a frieze framing an arch, and that a mirror image of the vase with the plant occupied its right side.

More than 20 ornamented and several plain screen fragments, some molded frames, a few pieces of openwork (lattice) screen panels, and a small number of screen posts came from this mansion. The corridor and the peristyle court in front of the triconch triclinium yielded a number of small fragments, of which two are carved on both faces. Large fragments of a pair of screens were found in the pool at the eastern end of the peristyle court [see *Fig. 14:4*]. One features a Maltese cross with *fleurs-de-lys* within a laurel wreath adorned with unfurled ribbons ending in ivy leaves [*Fig. 19:a*] (cf. the chancel screen from the monastery at Beth Shean in Russo 1987: Fig. 66). Of the other fragment, less than half survived, showing a part of a palm- or fishbone-like wreath and a ribbon terminating with an ivy leaf [*Fig. 19:b*]. Assumedly, the pair lined the north and south sides of the pool, which may explain why their inner faces lack decoration [*Fig. 19:c*].

The court west of the peristyle court yielded fragments of three screens with crosses. Assuming that the screens indeed belonged in this court, and given that two of the screens were about 2.5 times shorter than the third one, the most reasonable place for their original display would have been the entrance to the exedra, which measured 6.20 m in width [*Fig. 20:a–d*]. Such a wide opening required the support of two columns. It is thus possible that the wider screen was placed between the columns, while the narrow ones were attached to the lateral walls. This arrangement left enough room for entering and leaving the exedra on either side of the pair of columns.

The western portico [*Fig. 14:6*], which overlooked the garden, had pedestals attached to its outer wall. These pedestals carried marble column shafts placed on Attic-type bases with vertical channels in their sides to hold balustrade screens — either solid, plain ones or open ones with colonnettes [*Fig. 20:e–f*]. The latter type, of which only one fragment survived, could have also been used as a banister of the upper landing of stairs leading from the garden to the house [see *Fig. 15:b*]. The garden housed a pergola more than 26 m long [*Fig. 14:7*]. Rectangular ashlar pillars supporting its roof had cavities on their eastern and western faces, meant to hold wooden partitions for closing the pergola on its northern and southern sides. The stylobate of the sidewalk adjoining the pergola to the north, on the other hand, had a row of rectangular cavities cut every two meters to hold screen posts.

Four complete marble screen posts and at least two fragments of ornamented marble screens were found in the garden [*Fig. 21*]. One fragment [*Fig. 21:b*] is carved with a scallop shell motif on one face and with a knot composed of three interlaced eight-shapes on the other; each design is inscribed within a *clypeus*/shield. A fragment of another screen panel shows a small section of the lower part of a laurel wreath [*Fig. 21:c*].

The most challenging finds from the mansion in Insula W2S4 are two fragmentary marble items [*Fig. 22:a–b*] uncovered in the northern part of the complex, where the looters piled marble items taken from the southern and western parts of the mansion [see *Fig. 15:a*]. When intact, both had the shape of rectangles with four rounded corners, and each had a shallow channel on the long axis, which widened to a circular depression close to the edge.

Fig. 22. Enigmatic items in the shape of a rectangle with four rounded corners: a, b – Insula W2S4 mansion; c – Octagonal Church Complex (Photos and processing R. Gersht and P. Gendelman)

The item, the upper right side of which survived, had a deeply carved branch on each side of the channel [see *Fig. 22:a*]. The other item, of which the lower half was preserved, was ornamented with two crosses [see *Fig. 22:b*]. These two fragments are among six of the kind uncovered at Caesarea. Of the remaining four, one was found in the Semi-public Complex in Insula W2S3 [see below, *Fig. 32:a*], the second came from the Octagonal Church Complex [see *Fig. 22:c*], the third was recovered during Yeivin's 1951–1957 excavations at the so-called Byzantine Esplanade (unpublished), and the last one, whose findspot is unknown, came from Negev's 1959–1961 excavations (unpublished). An additional, fragmentary object of this type, decorated with a bird to the left of what looks like a tripod pedestal, was found in Jerusalem (Mazar and Peleg 1999: 71–72; Mazar 2003: 241, Photo III.47, Fig. III.13a–b). Attempts were made to determine the function and meaning of these enigmatic objects, but since none of them were found *in situ* and all efforts to find additional parallels have failed, the riddle seems impossible to decipher.

MANSION OCCUPYING INSULA E1S6

The two seasons of excavations (November 2013 and April–May 2015) conducted by Peter Gendelman and Uzi 'Ad did not permit to expose the whole complex within Insula E1S6 (Gendelman and 'Ad 2020). Still, the finds collected from the three excavated areas are enough to serve as convincing testimony to the impressive mosaic floors, wall decoration and immobile furniture the residence once had.

The excavations yielded fragments of five screen panels, but not a single fragment of a screen post. Three of the screen panels bore similar decoration, but the fragments of only one of them permit to appreciate its uniqueness. It is a large openwork panel bordered by dentils and ornamented with an elaborate design, to which no parallels have yet been found [*Fig. 23:a*]. Its 23 fragments, although comprising less than half of the original panel, turned out to be sufficient for reconstructing the whole design and for estimating the original dimensions of the panel [*Fig. 23:b*]. When intact, the screen panel featured two medallions, each consisting of two intersecting concave poised squares forming an inner concave octagon inscribed with a kind of barbed quatrefoil flower. Sixteen lotus flowers occupied the peripheral spaces formed by the intersection of the concave poised squares and by the inner margin of spindles. Smaller spindles separated from each other by hollow circles adorned the outer margin of each medallion and the whole area between the medallions.

The exact context of display of this extraordinary panel with the dentilled border, and of its two counterparts, is unknown. The findspot of the fragments, east of the frigidarium court of the bath unit, allows the assumption that the three screen panels belonged with the furnishings of the court dating from the late 5th/early 6th century AD. The court was paved with a colorful *opus sectile* mosaic, and its walls were faced with marble plaques, whose remnants were found piled in the south-

east corner of the court and next to its western wall. It thus seems reasonable to conclude that such a luxurious space would have been equipped with these elegant screen panels.

The *sectile* pieces uncovered in the frigidarium court and its immediate proximity were cut from a variety of stones. The ones found in destruction layers indicate that other rooms were also paved in the *opus sectile* technique. Walls not only retained fragments of grayish marble plaques, but also holes drilled to receive bronze clasps that

Fig. 23. Insula E1S6 mansion: a – large openwork panel (Photo and processing R. Gersht and P. Gendelman); b – reconstruction (Drawing T. Meltsen)

served to lock the plaques into position. Some of the large revetment fragments found in destruction layers have remains of such clasps on their edges. The protuberant molded borders [*Fig. 24:a*] were likely utilized as cornice and/or bottom margin segments, and the fillet-spacers with rounded fronts [*Fig. 24:b*] separated and supported the rows of marble plaques attached to the walls all the way from the bottom margin to the upper cornice. Fragments of a Corinthian pilaster capital and a champlevé relief indicate that not only plain marble plaques, but also reliefs were used for facing the mansion's walls.

Fig. 24. Insula E1S6 mansion: molded borders, fillet-spacers and pilaster capital (Photos and processing R. Gersht and P. Gendelman)

Although only the upper left corner remains of the pilaster capital [*Fig. 24:c*], it is obvious that the plaque was rectangular, whereas the capital, as evidenced by the slanted carving on the left, had the shape of an upturned isosceles trapezoid. Carvings of trapezoid pilaster capitals on rectangular plaques are attested already for the Roman period. An example from Aquileia is dated by Scrinari (1952: 28–29, Cat. No. 17) to the first decades of the 1st century AD. Another specimen of early Roman date is a limestone pilaster capital found in the ruins of the western cavea of Herod's circus at Caesarea, next to the sphendone (Gendelman and Gersht 2010: 29, Fig. 3a). Another Roman example is a pilaster capital from Via dei Molini at Ostia, dating to the mid-2nd century AD (Freyberger 1990: 93–94, Cat. No. 222, Pl. 33a). A later example, a 5th–6th century AD *kurkar* (calcareous sandstone) pilaster capital, was found at the entrance to the *horreum* located in Insula W2S4, Caesarea (Gendelman and Gersht 2010: 29, Fig. 3b). The findspot of the Insula E1S6 capital on top of the Late Antique mosaic pavement of room L1544, indicates that it was in use until the abandonment of the mansion in AD 640/641; it cannot be excluded that the capital belonged to an earlier setting before being reused in the room of its discovery.

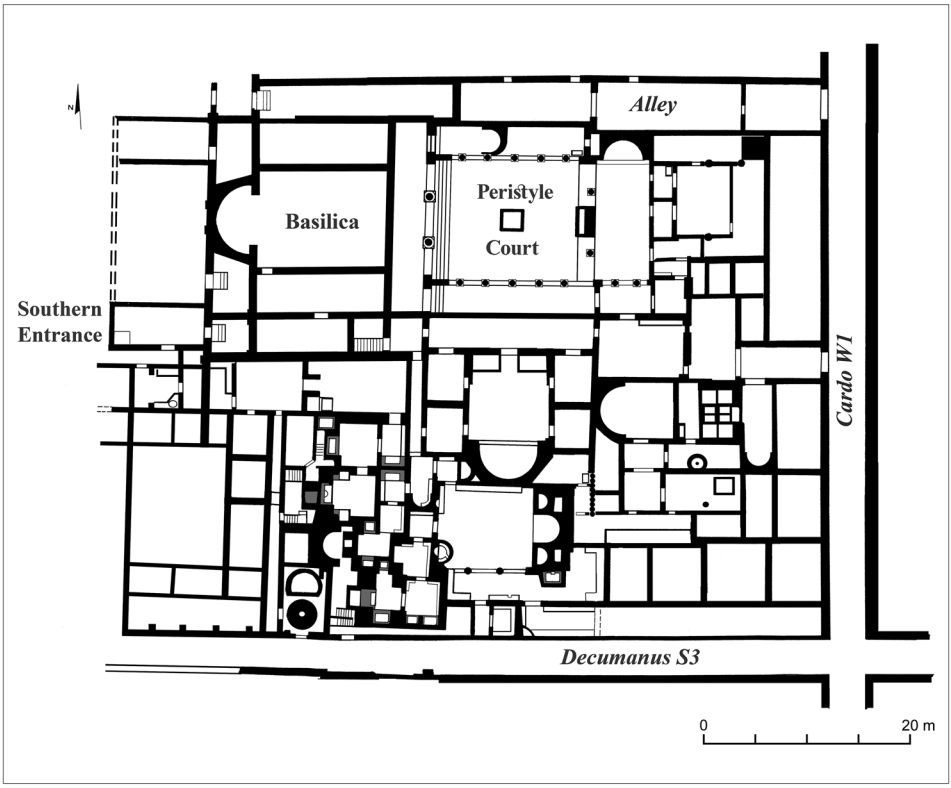

Fig. 25. Semi-public Complex in Insula W2S3, ground plan (Drawing R. Mishaev and P. Gendelman)

SEMI-PUBLIC SPHERE

The Semi-public Complex in Insula W2S3,[5] which probably served a *collegium* of the Christian community from the 5th to the 7th century AD [*Fig. 25*] (Gersht and Gendelman 2021), is the best illustration of the meaning behind the title of this paper, "Between private and public", in terms of marble use at Caesarea. In contrast to the other complexes discussed above, the Semi-public Complex was fully excavated. An enormous amount of marble was uncovered in this complex, and quite a lot was found *in situ*, mainly as part of floors and on the lower parts of walls. Still, this seems to be only a fraction of the quantities that the complex had originally contained before the stone robbery started. All architectural members: door posts, columns (bases, shafts, and capitals), pilaster capitals and bases, and most of the immovable furnishings —screen panels, screen posts, and fountain spouts— were made of white or gray marbles. The only exceptions are the dolomite pedestals of the peristyle court in front of the basilica.

The study of the massive amount of marble found in this complex led to observations akin to those for the Octagonal Church Complex: the largest variety of stones was used for producing *opus sectile* pieces, while the slabs of wall cladding were of whitish and grayish marble, with the exception of wall veneer in the main hall of the basilica, which was of *cipollino verde* (Gersht and Gendelman 2021: 105, 139, Figs 4, 32). Many of the slabs preserved dowel holes, some with traces of bronze clasps. Molded slabs used as pilaster bases, fillet-spacers, and cornices were also found, along with a number of plaques carved in the champlevé technique (e.g. Gersht and Gendelman 2021: Figs 5c–d, 6c, 9, 28b; Gersht 2022: 195, 198–199, 202, Figs 2, 6, 10:1).

PILASTER CAPITALS

A large number of pilaster capitals came from different parts of the complex. They represent several types varying in size, style and technique. A few fragmentary specimens [*Fig. 26:a–c*], essentially belonging to one type of rectangular capitals, were found in various parts of the complex. Each was adorned with a single row of lobed acanthus leaves —a whole leaf amid halves— above a narrow, recessed band. The tips of the lower lobes, V-shaped in section, by touching the tips of the adjacent lobes create two vertical rows of alternating lozenges and concave rectangles between the leaves, all deeply cut into the background. None of the rectangular capitals preserved its volutes, helices, or abacus. Due to the fragmentary state of preservation and scattering of the pieces, no reliable suggestions can be offered regarding the original location of the capitals.

A subtype of the rectangular pilaster capitals with a single row of acanthus leaves is represented by a pair of capitals that originally flanked the inner side of the main entrance to the hall of a large

5 The study of the Semi-public Complex in Insula W2S3 was made possible by generous research funding (Grant No. 31/10) granted to the authors by the Israel Science Foundation (ISF).

basilica [*Fig. 26:d–e*]. The basilica was demolished in Antiquity, but a substantial amount of its ornamentation was discarded into its ground floor, where it was found buried beneath late-7th century AD agricultural lots [see *Fig. 25*]. This subtype presents a bifid-band abacus, fleshy lobes with V-shaped sections, and a stylized bud filling the area between each volute and helix. The two capitals are similar in size but differ in details; the most prominent differences lie in the design of the volutes and probably also the helices, and in the deep, drilled holes accentuating the buds, which are present in the fragmentary capital, but absent in the almost intact specimen. The better-preserved capital retained red pigment and a few gold specks.

Bud-like elements are also present on two other pilaster capitals [*Fig. 26:f–g*], which belong to another type: larger, with wavy lateral faces, and with two rows of leaves. The original location of this pair of capitals was likely on both sides of the entrance to the apse in the main hall of the aforementioned basilica [see *Fig. 25*]; they are similar to one another in size and decoration, but the marble (so it seems) and the workmanship are different. The abacus of the better-preserved capital [see *Fig. 26:f*] is decorated with the beads-and-reels motif and a centrally placed Maltese cross within a medallion; a four-petal flower occupies the area between the helices and the acanthus leaves of the second row. Traces of gold are visible below the flower. The abacus of the second capital [see *Fig. 26:g*] is composed of two plain bands —one flat, and the other pointed— and likely also had a cross at its center, as well as a four-petal flower below. Traces of gold within and around the left volute indicate that this capital was likewise gilded.

Of eight pilaster capitals that originally ornamented the north and south walls of the basilica, only four are preserved [*Fig. 27*]. These specimens were also gilded, as indicated by laboratory analyses. Powder samples of red pigment, gold, and stone were collected from one of these capitals using a scalpel and subjected to SEM-EDS analyses.[6] The results showed that the capital was painted red (minium = lead oxide, or red lead, Pb_3O_4 = $Pb^{2+}2Pb^{4+}O_4$) and then coated with gold leaf (Au).[7]

The techniques of gilding objects sculpted in marble, whether free-standing statues or reliefs, were alike. Gold leaf could be laid directly on the marble or on top of one or even two preparation layers. In the case of two preparation layers, the first was a white ground, and the second consisted of yellow or red pigments. The latter imparted visual warmth to the gold, which otherwise would have had a greenish tinge (Abbe 2015: 179). Notably, in the capital from Insula W2S3, lead was detected where red pigment did not survive, therefore it may be assumed that in this case lead white ($2PbCO_3{\cdot}Pb(OH)_2$) was employed

6 The samples were collected by Ahuva Beeri and analyzed by Dr. Zhava Barkay at The Wolfson Applied Materials Research Centre, Tel-Aviv University, using a Quanta 200 FEG environmental scanning electron microscope.

7 On the use of minium as a base layer for gilding, see Abbe 2013: 109; Fink-Jensen 2013: 52.

Fig. 26. Semi-public Complex in Insula W2S3, pilaster capitals (Photos and processing R. Gersht and P. Gendelman; drawing M. Shuiskaya)

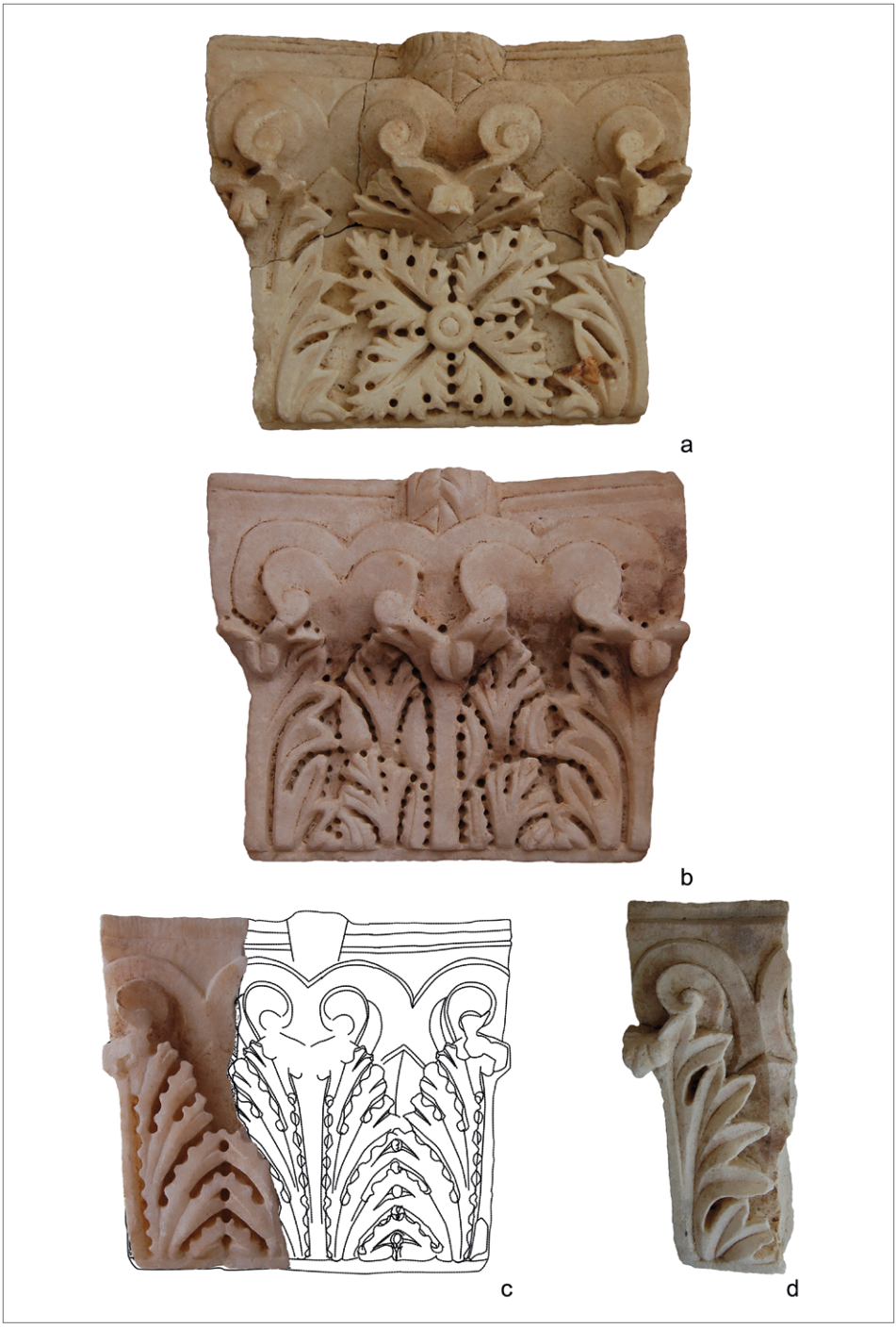

Fig. 27. Semi-public Complex in Insula W2S3, pilaster capitals (Photos and processing R. Gersht and P. Gendelman; drawing M. Shuiskaya)

Fig. 28. Semi-public Complex in Insula W2S3, pilaster bases (Photos and processing R. Gersht and P. Gendelman)

as an additional preparation layer under the red pigment.[8] However, more samples must be analyzed to verify this assumption.

Caesarea was not the only place where Late Antique Christian settings featured gilded architectural members. Over a dozen fragments of gilded pilaster capitals, which originally were part of the architectural decoration of a Byzantine church, were found at Athribis (now Benha), Egypt (Górecki 2017: 242). In addition, tiny fragments of gold leaf over a red ground layer were observed on two pilaster capitals uncovered in the Episcopal Precinct, Kourion (House and Megaw 2007: 204–205, Cat. Nos J26, J28).

In spite of the variety in pattern details, style and technique, all four surviving pilaster capitals that ornamented the north and south walls of the W2S3 basilica belonged to one type. In shape they resemble a calathus whose lower part is almost rectangular and the upper flares to the sides. Decoration survived in full on two capitals [*Fig. 27:a–b*]: on one it consists of two halves of leaves flanking a lattice-like flower, whose four petals are shaped like acanthus leaves; on the other, the halves of leaves flank two rows of lattice-like, toothed acanthus leaves. Of the other two pilaster capitals, only the left sides survived. In one [*Fig. 27:d*], a half of an acanthus leaf consists of three fleshy lobes with leaves V-shaped in section; in the other [*Fig. 27:c*], the trimmed tips of the lower lobe of a half of a serrated leaf touch those of the central acanthus leaf, thus forming three hollowed circles at the meeting points. In both capitals the central floral element was drilled to resemble latticework (cf. Kramer 1994: Cat. Nos 1, 24, Pls 1, 4). As no two capitals look exactly alike, they may definitely be interpreted as an additional case of *varietas* (cf. Niewöhner 2018: 240–241).

The search for parallels has shown that the four Caesarea plaques are part of a large group of pilaster capitals (Kramer 1994: Cat. Nos 1, 3–22, 24–25, 50–53, Pls 1–4, 9; Niewöhner 2010: Cat. Nos 10, 11, 18–20, 22–23; 2013a: 228–231; 2013b: 44–45, Figs 9–12; 2014: 253–255), which were produced in many variations in workshops or at destinations by craftsmen connected with the Dokimeion quarries (Herrmann and Tykot 2009: 63–64, Figs 7–8). The marble of the Caesarea pilaster capitals has not been analyzed, so their Dokimeian origin remains hypothetical.

PILASTER BASES

Four of the six pilaster bases selected for discussion [*Fig. 28:a–d*] came from the demolished basilica; the other two [*Fig. 28:e–f*] were found in the southeastern service area of the large bath, not far from a lime kiln; the place of their original display within the complex is unknown. Although only three of the six pilaster bases preserved their full or nearly full height, it is apparent that all fragments belonged to the Attic type, featuring a plinth surmounted by a lower and upper torus with a scotia in between. A whitish-gray marble base, preserved in two joining fragments that

8 For the use of lead white as a preparation layer in gilding sculpture, see Karydas et al. 2009: 821, 823; Abbe 2013: 109.

comprise three quarters of the complete plaque, retained all of these features [see *Fig. 28:d*]. In another base, made of the same marble and represented by three joining fragments, the plinth is missing and the sides of the scotia were supplemented with hemispherical ornaments, of which only one partly survived [see *Fig. 28:a*]. Unlike in the abovementioned base, in which the upper torus is thinner than the lower one [see *Fig. 28:d*], in this base both tori are alike in thickness. In contrast to the high molding of the fragmentary bases from the demolished basilica, the molding of the fragments from the southeastern part of the large bath is flat [see *Fig. 28:e–f*], although in one example [see *Fig. 28:f*] the drilled channels are deeper.

PILASTER SHAFTS

The lack of pilaster shafts that might complement the capitals and bases adorning the walls of the demolished basilica is worthy of a comment. A plausible reason for their absence is that they had plain faces, and their width was the same throughout their height; such features hinder their identification (Gersht and Gendelman 2021: 103).

A fragment of an ornamented pilaster shaft [*Fig. 29*] carved of gray marble with dark gray veins was found close to the southern entrance of the complex, which led via a portico to the ground-floor apodyterium. The entrance itself had been washed away by the sea, but a large part of the tessellated mosaic floor of the portico survived. The findspot and the width of the shaft (30.9 cm) permit to assume that the pilaster originally adorned the entrance. A three-band molding at the lower end of the fragment suggests that the pilaster shaft was placed on a base or, more likely, a pedestal. Both the base/pedestal and the capital that had crowned the shaft are missing. The only surviving trace of the shaft's ornamentation is a depiction of a lower part of a vase. It features a foot, composed of a globular element on top of a downturned, cup-like base, and a tiny section of the body. The depiction is somewhat distorted, possibly due to the craftsman's unskillfulness.

Fig. 29. Semi-public Complex in Insula W2S3, ornamented pilaster shaft (Photo and processing R. Gersht and P. Gendelman)

SCREEN PANELS

Apart from the screen panels discussed in an overview of the decorative program of the complex (Gersht and Gendelman 2021), the excavation yielded a number of fragments, mainly small ones, whose findspots provided no clues as to their original location within the Late Antique complex. One fragment shows a head of a dolphin, which likely occupied the whole length of the screen [*Fig. 30:a*]. Dolphins are rarely depicted on screen panels; an example of a dolphin depicted as the sole motif is found on one face of a screen panel reported from a church at Sussita (Russo 1987: 214–215, Fig. 75). Dolphins also appear

Fig. 30. Semi-public Complex in Insula W2S3, screen panels (Photos and processing R. Gersht and P. Gendelman)

Fig. 31. Semi-public Complex in Insula W2S3, screen panels (Photos and processing R. Gersht and P. Gendelman)

at the corners of a screen panel from the double basilica at Aliki, Thasos (e.g. Sodini and Kolokotsas 1984: 82, Fig. 85).

Another fragment of interest shows two stylized clusters of a laurel wreath and part of a third one, each emerging from the other [*Fig. 30:b*]. The hollow space within the wreath featured an openwork design, probably a double cross, as indicated by the smoothed spaces between the preserved parts of the motif. Examples of openwork in the centers of otherwise solid screen panels are known from other sites as well. In a chancel screen from Katalymata ton Plakoton in Cyprus, for example, the lattice design is of a double cross (Nicolaou 2013: 164, Fig. 5), and in a fragmentary chancel screen from the church of Bishop Johannes at Horbat Barqa, Gan Yavne, Israel, it likely depicted a Maltese cross with *fleurs-de-lys* between its arms (Habas 2016: 130*–131*, Figs 11–15).

A laurel wreath enclosing a Maltese cross with *fleurs-de-lys* between its arms appears on a solid panel screen uncovered in the western portico of the peristyle court facing the basilica in the Semi-public Complex (Gersht and Gendelman 2021: Fig. 15b). Like in the panel from Insula W2S4, each of the wreath's ribbons ends with an ivy leaf [*Fig. 30:c*].

Fig. 32. Semi-public Complex in Insula W2S3: a – enigmatic item in the shape of a rectangle with four rounded corners; b – waterspout with dolphins (Photos and processing R. Gersht and P. Gendelman)

A Maltese cross is depicted on the other face of the panel. Both the cross and the scallop shell, another Christian emblem, are recurring motifs on screen panels from the Semi-public Complex. On four panels, the cross is carved on top of a *clypeus*/shield; one screen has its other face decorated with a scallop shell encircled by a palm/fish-bone wreath [*Fig. 31:a*]. On another panel, the cross on top of the Golgotha hill is flanked by a pair of fallow deer with their heads lowered as if to drink water from invisible streams [*Fig. 31:b*].[9]

MISCELLANEA

The assemblage of marble fragments of unclear function and meaning found in the Semi-public Complex includes one specimen belonging to the aforementioned group of rectangular objects with four rounded corners [see *Fig. 22*]. About three-quarters of this item survived [*Fig. 32:a*]. In addition to the partially preserved shallow channel expanding into a circular depression, the fragment has a comma-shaped concavity in its lower part. A much larger depression occupied the upper part. A similar depression as well as a comma-shaped concavity must have been carved on the missing left side. Unlike the other fragments belonging to this group, this object has a crude underside with prominent tool marks.

All fountains and bathtubs in the Semi-public Complex had marble waterspouts, but only a few were found. These finds have the shape of a lion's head or of a furrowed, slanting shelf flanked by two leaping dolphins [*Fig. 32:b*]. Dolphin-shaped waterspouts were attested, but less common are the furrowed slanting shelf spouts flanked by diving dolphins. The Caesarea spout adorned with dolphins has two known parallels: one, found in 'En Ya'al, was reused in an early Islamic farmhouse built on top of the remains of a Byzantine building (Edelstein 1993: 116, figure on page 119). The second, a fragment made of limestone, was found in a bath south of the praetorium in Gortyn, Crete. It is unclear to which phase of the bath this spout belonged: the first phase dating to the second half of the 4th century AD, or the second phase dating to the second half of the 6th century AD (Bejor et al. 2016: 89–90, Fig. 35a–b). A 5th–6th century AD variant with two dolphins is known from Istanbul (Firatli 1990: 175–176, Cat. No. 357, Pl. 106); another example of a waterspout with a single depiction of a surfing dolphin on top of a cubic block of marble ornamented on three sides with fish carved in relief was found in Imperial-period Corinth (44 BC – early 3rd century AD; Robinson 2013: 377, Fig. 19).

CONCLUSIONS

Even today, no matter where one enters the archaeological site of Caesarea, the immediate impression is that it was a city of marble [*Fig. 33*]. Needless to say, what is observable there nowadays is only a fraction of what was found and even less of what had existed in Caesarea in Late Antiquity.

9 Cf. the panel with two gazelle bucks in Elbern 1979: 638.

We can safely conclude that after the 4th century AD marble cargoes continued to arrive in Caesarea as either plain blocks or as half-finished or finished products, although from fewer quarries than before. A sunken cargo of dozens of marble slabs from the Byzantine period found south of Kibbutz Sdot-Yam corroborates this conclusion. The reuse, recycling and reshaping of the marble obtained from Roman contexts broadened the choice of colored stones, enhancing the appearance of Late Antique public, private and semi-public constructions.

Sawing, cutting and carving of marble stones took place in Late Antique Caesarea on a large scale. All sorts of craftsmen worked simultaneously to

Fig. 33. Assortment of architectural members seen on the site (Photos P. Gendelman)

produce *opus sectile* panels, to pave, veneer and carve architectural members, champlevé reliefs, and lattice screen panels, and, finally, to assemble all marble components of the exterior and interior decoration of each complex. In all structures —public, private, and semi-public— marble was used for similar purposes, yet each structure was unique with regard to the quantity, quality and diversity of material.

The examples discussed show that at every stage of the Late Antique city's existence the Caesareans were familiar with the most up-to-date fashions, and were no less innovative than their contemporaries in the region and beyond. The aesthetic principle of *varietas*, which became fashionable in Late Antiquity, was also adopted by the Caesareans. The principle found its way from the public to the private and semi-public spheres, and manifested itself in most, if not all, of the complexes discussed above. The champlevé reliefs reveal a certain affinity with some of the reliefs found at Antioch, but the assortment of motifs is different and richer at Caesarea (for more examples, see Gersht 2022), suggesting that most, if not all, were carved on the spot.

An interesting feature is the large number of screen panels uncovered in private and semi-public complexes, contrary to other sites in the Land of Israel, where screen panels are mostly found in ecclesiastical contexts. Even more interesting is the disparity in the repertory of motifs, which are richer and more elaborate in the private and semi-public spheres compared to what was found in the Octagonal Church Complex. Symbols and compositions, such as the cross within a wreath, and the Golgotha hill flanked by a pair of animals, known from screens found in religious contexts at other sites, are found in private and semi-public constructions at Caesarea; those uncovered in the Octagonal Church Complex are mainly openwork panels.

The Attic-type column base, whether sculpted in the round or in relief, is the dominant type at Caesarea, as are Corinthian capitals. Among the latter, it was possible to identify imported fully carved items, contemporary with the complex of their display, *spolia*, and locally carved pieces.

As for the wall and floor decoration, there is a consistency in the kinds of stones used for different purposes. Slabs used as wall cladding, including the champlevé reliefs and pilaster columns, were mainly of whitish and grayish crystalline marbles, often with gray veins, but *cipollino* slabs were also used, as in the main hall of the demolished basilica in Insula W2S3. The greatest variety of stones was recorded among the *opus sectile* pieces. In addition to the white and gray marbles, the complexes discussed in this study yielded a rich assortment of colored stones. As the stones have not been analyzed, the identification of the examples [***Table 1***] is based on published identifications by Borghini, Corsi, Lazzarini, and others.[10]

The table presents 30 colored stones selected from a much larger number that had originally decorated various rooms of three complexes: the Octagonal Church Complex, the mansion in Insula E1S6, and the Semi-public Complex in Insula W2S3. The mansion occupying Insula W2S4 yielded

10 We are extremely grateful to Lorenzo Lazzarini and Dagmara Wielgosz-Rondolino for their enlightening and useful comments.

Table 1. Selected colored stones from the Octagonal Church Complex (OCC), the mansions in Insulae W2S4 and E1S6, and the Semi-public Complex in Insula W2S3

No.	Stone	OCC	W2S4	E1S6	W2S3	References
1	*Africano / marmor luculleum*	✓			✓	Borghini 1992: 133–135, No. 1; Corsi 2012: No. 110; Beltrame and Lazzarini 2020: Figs 7, 18
2	Alabaster of unknown provenance	✓	✓		✓	Cf. Corsi 2012: No. 316
3	Alabaster of unknown provenance, somewhat resembling *alabastro Palombara*	✓				Cf. Borghini 1992: 148, No. 8; Corsi 2012: No. 311
4	*Alabastro cotognino / lapis alabastrites, lapis onyx*			✓	✓	Borghini 1992: 140–141, No. 4; Corsi 2012: Nos 297–299
5	Brecciated limestone of unknown provenance	✓	✓			Cf. Lazzarini 2007: 108, Fig. 7; 2019: 385, stone 33; Corsi 2012: No. 132
6	*Bigio antico / marmor Lesbium*	✓	✓	✓		Corsi 2012: Nos 147–148
7	*Fior di pesco / marmor Chalcidicum*				✓	Lazzarini 2007: chapter 13
8	*Breccia nuvolata rosa*				✓	Borghini 1992: 176, No. 30; Lazzarini 2002: 58–60
9	*Cipollino rosso, marmor Iassense, marmor Carium* brecciated				✓	Borghini 1992: 289, No. 127; Corsi 2012: No. 389
10	*Breccia di Settebasi*	✓		✓	✓	Borghini 1992: 192–193, Nos 46a, 46c; Lazzarini 2007: chapter 11; Corsi 2012: Nos 405, 406
11	*Breccia corallina*	✓			✓	Borghini 1992: 166, No. 22a; Lazzarini 2002: 60–63; Corsi 2012: No. 404
12	*Breccia di Settebasi*				✓	Borghini 1992: 192–193, No. 46.b; Lazzarini 2007: chapter 11
13	*Broccatellone*			✓		Corsi 2012: No. 448; Younes and Lazzarini 2023: 308, Fig. 10d
14	*Cipollino rosso, marmor Iassense / marmor Carium*	✓		✓	✓	Borghini 1992: 207, No. 59a; Corsi 2012: Nos 95, 97; Younes and Lazzarini 2023: 310, Fig. 10g
15	*Cipollino verde / marmor Carystium, marmor Styrium*	✓	✓	✓	✓	Borghini 1992: 202–203, No. 56c; Lazzarini 2007: chapter 12; Corsi 2012: No. 90
16	*Africano / marmor luculleum*	✓			✓	Borghini 1992: 133, No. 1b; Beltrame and Lazzarini 2020: Fig. 7

Table 1. Continued

No.	Stone	OCC	W2S4	E1S6	W2S3	References
17	*Giallo antico / marmor Numidicum*	✓	✓		✓	Corsi 2012: No. 25
18	*Giallo antico / marmor Numidicum* brecciated	✓	✓		✓	Borghini 1992: 214–215, No. 65a; Corsi 2012: Nos 23, 32
19	*Granito del Foro / marmor Claudianum*	✓				Borghini 1992: 222–223, No. 72; Antonelli, Lazzarini, and Cancelliere 2010; Corsi 2012: Nos 847, 848
20	*Granito rosso antico*, sienite */ lapis pyrrhopoecilus, lapis Thebaicus*	✓				Borghini 1992: 225–226, Nos 74a, 74c; Corsi 2012: Nos 839, 840
21	*Granito verde a erbetta* or serpentinite			✓		Klemm and Klemm 1993: 376–378, color Fig. 13.2 (for serpentinite); Borghini 1992: 228, No. 76; Corsi 2012: No. 828 (for *granito verde*)
22	*Greco scritto*	✓		✓	✓	Attanasio et al. 2012: Fig. 3
23	Possibly *greco scritto* (Cap de Garde)	✓	✓		✓	Borghini 1992: 237, No. 83; Antonelli et al. 2009: Figs 1, 3; Corsi 2012: No. 100
24	*Lumachella antica, occhio di pavone bigio / marmor Triponticum*	✓			✓	Lazzarini 2002; Corsi 2012: 221
25	*Lumachella antica / occhio di pavone rosso / marmor Triponticum*				✓	Borghini 1992: 260–262, No. 107a; Lazzarini 2002; Corsi 2012: No. 220
26	*Pavonazzetto* (Afyon violet)	✓	✓		✓	Borghini 1992: 264–265, No. 109c; Corsi 2012: No. 123; Çelik and Sert 2020: Fig. 3c
27	*Porfido rosso antico / lapis Porphyrites*	✓	✓		✓	Borghini 1992: 274, No. 116; Corsi 2012: No. 783
28	*Porfido verde antico, serpentino antico / marmor Lacedaemonium, lapis Lacedaemonius, Krokeatis lithos*	✓	✓		✓	Borghini 1992: 279–280, No. 121a; Corsi 2012: No. 797
29	Possibly *Portasanta / marmor Chium*	✓				Borghini 1992: 285–287, No. 125b; Corsi 2012: No. 81
30	*Verde antico / marmor Thessalicum, lapis Atracius*	✓			✓	Borghini 1992: 292–293, No. 130; Corsi 2012: No. 566

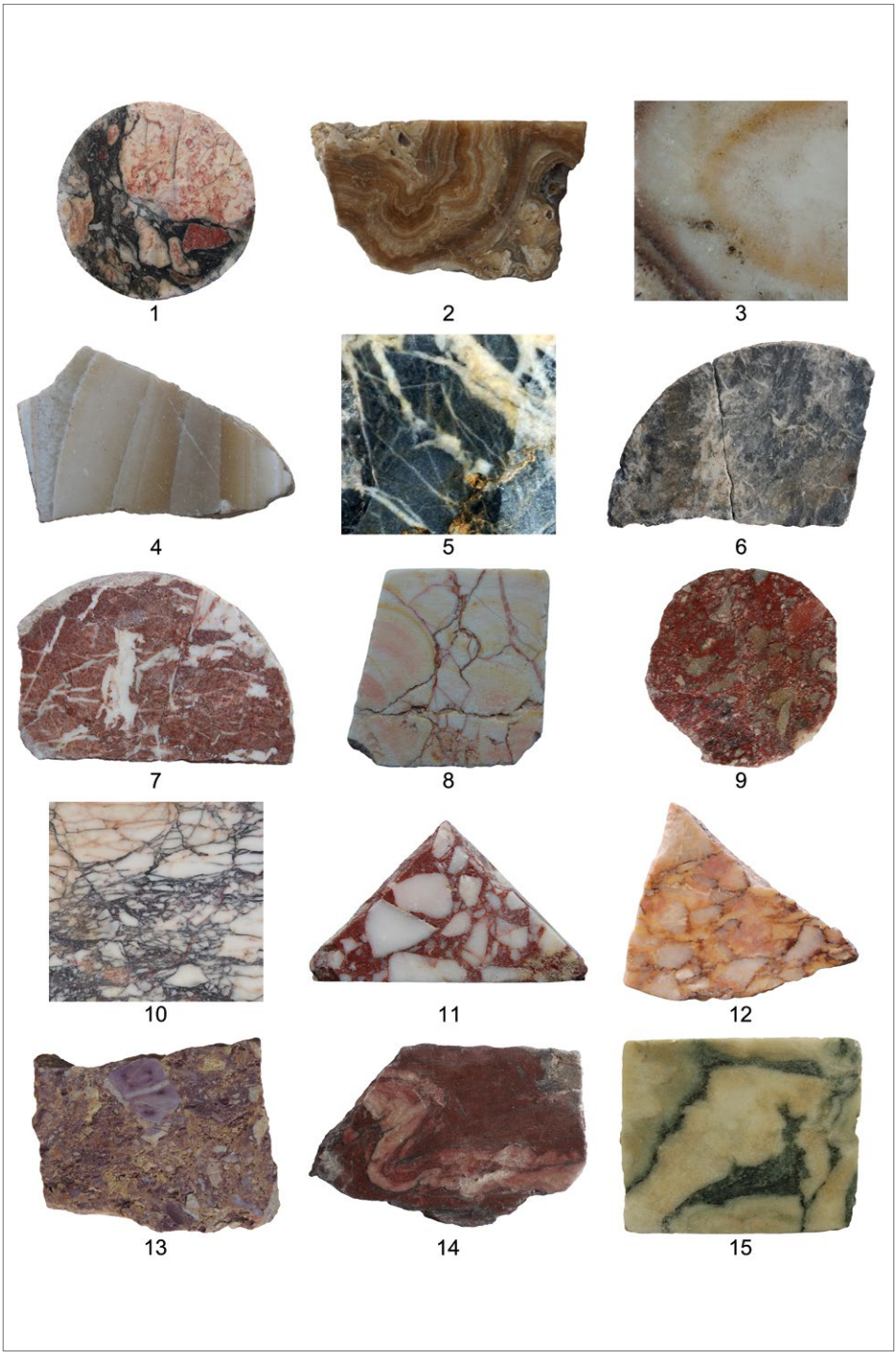

Fig. 34. Selected colored stones (Photos and processing R. Gersht and P. Gendelman)

Fig. 35. Selected colored stones (continued) (Photos and processing R. Gersht and P. Gendelman)

diverse white and gray marble stones but no evidence of *opus sectile* wall facing. Nonetheless, given that the *sectile* panels found in the W2S4 temporary workshop were intended for the decoration of the mansion, we decided to include in the table also the colored stones that we managed to identify among the workshop's broken panels.

Although these 30 examples do not provide a full picture of the inventory of colored stones in Late Antique Caesarea, they still allow some insights regarding the origin of the stones and their manifestations in the four complexes. Provided that the identifications of the marbles are correct, the table shows that most of the colored stones arrived at Caesarea from quarries in Asia Minor [*Figs 34–35:1, 8, 9, 11, 13, 14, 16, 22, 24, 25, 26*], mainland Greece and Aegean islands [*Figs 34–35:6, 7, 10, 12, 15, 28, 29, 30*], and Egypt [*Figs 34–35:4, 19, 20, 21, 27*]. A few arrived from the provinces of Africa and Numidia (modern Tunisia and Algeria) [*Fig. 35:17, 18, 23*]. The origin of Nos 2, 3 [*Fig. 34:2, 3*] and 5 [*Fig. 35:5*] in [*Table 1*] is unclear, and the origin of at least some of them might be confirmed by future archaeometric analyses. The pie chart [*Fig. 36*] shows the relative shares of the colored stones according to the aforementioned geographical regions.

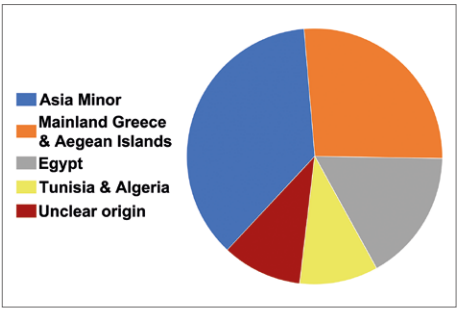

Fig. 36. Relative shares of colored stones according to geographical regions (Processing R. Gersht and P. Gendelman)

Table 1 also shows that the greatest variety of stones came from the public and semi-public complexes. The limited diversity of materials in the W2S4 workshop is due to the fact that most of the *sectile* shapes found there were cut out of white and grayish marbles, multilayered limestone, red silicified sandstone (probably from the quarries of Gebel Ahmar), and slate. All of these were also found among the *opus sectile* tiles uncovered in the Octagonal Church Complex, the mansion in Insula E1S6, and the Semi-public Complex in Insula W2S3. A fact worth mentioning in the context of the limited variety of colored stones from Insula E1S6 is that the mansion was only partly excavated, hence the colored stones in *Table 1* reflect only a fraction of what would have been found, had the mansion been excavated completely. It is also worthy of note that some of the colored marble stones listed above were also used for producing architectural members, mainly column shafts and screen posts, some of which are discussed in this study. The same, however, applies to tabletops, table supports, statues and reliefs, which, as explained in the introduction, were excluded from the discussion. Colored stones were, of course, already available in Roman Caesarea; they were imported as raw material, half-finished or finished products, many of which were used or reworked in Late Antiquity.

Dr. Rivka Gersht
https://orcid.org/0009-0003-5455-1545
Tel Aviv University
rivka@gersht.com

Dr. Peter Gendelman
https://orcid.org/0009-0001-4287-5329
Israel Antiquities Authority
petergen@israntique.org.il

How to cite this article: Gersht, R. and Gendelman, P. (2023). Between private and public: The use of marble in Late Antique Caesarea Maritima. In M. Gwiazda, A. Poggio, and D. Wielgosz-Rondolino (eds), *Marble in the Early Byzantine Eastern Mediterranean: Use, Aesthetics, and Social Significance* (=*Polish Archaeology in the Mediterranean,* 32/1) (pp. 123–179). Warsaw: WUW. https://doi.org/10.37343/uw.2083-537X.pam32.1.06

References

Abbe, M.B. (2013). *The polychromy of Roman marble sculpture: Aphrodisias and Corinth* (Ph.D. diss.). New York University Institute of Fine Arts

Abbe, M.B. (2015). Polychromy. In E.A. Friedland, M.G. Sobocinski, and E.K. Gazda (eds), *The Oxford handbook of Roman sculpture* (pp. 173–188). Oxford: Oxford University Press

'Ad, U., Gendelman, P., and Hai, Y. (2020). Caesarea, Tower 1 and the Northern Crusader Bridge. *Hadashot Arkheologiyot*, 132. Retrieved from https://www.hadashot-esi.org.il/report_detail_eng.aspx?id=25785&mag_id=128 (accessed: 11.12.2022)

Antonelli, F., Lazzarini, L., and Cancelliere, S. (2010). 'Granito del Foro' and 'Granito di Nicotera': Petrographic features and archaeometric problems owing to similar appearance. *Archaeometry*, 52(6), 919–936

Antonelli, F., Lazzarini, L., Cancelliere, S., and Dessandier, D. (2009). Minero-petrographic and geochemical characterization of "*greco scritto*" marble from Cap de Garde, near *Hippo Regius* (Annaba, Algeria). *Archaeometry*, 51(3), 351–365

Attanasio, D., Yavuz, A.B., Bruno, M., Herrmann, J.J., Jr., Tykot, R.H., and van den Hoek, A. (2012). On the Ephesian origin of greco scritto marble. In A. Gutiérrez Garcia-M., P. Lapuente Mercadal, and I. Rodà de Llanza (eds), *Interdisciplinary studies on ancient stone: Proceedings of the IX Association for the Study of Marbles and other Stones in Antiquity (ASMOSIA) conference (Tarragona 2009)* (pp. 245–254). Tarragona: ICAC

Barsanti, C. (2014). Marmi costantinopolitani a Cipro. In M. Gianandrea, F. Gangemi, and C. Costantini (eds), *Il potere dell'arte nel Medioevo: studi in onore di Mario D'Onofrio* (pp. 261–272). Rome: Campisano Editore

Barsanti, C. (2017). Capitelli corinzi del tipo cosiddetto 'a medaglione' con inserti decorativi. In P. Pensabene, M. Milella, and F. Caprioli (eds), *Decor: decorazione e architettura nel mondo romano. Atti del Convegno internazionale, Roma, 21–24 maggio 2014* (=*Thiasos Monografie* 9) (pp. 391–400). Rome: Edizioni Quasar

Barsanti, C. and Paribeni, A. (2018). La scultura in funzione architettonica a Costantinopoli tra V e VI secolo: aspetti tecnici, tipologici e stilistici. *Acta ad Archaeologiam et Artium Historiam Pertinentia*, 30(16), 23–72

Bejor, G. (1999). *Vie colonnate: paesaggi urbani del mondo antico*. Rome: G. Bretschneider

Bejor, G., Lambrugo, C., Frontori, I., Mecozzi, P., Belgiovine, E., Capuzzo, D., Massara, D., Slavazzi, F., Gagliano, E., Panero, E., and Messina, C. (2016). *Gortyna*: le Terme a Sud del Pretorio (2003–2014). La storia dell'edificio nella storia della città. *Annuario della Scuola Archeologica di Atene e delle Missioni Italiane in Oriente*, 94(Serie III, 16), 59–106

Beltrame, C. and Lazzarini, L. (2020). Wrecked cargoes of *marmor luculleum* (*africano*) of the Roman period. An archaeological and archaeometrical study. *Oxford Journal of Archaeology*, 39(3), 290–318

Borghini, G. (ed.). (1992). *Marmi antichi*. Rome: Edizioni De Luca

Burns, R. (2017). *Origins of the colonnaded streets in the cities of the Roman East*. Oxford: Oxford University Press

Çelik, M.Y. and Sert, M. (2020). The importance of "Pavonazzetto marble" (Docimium-Phrygia/Iscehisar-Turkey) since ancient times and its properties as a global heritage stone resource. *Environmental Earth Sciences*, 79, 201. https://doi.org/10.1007/s12665-020-08943-2

Corsi, (2012). Corsi Collection of Decorative Stones. Retrieved from http://www.oum.ox.ac.uk/corsi/stones (accessed: 31.07.2023)

Dalali-Amos, E. (2020). Byzantine architectural elements from the Temple Platform in marble and other materials. In K.G. Holum (ed.), *Caesarea Maritima excavations in the old city, 1989–2003, conducted by the University of Maryland and the University of Haifa, Final reports* I. *The Temple Platform (Area TP), neighboring quarters (Area TPS and Z), and the Inner Harbor quays (Area I): Hellenistic evidence, King Herod's Harbor Temple, intermediate occupation, and the Octagonal Harbor Church* (pp. 249–300). Alexandria, VA: American Schools of Oriental Research

Dray, Y. (2011). *Opus sectile* workshop revealed in Caesarea. In Y. Porath, E. Ayalon, and A. Izdarechet (eds), *Caesarea treasures* II (pp. 141–148). Jerusalem: Keter (in Hebrew)

Edelstein, G. (1993). A Roman villa at 'En Ya'al. *Qadmoniot*, 26, 114–119 (in Hebrew)

Elbern, V.H. (1979). Altar implements and liturgical objects. In K. Weitzmann (ed.), *Age of spirituality: Late Antique and early Christian art, third to seventh century* (pp. 592–639). New York: Metropolitan Museum of Art

Fink-Jensen, P. (2013). An archaeometric study of lead pigments from a 1st century BCE Roman marble sculpture. In J.S. Østergaard (ed.), *Tracking colour: The polychromy of Greek and Roman sculpture in the Ny Carlsberg Glyptotek. Preliminary report 5* (pp. 36–62). Copenhagen: Ny Carlsberg Glyptotek

Firatli, N. (1990). *La sculpture byzantine figurée au Musée archéologique d'Istanbul*. Paris: J. Maisonneuve

Fischer, M. (1990). *Das korinthische Kapitell im Alten Israel in der hellenistischen und römischen Periode: Studien zur Geschichte der Baudekoration im Nahen Osten*. Mainz am Rhein: Philipp von Zabern

Fischer, M. (2011). Caesarea Maritima through its columns and capitals. In E. Ayalon and A. Izdarechet (eds), *Caesarea treasures* I (pp. 51–76). Jerusalem: Keter (in Hebrew)

Freyberger, K.S. (1990). *Stadtrömische Kapitelle aus der Zeit von Domitian bis Alexander Severus: zur Arbeitsweise und Organisation stadtrömischer Werkstatten der Kaiserzeit*. Mainz am Rhein: Philipp von Zabern

Gendelman, P. and ʻAd, U. (2020). Caesarea. *Hadashot Arkheologiyot*, 132. Retrieved from https://www.hadashot-esi.org.il/report_detail_eng.aspx?id=25864&mag_id=128 (accessed: 23.12.2022)

Gendelman, P. and Gersht, R. (2010). Crafts and craftsmen in Roman and Byzantine Caesarea. *Michmanim*, 22, 27–48, 33*–34* (in Hebrew with English summary)

Gendelman, P. and Porath, Y. (2022). The late antique mansion occupying Insula W2S4, Caesarea Maritima. In W. Atrash, A. Overman, and P. Gendelman (eds), *Cities, monuments and objects in the Roman and Byzantine Levant: Studies in honour of Gabi Mazor* (pp. 178–193). Oxford: Archaeopress

Gendelman, P. and Porath, Y. (forthcoming). *Insula W2S3: The domus of the Dioscurii. Late Roman Public Bathhouse and Byzantine Semi-public Complex. The Israel Antiquities Authority excavation project at Caesarea 1992–1998: Final reports* III (=*IAA Reports*)

Gersht, R. (2022). Champlevé reliefs from Caesarea Maritima. In W. Atrash, A. Overman, and P. Gendelman (eds), *Cities, monuments and objects in the Roman and Byzantine Levant: Studies in honour of Gabi Mazor* (pp. 194–207). Oxford: Archaeopress

Gersht, R. and Gendelman, P. (2019). Architectural decoration in Roman and late antique Caesarea Maritima and its periphery: Production, importation and reuse. In A. Lichtenberger, O. Tal, and Z. Weiss (eds), *Judaea/Palaestina and Arabia: Cities and hinterlands in Roman and Byzantine times* (pp. 53–66). Heidelberg: Propylaeum

Gersht, R. and Gendelman, P. (2021). An overview of the decorative programme of the Semi-public Complex in Insula W2S3, Caesarea Maritima. *Strata: Bulletin of the Anglo-Israel Archaeological Society*, 39, 97–144

Górecki, T. (2017). Remnants of a Byzantine church at Athribis. In G. Gabra and H.N. Takla (eds), *Christianity and monasticism in northern Egypt: Beni Suef, Giza, and the Nile Delta* (pp. 239–252). Cairo: American University in Cairo Press

Grupče, O., Simileanu, M., Raškovska, M.A., Dzidrova, L., Minčeva-Šukarova, B., Radvan, R., Šurbanovska, M., and Striber, J. (2010). Characterization of Roman marble bust using LIBS and μ-Raman spectroscopy: A case study. *Pontica*, 43, 563–572

Gwiazda, M. (2015). The marble decoration of the presbytery of the late antique basilica in Jiyeh (Porphyreon) – Lebanon. *Światowit*, 12(53)/A, 127–142

Habas, L. (2016). Fragments of liturgical furniture from the Church of Bishop Johannes at Horbat Barqa, Gan Yavne. *ʻAtiqot*, 84, 127*–141*, 133–135 (in Hebrew with English summary)

Herrmann, J.J., Jr. and Tykot, R.H. (2009). Some products from the Dokimeion quarries: craters, tables, capitals, and statues. In Y. Maniatis (ed.), *ASMOSIA VII: Actes du VII^e colloque international de l'ASMOSIA, Thasos, 15–20 septembre 2003* (=*Bulletin de Correspondance Hellénique. Supplément* 51) (pp. 59–75). Athens: Ecole française d'Athènes

House, G. and Megaw, A.H.S. (2007). Architectural sculpture and revetment. In A.H.S. Megaw, *Kourion: Excavations in the episcopal precinct* (=*Dumbarton Oaks Studies* 38) (pp. 179–233). Washington, DC: Dumbarton Oaks Research Library and Collection

Karydas, A.G., Brecoulaki, H., Bourgeois, B., and Jockey, P. (2009). In-situ X-Ray Fluorescence analysis of raw pigments and traces of polychromy on Hellenistic sculpture at the Archaeological Museum of Delos. In Y. Maniatis (ed.), *ASMOSIA VII: Actes du VII^e colloque international de l'ASMOSIA, Thasos, 15–20 septembre 2003* (=*Bulletin de Correspondance Hellénique. Supplément* 51) (pp. 811–829). Athens: École française d'Athènes

Kautzsch, R. (1936). *Kapitellstudien: Beiträge zu einer Geschichte des spätantiken Kapitells im Osten vom vierten bis ins siebente Jahrhundert*. Berlin: De Gruyter

Kessener, P. (2010). Stone sawing machines of Roman and early Byzantine times in the Anatolian Mediterranean. *Adalya*, 13, 283–303

Kessener, P. (2012). The mechanization of marble slab production. In R. Kreiner and W. Letzner (eds), *Spa: sanitas per aquam. Tagungsband des Internationalen Frontinus-Symposiums zur Technik- und Kulturgeschichte der antiken Thermen, Aachen, 18.–22. März 2009* (=*BABESCH Supplement* 21) (pp. 197–205). Leuven–Paris–Walpole, MA: Peeters

Klemm, R. and Klemm, D.D. (1993). *Steine und Steinbrüche im Alten Ägypten*. Berlin: Springer

Kramer, J. (1994). *Korinthische Pilasterkapitelle in Kleinasien und Konstantinopel: Antike und spätantike Werkstattgruppen* (=*Istanbuler Mitteilungen* 39). Tübingen: E. Wasmuth

Lazzarini, L. (2002). The origin and characterization of *breccia nuvolata*, *marmor sagarium*, and *marmor triponticum*. In J. Herrmann, N. Herz, and R. Newman (eds), *ASMOSIA 5: Interdisciplinary studies on ancient stone. Proceedings of the Fifth International Conference of the Association for the Study of Marble and Other Stones in Antiquity, Museum of Fine Arts, Boston, 1998* (pp. 58–67). London: Archetype

Lazzarini, L. (2007). *Poikiloi lithoi, versiculores maculae: i marmi colorati della Grecia antica. Storia, uso, diffusione, cave, geologia, caratterizzazione scientifica, archeometria, deterioramento* (=*Marmora. Supplemento* 1). Pisa–Rome: Fabrizio Serra

Lazzarini, L. (2019). Ancient Mediterranean polychrome stones. In G. Artioli and R. Oberti (eds), *The contribution of mineralogy to cultural heritage* (=*European Mineralogical Union Notes in Mineralogy* 20) (pp. 367–392). London: European Mineralogical Union; Mineralogical Society of Great Britain and Ireland

Levi, D. (1971). *Antioch mosaic pavements*. Rome: L'Erma di Bretschneider (Original work published 1947)

Levine, L.I. and Netzer, E. (1986). *Excavations at Caesarea Maritima, 1975, 1976, 1979: Final report* (=*Qedem* 21). Jerusalem: Institute of Archaeology, Hebrew University of Jerusalem

Marasović, K. and Marinković, V. (2018). Marble revetments of the Diocletian's Palace. In D. Matetić Poljak and K. Marasović (eds), *ASMOSIA XI: interdisciplinary studies on ancient stone. Proceedings of the Eleventh International Conference of ASMOSIA, Split, 18–22 May 2015* (pp. 839–853). Split: Arts Academy

Mazar, E. (2003). *The Temple Mount excavations in Jerusalem 1968–1978 directed by Benjamin Mazar: Final reports* II. *The Byzantine and early Islamic periods* (=*Qedem* 43). Jerusalem: Institute of Archaeology, the Hebrew University of Jerusalem

Mazar, E. and Peleg, O. (1999). 'The House of the Menorot' in the Temple Mount excavations: The earliest synagogue discovered in Jerusalem. *Cathedra*, 94, 55–74 (in Hebrew)

Mesqui, J. (2014). *Césarée maritime: ville fortifiée du Proche-Orient*. Paris: Picard

Nicolaou, D. (2013). Liturgical furnishings from early Christian basilicas of Cyprus (4th–7th century). *Cahiers du Centre d'Études Chypriotes*, 43, 155–174

Niewöhner, P. (2010). Der frühbyzantinische Rundbau beim Myrelaion in Konstantinopel Kapitelle, Mosaiken und Ziegelstempel. *Istanbuler Mitteilungen*, 60, 411–459

Niewöhner, P. (2013a). Phrygian marble and stonemasonry as markers of regional distinctiveness in late antiquity. In P. Thonemann (ed.), *Roman Phrygia: Culture and society* (pp. 215–248). Cambridge: Cambridge University Press

Niewöhner, P. (2013b). The Rotunda at the Myrelaion in Constantinople: Pilaster capitals, mosaics, and brick stamps. In A. Ödekan, N. Necipoğlu, and E. Akyürek (eds), *The Byzantine court: Source of power and culture. Papers from the Second International Sevgi Gönül Byzantine Studies Symposium, Istanbul, 21–23 June 2010* (pp. 41–52). Istanbul: Koç University Press

Niewöhner, P. (2014). Production and distribution of Docimian marble in the Theodosian age. In I. Jacobs (ed.), *Production and prosperity in the Theodosian period* (pp. 251–271). Leuven–Walpole, MA: Peeters

Niewöhner, P. (2018). *Varietas*, *spolia*, and the end of antiquity in east and west. In I. Jevtić and S. Yalman (eds), Spolia *reincarnated: Afterlives of objects, materials and spaces in Anatolia from antiquity to the Ottoman era* (pp. 237–257). Istanbul: Koç University Research Center for Anatolian Civilizations (Anamed)

Porath, Y. (1996). The evolution of the urban plan of Caesarea's Southwest Zone: New evidence from the current excavations. In A. Raban and K.G. Holum (eds), *Caesarea Maritima: A retrospective after two millennia* (pp. 105–120). Leiden: Brill

Porath, Y. (2008). Caesarea: The Israel Antiquities Authority excavations. In E. Stern (ed.), *The new encyclopedia of archaeological excavations in the Holy Land* V. *Supplementary volume* (pp. 1656–1665). Jerusalem: Israel Exploration Society

Ritti, T., Grewe, K., and Kessener, P. (2007). A relief of a water-powered stone saw mill on a sarcophagus at Hierapolis and its implications. *Journal of Roman Archaeology*, 20, 138–163

Robinson, B.A. (2013). Playing in the sun: Hydraulic architecture and water displays in Imperial Corinth. *Hesperia*, 82(2), 341–384

Rockwell, P. (1993). *The art of stoneworking: A reference guide*. Cambridge: Cambridge University Press

Russo, E. (1987). La scultura del VI secolo in Palestina: considerazioni e proposte. *Acta ad Archaeologiam et Artium Historiam Pertinentia. Series Altera in 8°*, 6, 113–248

Scrinari, V. (1952). *I capitelli romani di Aquileia*. Aquileia: Associazione nazionale per Aquileia

Siotto, E. (2019). Identification of gilding techniques on Roman marble sarcophagi. *Journal of Cultural Heritage*, 38, 186–194

Sodini, J.-P. and Kolokotsas, K. (1984). *Aliki* II. *La basilique double* (=*Études thasiennes* 10). Athens: École française d'Athènes

Stabler, J.A. and Holum, K.G. (2008). The warehouse quarter (area LL) and the Temple Platform (area TP), 1996–2000 and 2002 seasons. In K.G. Holum, J.A. Stabler, and E.G. Reinhardt (eds), *Caesarea reports and studies: Excavations 1995–2007 within the old city and the ancient harbor* (=*BAR International Series* 1784) (pp. 1–39). Oxford: Archaeopress

Stillwell, R. (1941). Catalogue of sculpture. In R. Stillwell (ed.), *Antioch-on-the-Orontes* III. *The excavations, 1937–1939* (pp. 116–134). Princeton, NJ: Princeton University Press

Wootton, W., Russell, B. and Rockwell, P. (2013). Stoneworking tools and toolmarks (version 1.0). In *The art of making in antiquity: Stoneworking in the Roman world*. Retrieved from http://www.artofmaking.ac.uk/content/essays/2-stoneworking-tools-and-toolmarks-w-wootton-b-russell-p-rockwell/ (accessed: 24.09.2022)

Younes, A. and Lazzarini, L. (2023). The provenance of coloured marbles and granites used for column shafts preserved at Byrsa (Carthage, Tunisia). In A.B. Yavuz, B. Yolaçan, and M. Bruno (eds), *ASMOSIA XII. Proceedings of the XII. ASMOSIA International Conference of 8–14 October 2018, Izmir, Dokuz Eylül University, Desem Halls, İzmir-Türkiye* (pp. 301–317). Izmir: Dokuz Eylül University

Zink, S. and Piening, H. (2009). *Haec aurea templa*: The Palatine temple of Apollo and its polychromy. *Journal of Roman Archaeology*, 22, 109–122