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Research on Hierapolis in Phrygia
and other cities in south-western Anatolia:
archaeology, archaeometry, conservation

*edited by
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E S T R A T T O



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THE IONIC PORTICO OF THE PLOUTONION IN HIERAPOLIS OF PHRYGIA

Sara Bozza

ABSTRACT - A large quantity of architectural materials attributable to an Ionic portico were recently discovered in the Ploutonion of Hierapolis, a sanctuary dedicated to Pluto and Kore built over a sacred cave from which poisonous gases were emitted. The blocks included a frieze-architrave with a dedicatory inscription to the Emperor Nero, which enables us to date the construction with certainty. The detailed study of the blocks has made it possible to formulate a hypothetical reconstruction of the layout and elevation of the monument: the portico stood at the top of the ritual theatron of the Ploutonion and had a protruding central section raised on a podium. The stoa can thus be interpreted as a sort of porticus in summa cavea, while the central aedicula can be identified as the naos of the sanctuary, where the cult statues of Pluto and Kore were originally positioned.

KEYWORDS: Hierapolis, Ploutonion, Ionic portico, dedicatory inscription, Nero.

The Ionic portico originally belonging to the Ploutonion was investigated as part of the research activities of the Italian Archaeological Mission in Hierapolis of Phrygia, headed by Francesco D'Andria. This paper will present a summary of the materials pertaining to the monument and a preliminary reconstruction of the elevation, the layout and the functions of the building¹.

The Ploutonion

The area of the Ploutonion, situated in the heart of the city of Hierapolis, is highly stratified, reflecting the considerable continuity of occupation from the Hellenistic age up until the Seljuq period. The construction of the buildings was conditioned by the presence of the seismic fault, from which thermal waters flow constantly, along with gases rich in carbon dioxide. From the city's very beginnings, these phenomena were associated with supernatural forces in the subsoil² (Pl. 31, 1).

The earliest construction in the area took place around the 2nd century BC, when the temenos wall was built (US197). In the Augustan and Julio-Claudian ages the sanctuary was refurbished and given a new monumental character: the rock face was given a travertine façade with Ionic half-columns, over which ran an inscription with a dedication to Pluto and Kore. In the centre was an arched opening allowing access to the sacred cave, while in front of it was a marble Tholos³. The façade was surmounted by a Π-shaped theatron, above which was the Ionic portico with a central avant-corps. The mid and late Imperial period saw restoration and maintenance measures, which also affected the Ionic portico. In the Byzantine period, the sanctuary was obliterated, with the demolition of numerous buildings and the construction of the imposing wall A, which hid the ancient sacred façade from view⁴.

The architectural blocks of the Ionic portico: the contexts of discovery

The architectural blocks attributable to the Ionic portico were all discovered in secondary contexts in the area of the Ploutonion. The diachronic analysis of the various contexts of discovery makes it possible to reconstruct the processes and the timing with which the blocks were reused. Indeed, from the distribution of the elements in the stratigraphic units, it is seen that they were partly reused or scattered in the area and partly demolished systematically in order to provide material for walling off the ancient sanctuary.

In the proto-Byzantine period there was extensive use of materials taken from the portico. Some frieze-architraves were used as blocks to build wall A; they are visible in the eastern facing of the wall. Other blocks were reused in secondary structures in the north sector of the Ploutonion. The largest group was found among the materials discovered at the level of the ground in front of the cave (US277), which had been

¹ I wish to thank Francesco D'Andria for giving me the opportunity to study this monument; Pio Panarelli for sharing with me the excavation documentation and repeatedly discussing it in detail; Francesco Guizzi and Alister Filippini for their continuous support and numerous suggestions in the study of the epigraph; Massimo Limoncelli for his virtual reconstructions of the monument.

² For the chronological phases of the Ploutonion, see D'ANDRIA 2013; PANARELLI 2016; D'ANDRIA, ISMAELLI, PANARELLI in this volume (365-372).

³ For the chronology of the temenos wall, see PANARELLI 2015, 132-133; the date of the Ionic capitals of the façade, ISMAELLI 2013b, 203-204, fig. 41; on the Tholos, ISMAELLI 2013b, 200-204; ISMAELLI 2016b.

⁴ A detailed description of the Ploutonion's late-Antique and proto-Byzantine phase in PANARELLI forthcoming.



1. - Dumped blocks emerging in front of the Ploutonion's façade during excavation (photo P. Panarelli).

⁵ On the dumping of material in front of the façade, see PANARELLI forthcoming. The spring water level today is higher than in Antiquity; for this reason, US277 was partially submerged and the presence of water caused the formation of calcareous encrustations and a peculiar black crust on the blocks due to the presence of Mn oxides, as shown by the archaeometric analyses (VETTORI *ET ALII* in this volume, 557-574). On the water level increase, attested in the Ploutonion and in other Roman-era monuments, such as the Civil Agora, see D'ANDRIA 2013, 187-188.

⁶ On the "Greek type" of Attic base, different from the "Roman type", common in Rome and in the western provinces, see SHOE MERITT 1969.

⁷ No pillar shafts attributable to the Ionic portico have yet been found.

⁸ PCol5, PCol9, PCol10, PCol12.

⁹ PCol4, PCol8, PCol11, PCol16, PCol19.

¹⁰ However, there are no holes on the upper face of PCol4 and PCol16.

¹¹ The diameter measured just above the lower cavetto is considered as the module for the successive architectural reconstruction, according to GROS 1990, 204-206; GROS 1997, 434-435.

¹² Height measured between the lower and upper faces of the capitals.

¹³ Regarding the front face, the

dumped there in the first half of the 6th century AD (Fig. 1). Above this layer was a succession of others (UUSS180, 148, 169), also dumped in the proto-Byzantine period in order to fill the space between the façade and wall A, reaching the level of the first row of seating of the theatron and definitively obscuring the view of the gateway to the Underworld⁵.

The architectural blocks of the Ionic portico continued to

be reused over the centuries, as shown by the materials employed in middle Byzantine (9th-10th centuries AD) and Seljuq (12th-14th centuries AD) structures.

The architectural blocks of the Ionic portico: description

Bases

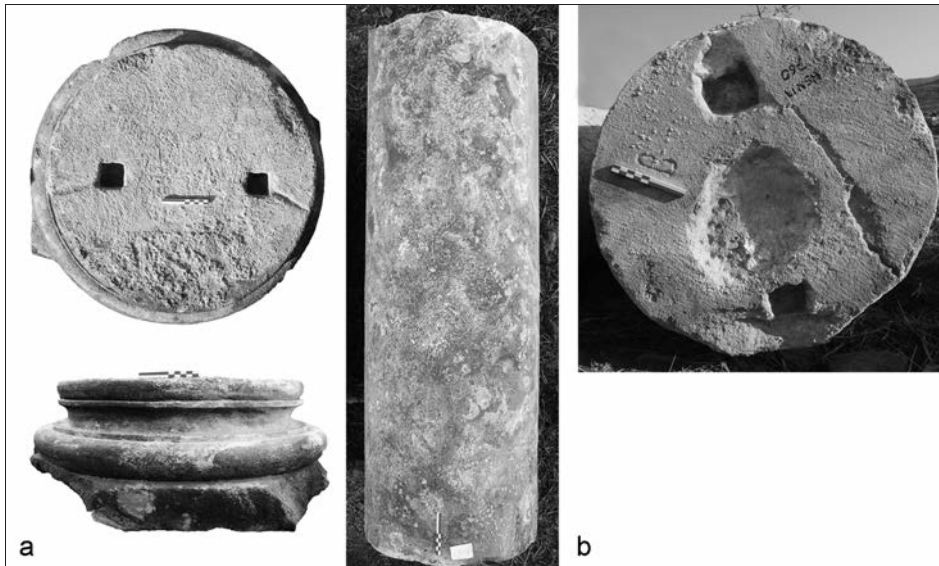
Four Attic column bases and one pillar base are conserved, 25 cm high on average, with the plinths about 70 cm wide (Fig. 2). The profile of the bases, with tori that are semicircular in cross-section, are of a type that was common in the Greek world, with the maximum protrusion of the upper torus vertically aligned with the fillet crowning the scotia⁶. On both their upper and lower faces, the bases have paired holes for dowels used in the assembly. The only block distinct from the others is pillar base PB5, whose lateral face has been left unfinished, with mouldings only roughly sculpted (from the bottom, a vertical band, an oblique band and another vertical band).

*Column drums*⁷

The column shafts were composed of drums (Fig. 2). Twenty five pieces are conserved, of which four are recognisable as lower drums⁸ and five as upper drums⁹. On the lower face of the lower drums (average diameter 51 cm) and the upper face of the upper drums (average diameter 45.5 cm) there are paired dowel holes¹⁰. At the bottom of the shaft was an astragal crowned by a fillet, which was followed by a cavetto, while the same sequence is repeated in reverse at the top of the shaft. The average diameter measured just above the lower cavetto is about 48 cm¹¹. Also conserved are several fragmentary blocks that show the use of dowels for vertically aligning and assembling the column drums. Drum PCol24 bears a long carved honorary dedication (see below).

Capitals

Of the Ionic capitals (Fig. 3), ten specimens remain (nine of columns, one of a pillar), to which may be added six small fragments of volutes. The capitals are on average 17.5 cm high¹². On the lower face, with an average diameter of 50.5 cm, there are no recesses for dowels. The echinus¹³ is 10 cm high on average and is decorated with an Ionic kyma composed of three whole eggs and, at the sides, another two, only partially visible. The eggs, elongated and slightly pointed, are surrounded by a deep in-



2. - Column base PB1 (a); column drum PCo11 (b).

cision; the frames of the eggs, rounded in cross-section, are curved at the bottom where they are connected to the tip of the egg by a small bridge. The eggs alternate with tongues with slightly rounded points. The semi-palmettes on the sides of the echinus are composed



3. - Column corner capital PCa2.

posed of three lobes. The volutes have a concave channel bordered by a flat fillet, and the eye of the volute is a smooth disc. The abacus, on average 3.5 cm high, has a profile varying from a simple ovolo to a kyma reversa. In some capitals, the upper face, with sides of about 56.5 cm, has dowel holes for attaching the piece to the entablature¹⁴. The decoration of the pulvinus is characterised by a variety of schemes, which always use acanthus and water leaves, arranged horizontally or vertically, associated with a balteus also decorated with acanthus leaves, undulating scroll or running dog motifs¹⁵.

Two blocks are distinct from the others: PCa2, a corner column capital (Fig. 3), and PCa4, a pillar capital and upper drum carved from the same block.

Frieze-architraves

There are thirty pieces belonging to the series of frieze-architraves. The blocks that are still intact (or have been reconstructed from fragments to their original size), on average 51.5 cm high, are of slightly different lengths, indicating non-identical intercolumniations. Blocks PFA2, PFA6-PFA8¹⁶, PFA11, PFA12 and PFA14 respectively measure 216 cm, 214 cm, 208 cm, 219 cm and 215 cm. The frieze-architraves are all straight, except for some that form corners (external corners: PFA10, PFA11, PFA12, PFA14, PFA20; internal corners: PFA2, PFA24).

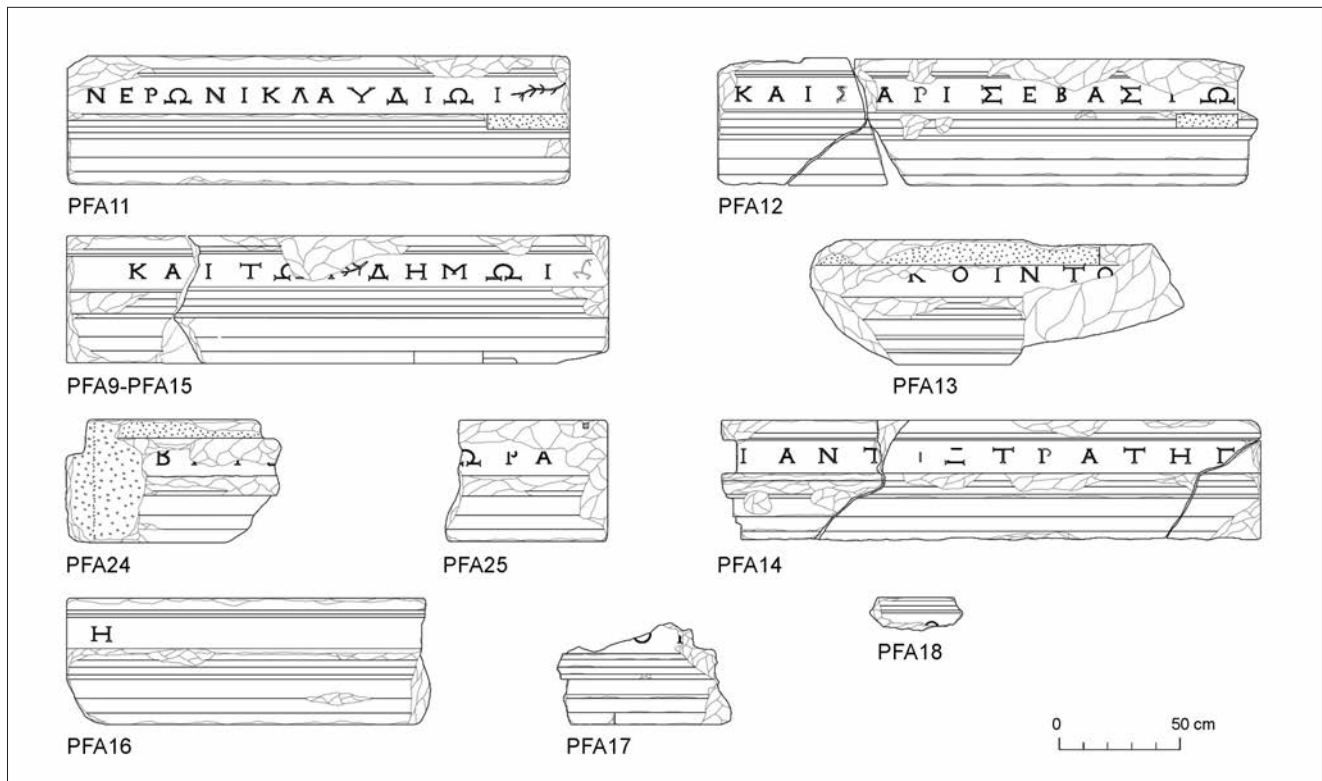
The lower faces, from 40.5 to 42 cm thick, are decorated in the centre by a recessed band, 9 cm wide, consisting of two plain facing kymatia. Near the two lateral margins are holes for dowels. The front face has an architrave with three plain, increasingly protruding bands, from the bottom 5, 6.5 and 8 cm high. The architrave is crowned by a sequence of plain mouldings: an astragal, an ovolo and a cavetto, followed by a vertical fillet. Above this is the frieze, 15-17 cm high, with a smooth surface and a straight profile terminating in a cavetto and a fillet, crowned by an astragal and an ovolo. Some blocks show part of a dedicatory epigraph (for the text, see below), at about 5 cm from the base of the frieze, with letters 6 cm high (PFA9, PFA11, PFA12, PFA13, PFA14, PFA15, PFA16, PFA17, PFA18, PFA24, PFA25) (Fig. 4).

Ionic capitals may be assigned to the C3a type described by BINGÖL 1980, 33-34: “Kapitelle mit horizontalem, fünfgliedrigem Kymation; unverzierter Typus; unverzierter Abakus, ungesäumte Volute, ohne Säulenschaft”.

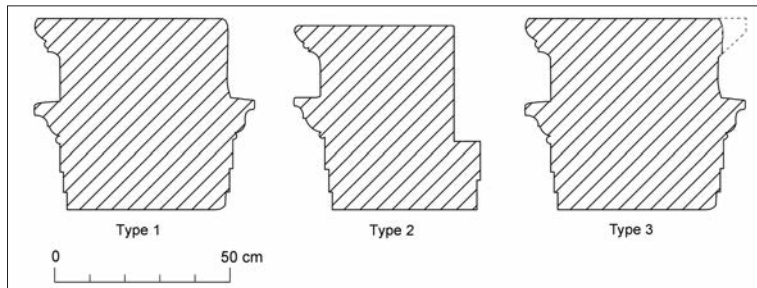
¹⁴ PCa2, PCa9, PCa10.

¹⁵ For a pulvinus-based classification of Ionic capitals, see BINGÖL 1980, 78-131. All Ionic capitals of the portico of the Ploutonion have baltei (BINGÖL 1980, 55, type 1, “Polster mit Balteus”).

¹⁶ The original size has been reconstructed from the two matching fragments PFA6 and PFA8.



4. - Inscribed frieze-architraves of the Ionic portico.



5. - The three types of frieze-architrave (cross-sections).

The upper face, on average 52.5 cm thick, has one or more holes for Π-shaped cramps on the two lateral margins. There are also notches used for sliding the cornices into position on top of them.

On the back of the frieze-architraves, various solutions are recorded, all of which include recesses for wooden beams. The different frieze-architraves are believed to have been installed in different positions inside the monument (Fig. 5):

- Type 1¹⁷. On the back of the block is an architrave with three bands (from the bottom, about 5, 7 and 8 cm high), crowned by an astragal, a kyma recta and a vertical fillet. This is followed by the frieze, about 20.5 cm high, finely worked with a point chisel.

- Type 2¹⁸. On the back of the block is a two-band architrave (about 8.5 and 11.5 cm high, from the bottom), without mouldings at the top. The frieze, from 29.5 to 33 cm high, has recesses for L-shaped metal cramps, arranged at a height of about 10 cm. This unusual solution seems to be the result of structural modifications that were applied to the frieze-architrave elements in a phase subsequent to the original project¹⁹.

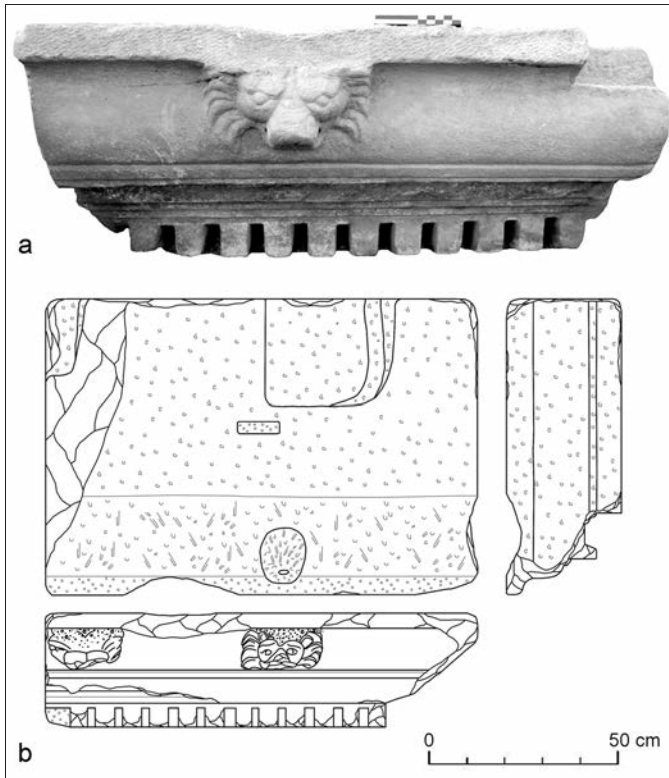
- Type 3²⁰. The block has two front faces: the rear face has the same arrangement as the front face, except for the substitution of the ovolo-cavetto sequence at the top of the architrave with a kyma recta. The moulding that crowns the rear frieze, only partially conserved, is perhaps rendered with a more simple profile. Although they are double-faced, these two blocks have recesses for beams, perhaps indicating a change of mind regarding the collocation of the pieces after production had begun.

¹⁷ PFA9, PFA10, PFA12, PFA15, PFA16, PFA23, PFA24, PFA25.

¹⁸ PFA1, PFA2, PFA3, PFA4, PFA5, PFA6-PFA8, PFA7, PFA26, PFA30.

¹⁹ A further variant (PFA13, PFA19) has a two-band architrave (7.5-8 cm and 11 cm high), crowned by an astragal, a kyma recta and a vertical fillet, and a frieze with a rough surface, 20 cm high, without L-shaped cramp holes.

²⁰ PFA11, PFA14.



6. - Cornices PC2 (a) and PC5 (b).

²¹ This alteration of the cornice seems to be similar to that seen in pillar base PB5. They indicate modifications occurred during the restoration of the portico, see below, 378-379.

²² The analysis of the inscribed blocks and the formation of the first hypotheses on the text were conducted in collaboration with epigraphists Tullia Ritti, Francesco Guizzi, Alister Filippini and Michela Nocita.

²³ The first comment on the epigraph of the Neronian portico is in GUIZZI, NOCITA 2015, 33-34, fig. 3.

²⁴ The insertion of the Imperial filiation between Νέρωνι Κλαυδίου (PFA11) and Καίσαρι Σεβαστῶ[ι] (PFA12) is due to the unaligned position of the cramp holes on the blocks' lateral sides, indicating that they were not adjacent. For an interesting example of Neronian Imperial titles including the filiation, see the epigraph of Patara's lighthouse, dated to AD 64-65: İŞKAN-İŞİK, ECK, ENGELMANN 2008; ŞAHİN 2008; ŞAHİN 2009, 343, fig. 2.

²⁵ The façade's dedicatory inscription is discussed in D'ANDRIA 2013, 173.

²⁶ On the literary sources concerning Barea Soranus and the question of his identity, full name, and the date of his Asiatic office, see WADDINGTON 1872, 134-135, no. 89; RE III, 12-13; PIR² no. B55; VOGEL-WEIDEMANN 1982, 429-438, no. 60; THOMASSON 1984, 214, no. 26:55. I want to thank Alister Filippini for his useful bibliographical suggestions.

Cornices

Including both intact and fragmentary specimens, twenty six cornices are conserved (Fig. 6). The blocks vary in length from 54 to 149.5 cm and are 29.5 cm high. The lower face is on average 64.5 cm thick. The front face of the cornice is arranged, from the bottom, as follows: dentils; a plain kyma reversa and soffit; geison with a vertical profile; a plain oblique fillet; the sima is a kyma recta, crowned by a vertical or slightly sloping fillet. The sima has lion-head water-spouts, only partly serving to drain rainwater. On average the upper face of the cornices is 91.5 cm thick. Arranged along the lateral margins are recesses for Π-shaped cramps for attaching the cornices to adjacent blocks. In the front part of the upper face is a channel for draining rainwater.

Lastly, near the rear edge are recesses for oblique beams, all quadrangular in shape but with varying proportions and depths.

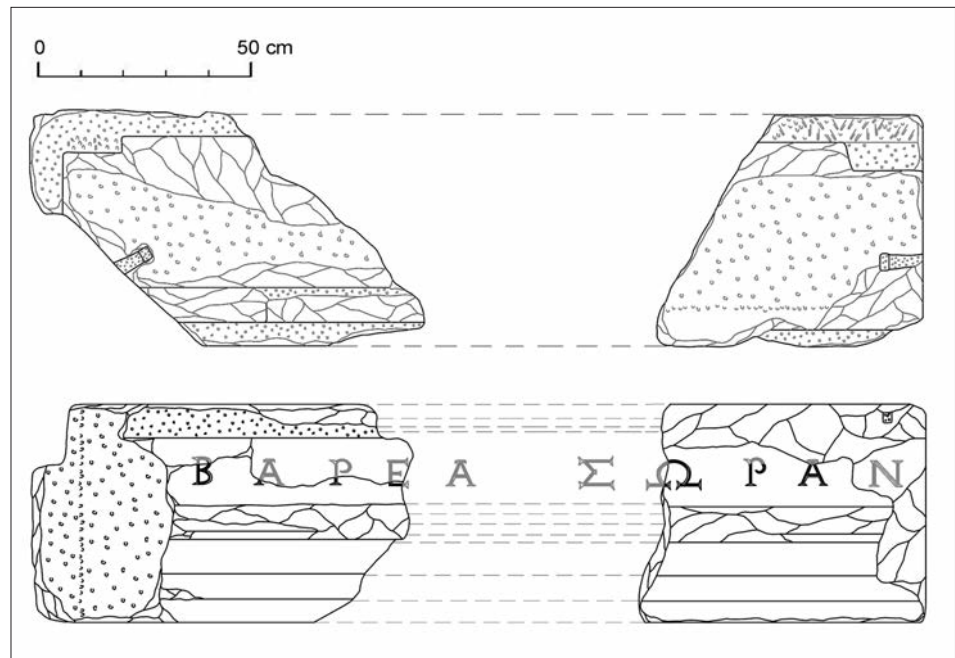
In addition to the straight blocks, three cornices have been identified as belonging to corners. PC17 belongs to an internal corner, while PC5 and PC12 must be interpreted as two cornices that were originally intended to be straight pieces but were later modified so as to be used for an external corner (Fig. 6). Indeed, on the upper face of the two cornices, the channel draining rainwater runs along the front until it reaches the edge of the lateral face. This is characterised by a rather rough finish in which the normal sequence is replaced by a series of simplified mouldings worked with a point chisel (from the bottom: a vertical band, a slightly oblique soffit, a high oblique band and a vertical band)²¹.

The dedicatory epigraph of the Ionic portico²²

Of fundamental importance to the reconstruction of the portico is the dedicatory epigraph on the frieze, the conserved portions of which make it possible to establish certain essential points²³. The dedication is addressed to the Emperor Nero and the Demos of Hierapolis (blocks PFA11, PFA12, PFA9-PFA15), with the original text reciting as follows: Νέρωνι Κλαυδίου [θεοῦ Κλαυδίου υἱῶι]²⁴ Καίσαρι Σεβαστῶ[ι Γερμανικῶ]ι καὶ τῶι δήμῶι [---]. No reference to the divinity to whom the building was perhaps dedicated (Pluto and Kore, as in the inscription on the façade of the Ploutonion?)²⁵ has yet been found.

While the text concerning the object of the dedication has been entirely lost, part of the reference to the magistrates is conserved. One interesting hypothesis associates the praenomen Kointos present on frieze-architrave PFA13 with blocks PFA24 and PFA25, interpretable as belonging to a single broken element of which the central portion is missing (Fig. 7). This would yield the text Κοίντο[υ Μαρκίου] Βαρέ[α Σ]ωρα[νοῦ], i.e. the complete name of the proconsul of Asia Quintus Marcius Barea Soranus, consul suffectus in AD 52, cited by numerous literary sources, whose provincial mandate has been variously dated to between AD 61 and 63²⁶. Another clue is provided by block PFA14, which bears the text [---]ι ἀντιστρατηγ[---], corresponding to a part of the formula presbeutes kai antistrategos, indicating the office of the legatus pro praetore of the proconsul, whose name however cannot be reconstructed.

Despite the highly fragmentary nature of the epigraphical text, this preliminary



7. - Blocks PFA24 and PFA25.

analysis makes it possible not only to date the construction of the Ionic portico to the reign of Nero, but also to narrow this date to the years AD 61-63, a significant moment since it comes immediately after the earthquake that struck Hierapolis in AD 60. It is plausible that this building was part of a broader programme of measures linked to the reconstruction of the city in the wake of the earthquake of AD 60²⁷.

Dimensions and assembly of the architectural elements

In terms of dimensions, the elements are clearly consistent²⁸, but the situation proves to be more complex regarding the presence of holes for vertical dowels and the methods of assembling the blocks.

The Attic bases were attached to the underlying stylobate by means of two vertical dowels, as shown by the presence of holes on the lower face. On the bases stood the columns, which were also attached by means of dowels. In contrast, the connections between the column drums often appear to be the result of a restoration of the building, which required a second assembly of the elements. Indeed, some blocks show, on the lower or upper face, only one pair of dowel holes²⁹, while others have two distinct series on the same face, corresponding to two separate assembly operations³⁰. In one case (PCol15), the two series even correspond to two different orientations of the block (two recesses for dowels with lead-channels and two without channels) (Fig. 8).

The traces of the assembly process on the capitals also attest to a restoration phase. Indeed, in some cases it is possible to distinguish capitals from the original building site, which have recesses for dowels on the upper face³¹, from others that belong to subsequent work³². In this restoration phase, many damaged elements were replaced with new pieces which, due to limited time and resources, were not attached with dowels. In contrast, the frieze-architraves all seem to belong to the original phase, as shown by the presence of holes for dowels on the lower faces.

Regarding the assembly of the cornices, they were simply placed on top of the frieze-architraves, without the use of metal dowel rods. Their stability was however guaranteed by the presence of Π -shaped cramps which held them together.

To summarise, the elements of the portico of the Ploutonion are characterised by complete consistency in terms of size, although they bear traces of a restoration of the

²⁷ Regarding the earthquake occurred in AD 60, Tacitus refers that Laodikeia recovered without Imperial financial support. However he does not clarify the situation in Hierapolis (TAC., *Ann.*, XIV, 27).

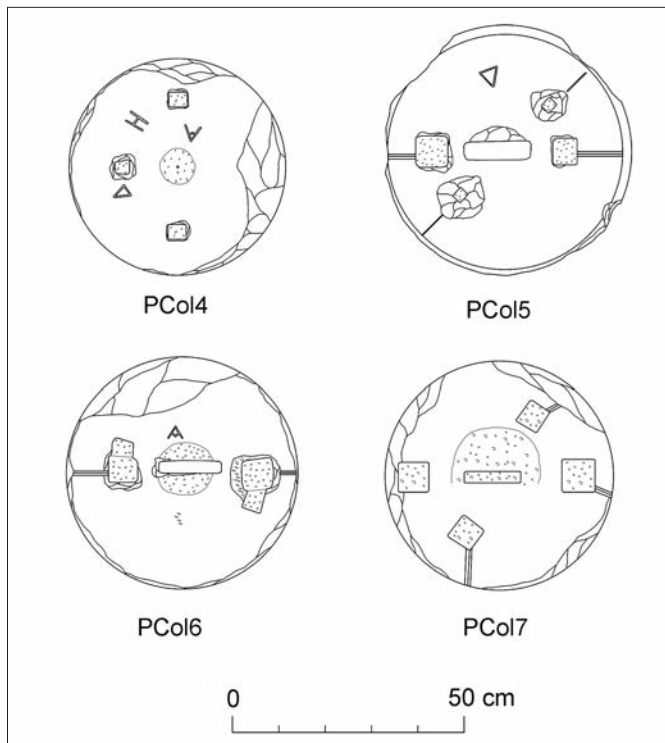
²⁸ Exemplary here is the approximate correspondence between the upper diameter of the column (43-44 cm) and the average thickness of the frieze-architraves' lower face (40.5-42 cm). This correspondence was necessary to prevent the entablature from weighing on the protruding parts of the column, according to the principle of *firmitas* (VITR. III, 5, 9).

²⁹ PCol1, PCol2, PCol3, PCol8, PCol9, PCol10, PCol12, PCol13, PCol14, PCol17, PCol19, PCol22, PCol23, PCol24.

³⁰ PCol2, PCol4, PCol6, PCol7, PCol11, PCol15, PCol18.

³¹ PCa2, PCa9, PCa10.

³² PCa1, PCa3, PCa4, PCa5, PCa6, PCa7, PCa8.



8. - Some examples of the multiple series of mason's marks and dowel holes on the upper and lower faces of the column drums.

³³ The letters "A" and "Δ" are carved on column base PB2; "A" is also found on drums PCol4 (here together with "Δ" and "H"), PCol6, PCol15; the letter "B" appears on at least five column drums, in different sizes and shapes (PCol1, PCol2, PCol3, PCol13, PCol24); "Δ" is also carved, alone, on PCol5. The extremely fragmentary state of the portico's blocks does not allow a detailed reconstruction of the system of mason's marks. Multiple series of dowel holes and alphabetic marks on the same blocks have already been analysed in the Gymnasium and the Marble Stoa in Hierapolis, see ISMAELLI 2016a; ISMAELLI 2016d.

³⁴ This is a mid-Imperial honorary epigraph mentioning a notable Hierapolis citizen, who identifies himself as a priest of Pluto, Kore and Zeus Sabazios. A preliminary comment on this inscription and the cult of Zeus Sabazios is in GUIZZI, NOCITA 2015, 33-35.

³⁵ VITR. V, 9, 4 referring specifically to the porticus post scaenam.

³⁶ The northern part of structure H was largely demolished during the Byzantine era, exposing the preceding wall US409.

³⁷ Both foundation H and structure F are built with numerous reused architectural blocks.

building. This is also shown by the distribution of mason's marks on the blocks. Indeed, on the basis of their reciprocal associations and the differences in the shape of the marks, the alphabetic letters on the column drums seem to have been carved in several different phases³³. Lastly, the inscription carved on drum PCol24 belongs to the restoration phase: it refers to the refurbishment of the stoa with the naos³⁴.

Reconstruction of the architectural order

As we have seen, the recomposition of the columns of the portico is complicated by the presence of multiple series of mason's marks and recesses for dowels belonging to different building phases. In addition, the relative scarcity and highly fragmentary nature of the conserved elements make it difficult to identify matching fragments with certainty, which would help to establish the original height of the colonnade. A hypothetical reconstruction can however be proposed on the basis of the

norms set out in *De Architectura*. Regarding Ionic porticoes, Vitruvius provides some simple indications³⁵: the column shaft must have a height equal to eight and a half diameters, while the base, including the plinth, must be half as high as the diameter.

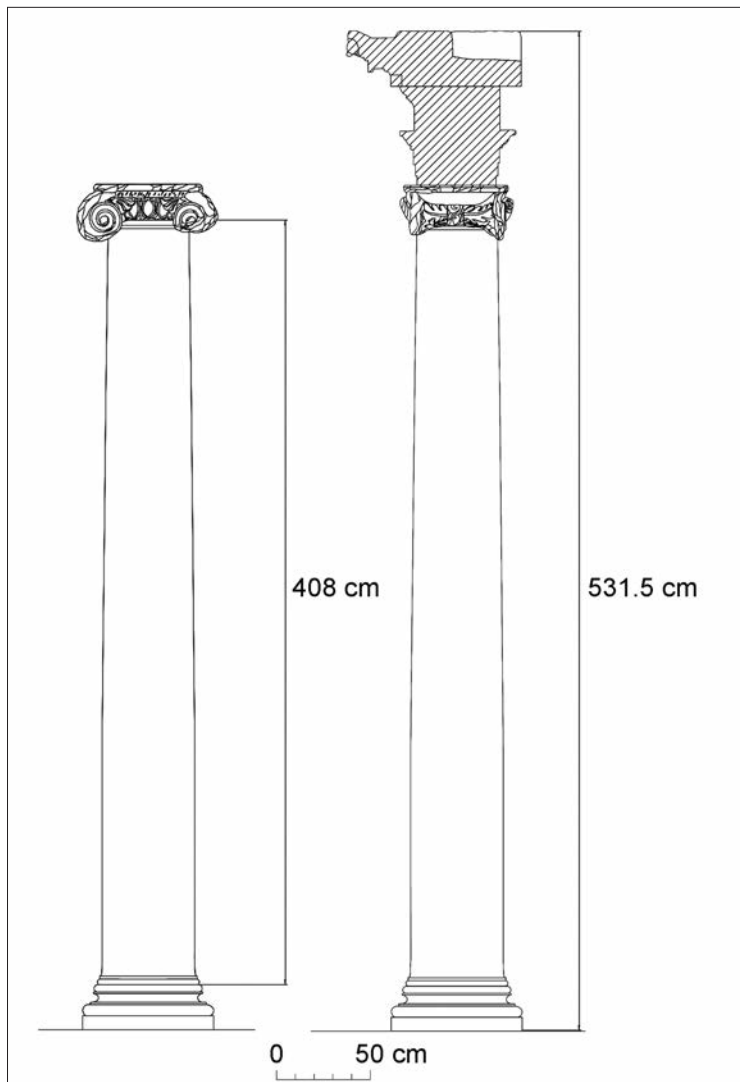
Applying these prescriptions to the portico of the Ploutonion gives a shaft height of 408 cm, multiplying the lower diameter of the column (48 cm) by 8.5 (Fig. 9). To reconstruct the total height of the building, the hypothetical height of the shaft (408 cm) is added to the average height of the base (25 cm) and the capital (17.5 cm), which gives a column 450.5 cm high. To this may be added the height of the entablature, i.e. 81 cm (frieze-architrave: 51.5 cm; cornice: 29.5 cm), reaching a total of 531.5 cm, to which the height of the stylobate (not conserved) would also originally have been added.

Position of the portico in the Ploutonion and layout of the monument

Examination of the conserved architectural blocks, combined with analysis of the structures discovered inside the sanctuary, enables the hypothetical reconstruction of the floor plan of the portico. Specifically, on the basis of the numerous corner blocks, which attest to a complex layout, the Ionic portico is believed to have run along the top of the theatron on three sides (Π-shaped plan), with a central avant-corps. As will be seen, this reconstruction is supported by the consistency of the corner blocks with the layout of the structures in the sanctuary.

In the eastern sector of the Ploutonion, the Ionic colonnade is believed to have rested on structure H, which formed its foundation³⁶, while the central avant-corps rested on structure F and was closed at the back by a wall (US215)³⁷ (Pl. 31, 1). The back wall of the ambulacrum was formed by the Hellenistic temenos (US197), which was plausibly modified to serve this purpose, at least at the top. The original stylobate and the paving of the portico, which are believed to have been situated on the same level as the top of the cavea, are not preserved. Indeed, structure H is only partially conserved and structure F also appears to be seriously damaged.

As for the wings of the portico, to the south the colonnade is believed to have turned



9. - Restored elevation of the portico according to Vitruvius' *De Architectura*.

³⁸ Wall US304 is on a lower level than the Ionic portico.

³⁹ PFA11 belongs to Type 3, while PFA12 belongs to Type 1. It is important to highlight that PFA11 has recesses for wooden beams on its rear face, so it does not belong to an actual double-faced colonnade. This peculiar solution might be connected with the building process, but at the moment it is not possible to clarify its specific reason. In any case, the differences between the two blocks do not seem to be incompatible with their position on the front of the avant-corps.

⁴⁰ Even in the southern part of the portico there are some incongruities: PFA13 is a variant of Type 2, with crowning mouldings on a two-bands architrave, while PFA24-PFA25 belongs to Type 1. At the moment we cannot explain

westwards, where structure H turns at a right angle, and continued along structure US181, which delimits the back of the cavea of the theatron. On the north side the colonnade also turned westwards, symmetrically, running along structure US176, used as a retaining wall for the theatron. The portico turned again at the western end, which rested on the thick wall made of large travertine blocks (US224). The latter also served as a support for the brick vault that covered the underlying room Q1. The ambulacrum is therefore believed to have been delimited on the north side by a wall built over structure US304³⁸. In the southern sector of the sanctuary, only partially excavated, no structures attributable to the western end of the portico's south wing have yet been identified. Hypothetically, it is possible that the back wall of the ambulacrum was the thick wall US664, made of large blocks of travertine, which perhaps also had openings for communication with the space behind it.

At this point it is clear where the colonnade was positioned inside the Ploutonion. Regarding the arrangement of the epistyle blocks with the dedicatory epigraph, we can make some observations. The front of structure F measures about 7 m. It is thus precisely on the central avant-corps that the four columns must have stood, forming three interaxes, above which ran the

Imperial dedication: Νέρωνι Κλαυδίωι [θεοῦ Κλαυδίου υἱῶι] Καίσαρι Σεβαστῶ; the text then continued on the south side of the avant-corps: [τῆ Γερμανικῶι] καὶ τῶι δήμῳι. This arrangement is confirmed by the type of corner joint that characterises the two frieze-architraves PFA11 and PFA12, and by block PFA9-PFA15, which is straight³⁹ (Pl. 31, 2).

Further deductions can be made from block PFA24-PFA25: its right face belongs to an internal corner, suggesting that the element should fit in the first interaxis of the south wing of the portico. The name of the proconsul was thus positioned precisely in the south corner of the colonnade; the first part, Κοίντο[υ Μαρκίου], was on the eastern façade, with block PFA13 on the penultimate interaxis. In contrast, the cognomina were on the southern façade: Βαρέ[α Σ]ωρα[νοῦ] (PFA24-PFA25). The epigraph is believed to have continued on frieze-architraves that have not been conserved, which bore the titles of the proconsul (ἀνθύπατος) and the full name of the legatus, ending with the indication of the titles of the latter, on the portico's western corner. Indeed, block PFA14 (τῆ ἀντιστρατηγῆ), a corner piece, was positioned on the first interaxis of the western end of the portico's south wing⁴⁰ (Pl. 32, 1).

It appears that the part of the inscription regarding the object of the dedication, completely missing, must have been in the eastern straight sector, south of the central aedicula (a space of four interaxes). This is suggested first by the central positioning of the

dedication to the Emperor, which would definitely not have been preceded by the citation of the citizen donor, and is further confirmed by the fact that the south wing was occupied by the names of the magistrates, as indicated by the conformation of the frieze-architrave blocks analysed above.

In support of this ordering of the epigraph on the epistyle, it should be remembered that internal corner block PFA2 was attached to block FA6-PFA8 (both having Type-2 backs) (Pl. 32, 2). On the basis of their shape, the two elements should be positioned on the first two interaxes from the north of the eastern colonnade of the Ionic portico. They are both without inscriptions and demonstrate, together with other more fragmentary but similar Type-2 frieze-architraves⁴¹, that this sector of the monument bore no epigraph. The dedication therefore began on the central avant-corps⁴².

The roofing of the portico

On the basis of the data obtained from the structures brought to light in the Ploutonion and the architectural elements, it is suggested that the portico originally had a Π -shaped layout, running along the top of the theatron. The latter consisted of seven rows of seats (plus the footrest at the bottom) and was plausibly joined to the portico, at the top, on the eastern side, by means of two small irregularly-shaped flat terraces. These were triangular to the north of the avant-corps and trapezoid to the south, due to the different orientation of the structures. In contrast, along the two lateral wings, the top of the theatron was approximately adjacent to the stylobate of the portico. The central aedicula, on the same level as the stoa, is believed to have rested on a podium faced with marble about 2 m high, built over the third row of seats of the cavea, with the upper levels of the theatron and the two flat terraces on either side. Access to the avant-corps was possibly from the side at the top of the theatron, or from the back through a door in the back wall (US215), whose existence however cannot be confirmed due to the poor state of conservation of the structures.

The depth of the ambulacrum, which varies on the three sides between 3.5 and 4.5 m⁴³, appears compatible with a single-pane pitched roof⁴⁴. Note that this depth is close to the height of the colonnade (4.5 m), in accordance with what is prescribed for porticoes by Vitruvius in *De Architectura*⁴⁵. The woodwork⁴⁶ was composed of horizontal beams, which fitted into recesses at the extremities of the epistyle blocks at the level of the frieze, and sloping beams, arranged at closer intervals and lodged in recesses carved in the upper face of the cornices. The two systems were thus installed on two different levels⁴⁷. In the internal corners, there may have been an extra horizontal beam on the central axis of the ambulacrum, as already seen in the Doric portico of the Sanctuary of Apollo in Hierapolis⁴⁸ (Pl. 33, 1).

Regarding the sloping beams supporting the roof, in the internal and external corners, diagonal beams may have been used. No cornices from the original phase corresponding to the external corners of the two wings of the portico are preserved. It can however be hypothesised that a diagonal beam separated the main roof panel from the hip end, and that smaller beams were attached to this⁴⁹. In the internal corners a diagonal beam and, on the sides, two straight beams converged between the east colonnade and the lateral wings, as suggested by the only internal corner cornice to have survived, albeit in a fragmentary state (PC17)⁵⁰. The corner joints between the avant-corps and the east colonnade did not require special solutions for the roofing, thanks to the

how the different rear faces were linked at the corner. PFA14 belongs to Type 3, thus it can be connected to the Type 1, as already seen above (note 39).

⁴¹ PFA1, PFA3, PFA4, PFA5, PFA7, PFA26, PFA30.

⁴² It might have begun with the dedication to the Emperor on the front of the avant-corps, or on the northern side of this aedicula, with the dedication to the divinities (which however are not preserved).

⁴³ The strongest variations in the ambulacrum's depth are in the southern wing (c. 3.5-4 m deep).

⁴⁴ On pitched roofs in the stoai, see COULTON 1976, 151-152.

⁴⁵ VITR. V, 9, 4.

⁴⁶ On the woodwork and roofing in the stoai, see in general HODGE 1960; COULTON 1976, 146-167; HOEPFNER 1991.

⁴⁷ This solution is attested in Hierapolis in the Marble Stoa, see ISMAELLI 2009, 140-143, fig. 155.

⁴⁸ In the Doric portico this solution is demonstrated by the presence of recesses for wooden beams in the back wall of the southern colonnade. See ISMAELLI 2009a, 46-48, figs. 66-67; the Author cites the agora of Lyrbe for comparison (note 156).

⁴⁹ The same solution in Hierapolis was used in the Marble Stoa, see ISMAELLI 2009a, 140, with comparanda.

⁵⁰ The diagonal beam in the inner corners finds a parallel in the portico of the Asklepieion of Messene, see HAYASHIDA, YOSHITAKE, ITO 2013, pl. 37a.

presence of wall US215: the sloping roof is believed to have run continuously behind the avant-corps, which had a separate roofing system.

For the central aedicula, since the frieze-architrave blocks attributable to its colonnade, both on the front and on the sides, all have recesses for horizontal beams, the roofing must have had crossed beams. Although such an arrangement is rarely seen, it seems particularly suitable for supporting a wooden coffered ceiling⁵¹. The elements of the supposed ceiling might have been attached to the horizontal beams, which must have had an interlocking system at the cross-points. However, there remains strong uncertainty regarding the roofing of the avant-corps, which may have been flat or have had a ridge roof. As a way of emphasising the front of the central avant-corps, the presence of a pediment appears plausible, but there is no evidence for this among the conserved materials, which do not include raking cornices or pieces belonging to a tympanum.

Use and function of the portico

The Neronian portico ran along the top of the ritual theatron of the Ploutonion. Plausibly, it was accessed from outside the sanctuary through the side door in the south-east corner of the temenos, about 1.30 m wide (Fig. 10). Entering through this door, located immediately behind the south-east corner of the portico's rear wall, it was probably possible to turn right and access the ambulatory. It is not possible to reconstruct the route with greater precision since the area has not yet been investigated in depth. In addition, in the opposite northern corner, the presence of Byzantine-era structures makes it impossible to verify whether the arrangement was symmetrical.

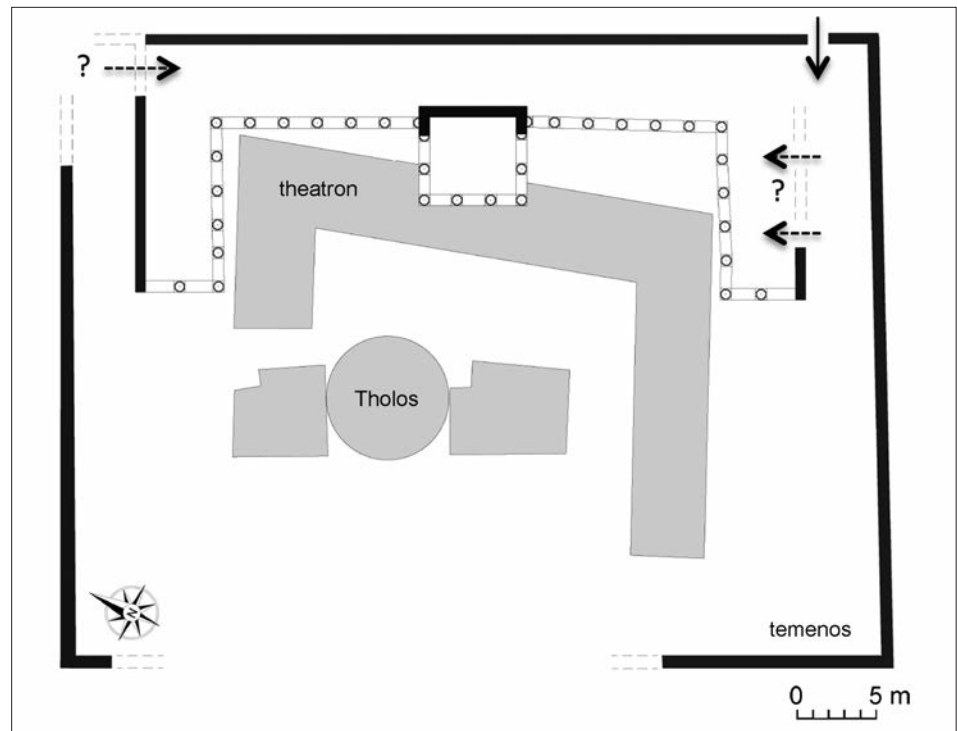
Regarding the function of the monument, the predominant position of the central avant-corps in the sanctuary is undeniable: as suggested by Francesco D'Andria, it seems to be interpretable as an unusual naos, a place used to house the cult statue or statues of the divinities venerated in the Ploutonion. Evidence of this was provided by the discovery of large fragments of the colossal statue of Hades precisely where the avant-corps had stood⁵² (Pl. 23C, 2). This also seems to be confirmed by the epigraphical text carved on column drum PCol24, which refers to the refurbishment of the naos of Pluto with the stoa (τὸν <v>αὸν τοῦ Πλούτεος σὸν τῇ στοᾷ)⁵³. The naos is therefore mentioned and described as an entity joined to the portico. The naos is a space closed at the back but open on three sides by means of a colonnade which, by continuing that of the portico, stresses the indissoluble connection between the two architectural entities. It appears entirely natural then that the restorations cited in the inscription, documented by a series of mason's marks and modifications on the blocks, affected both the structures, and that they were recorded precisely on one of the columns of the monument.

Via the Nero-era portico it was possible for the faithful to access the theatron. On a visual level, we can imagine that the route followed by the public who frequented the building, whether starting from the south or the north, enabled the visitors to see the sanctuary only gradually. Indeed, outside the sacred area on the east side, the temenos shielded it from view. On entering, the faithful began to see the structures of the sanctuary, such as the cavea and the Tholos. Only once they had reached the cavea did the innermost and most sacred area, i.e. the monumental gateway to the Underworld with the Ionic façade, come into view. The visitors marvelled at the fumes of poisonous gas and their effects on the sacrificial animals, but also at the majestic grandeur of the cult

⁵¹ On crossed-beams woodwork, see HOEPFNER 1991, 93, fig. 9e; cf. also the Portique Coudé in Delos, FRAISSE LLINAS 1995, fig. 704; the north-west stoa in Thasos, KOZELJ, WURCH-KOZELJ 2002. For some examples of interlocking assembly, GINOUVÈS 1985, pl. 16, nos. 12-14. On coffered ceilings, see GINOUVÈS 1992, 136-139 (in general); COULTON 1976, 165-167 (for stoai).

⁵² Two big fragments of the statue were reused in a Byzantine wall directly above structure F. See D'ANDRIA 2013, 189-190, figs. 31-33; D'ANDRIA 2015a, fig. 12; PANARELLI 2015, 27-28, 144-145, figs. 13, 152. The statue of Hades formed a group together with the statue of Cerberus, found among the materials dumped in front of the sacred cave; see PANARELLI 2015, 38, fig. 23.

⁵³ GUIZZI, NOCITA 2016, 19.



10. - Sketch plan of the Ploutonion, with indication of the hypothetical entrances.

statues inside the central aedicula. The stoa thus had a monumental and symbolic value, since it enclosed and emphasised the most important nucleus of the sanctuary, but also served to host the faithful and to provide them with access to the ritual theatron.

Stoai built along the temenos of a sanctuary represent a common architectural type, especially from the Hellenistic period onwards, and are often seen in visually striking settings. In Hierapolis, this model was adopted in the poliadic Sanctuary of Apollo, which was restructured in the Julio-Claudian and Flavian periods precisely in accordance with the “compositional principles of axiality, perpendicularity and symmetry, which had become fundamental requirements in the Hellenistic conception of architectural design”⁵⁴.

In the Ploutonion in that period, although the sacred space was inspired by the same compositional and aesthetic principles, it was of more modest dimensions. The Ionic stoa is also connected on a functional level to the theatron, with respect to which it formed a porticus in summa cavea. The II-shaped layout should therefore not only be seen in relation to the Hellenistic temenos, plausibly modified in order to serve as a back wall, but also to the steps of the theatron, designed to host the faithful. There are numerous sanctuary contexts, both Greek and Roman, which have a ritual theatre and are linked to particular natural manifestations and to chthonian cults, as in Eleusis or in the sanctuary of Demeter in Pergamon⁵⁵. An interesting precedent for the Ploutonion of Hierapolis in terms of its similar conception, albeit on a considerably greater scale, is the sanctuary of the Syrian Goddess in Delos, where a II-shaped portico runs along the top of the cavea of the theatre, which is semicircular however⁵⁶ (Fig. 11). The Neronian portico is also unusual in terms of its position at the top of the cavea of the aedicula-naos: the architectural solution adopted in Hierapolis constitutes an original and more emphatic version of a model of which the best example is the sanctuary of Fortuna Primigenia in Praeneste⁵⁷, although it also appears in Asia Minor. The layout of the Apollo sanctuary in Knidos for example appears to be topographically very similar to that of the Ploutonion, although the tholos is dedicated to Aphrodite and not to Apollo, the divinity venerated in front of the theatron⁵⁸ (Fig. 12). In the famous

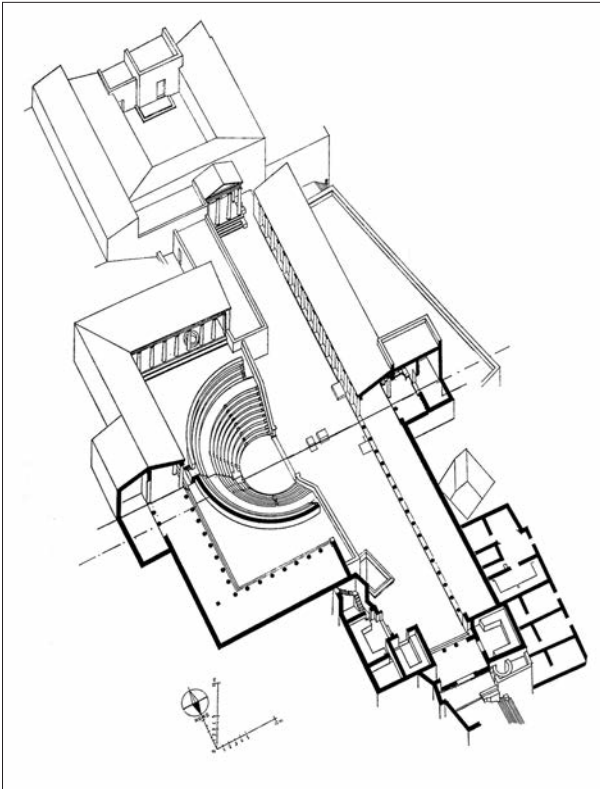
⁵⁴ From ISMAELLI 2009a, 411. On the Hellenistic principles in the layout of the sanctuaries and on the temenos porticos, see COULTON 1976, 168-170; LAUTER 1999, 96-108; in general on the peristyle-type, see VON HESBERG 1990b; VON HESBERG 1994b, 69, 121; GROS 1996, 105-132; EMME 2013.

⁵⁵ On the ritual theatres, see NIELSEN 2002 (for Asia Minor especially 137-142, 260-266); MORETTI 2009a. On terrace sanctuaries, steps and theatra, see also HOLLINSHEAD 2012; bibliography in ISMAELLI 2016b, 321, note 1.

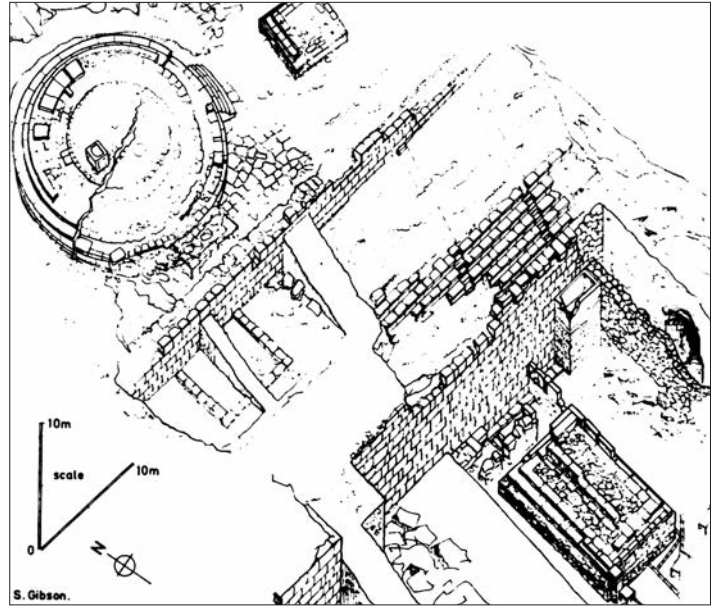
⁵⁶ On the sanctuary of Delos, see WILL 1985. For a general view of the sanctuary layout, cf. especially pls. A, B, C, figs. 49, 49bis.

⁵⁷ On the Praeneste sanctuary, see FASOLO, GULLINI 1953; COARELLI 1987, 35-84; COARELLI 2012. On the Republican sanctuaries in Latium, with specific reference to the presence of a cultic theatre, see NIELSEN 2002, 172-196.

⁵⁸ On the sanctuary of Apollo in Knidos, already cited for comparison in D’ANDRIA 2013, 193-195, see BRUNS-ÖZGAN 2002, 66-72; BANKEL 1989-1990; on the Aphrodite tholos, see BANKEL 1997.



11. - General layout of the Syrian Goddess sanctuary in Delos (after WILL 1985, fig. 49bis).



12. - The altar of Apollo in Knidos, with the tholos dedicated to Aphrodite above the cultic theatron (after D'ANDRIA 2013, fig. 36).

sanctuary of Pessinus the temple is also above the cavea, although the relative proportions are rather different from those recorded in Hierapolis⁵⁹. In addition, there is also a small theatron in the adjacent Sanctuary of Apollo in the sector facing the plateia. Its function in relation to the temple buildings above it is still being studied however⁶⁰.

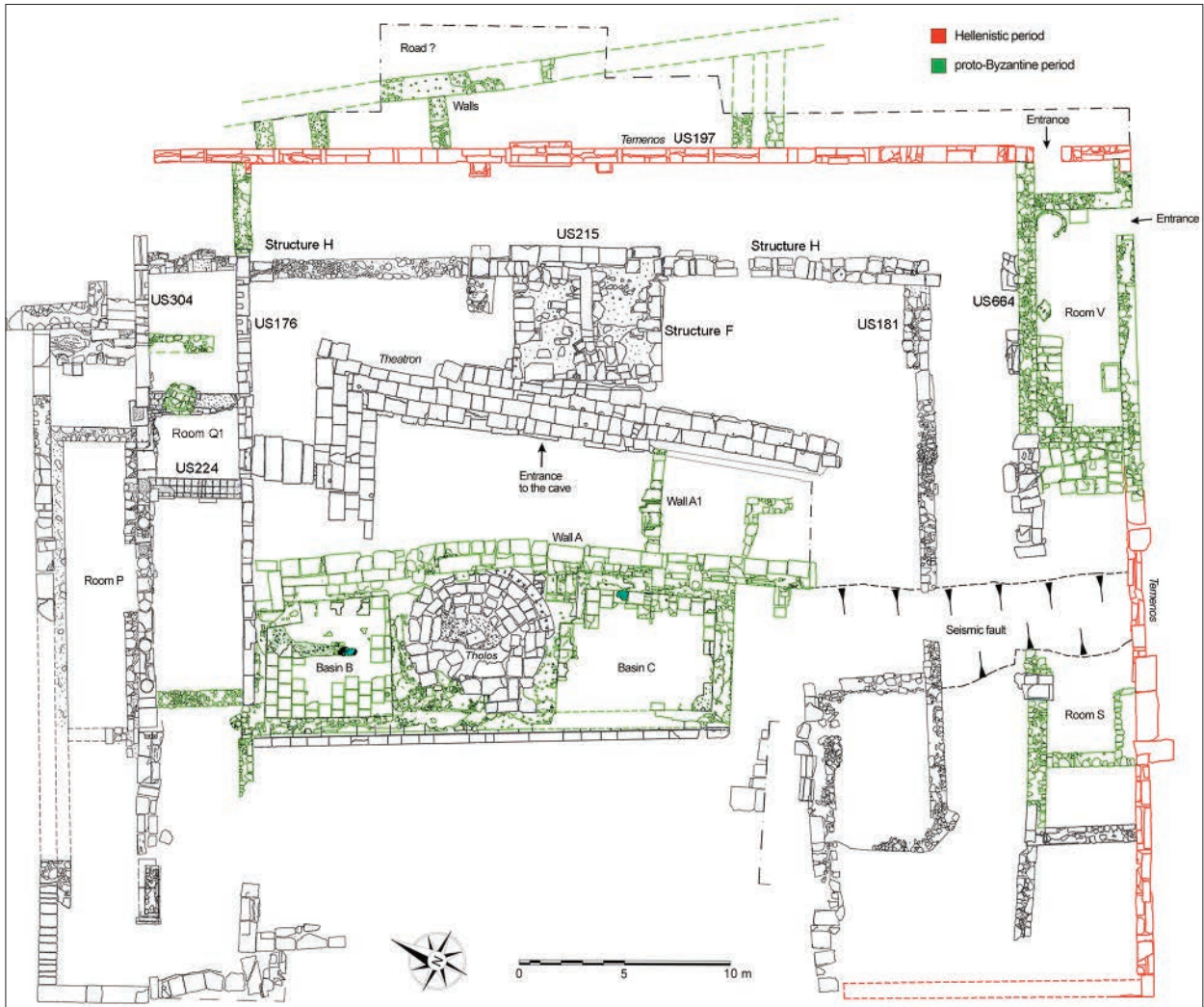
To summarise, the Ionic portico in Hierapolis is part of the broad and variegated framework of Hellenistic sanctuary architecture, but it differs in terms of the original conception of the naos. Its distinctive shape provides a view of the cult statues and highlights their imposing presence above the theatron, while at the same time enabling the divinities to attend the ritual that took place in front of the sacred cave below. This aspect also recalls naoi that are not enclosed by a temenos but are positioned at the top of the cavea of buildings used for spectacles, found both in Italy and in Asia, such as the theatre of Pompey in Rome or the theatre of Patara⁶¹.

The simultaneous presence of elements recalling various architectural models is not the only distinctive feature of the Neronian building: the original floor plan and its relationship to the other buildings derive from the considerable capacity of the architect to dynamically adapt the project to the pre-existing structures and use them to the benefit of the new construction, as clearly emerges from an analysis of the northern sector of the sanctuary, arranged on two levels, and of the eastern back wall, which exploits the Hellenistic temenos, all contributing to make the Imperial-era Ploutonion a pluristratified and multifunctional complex.

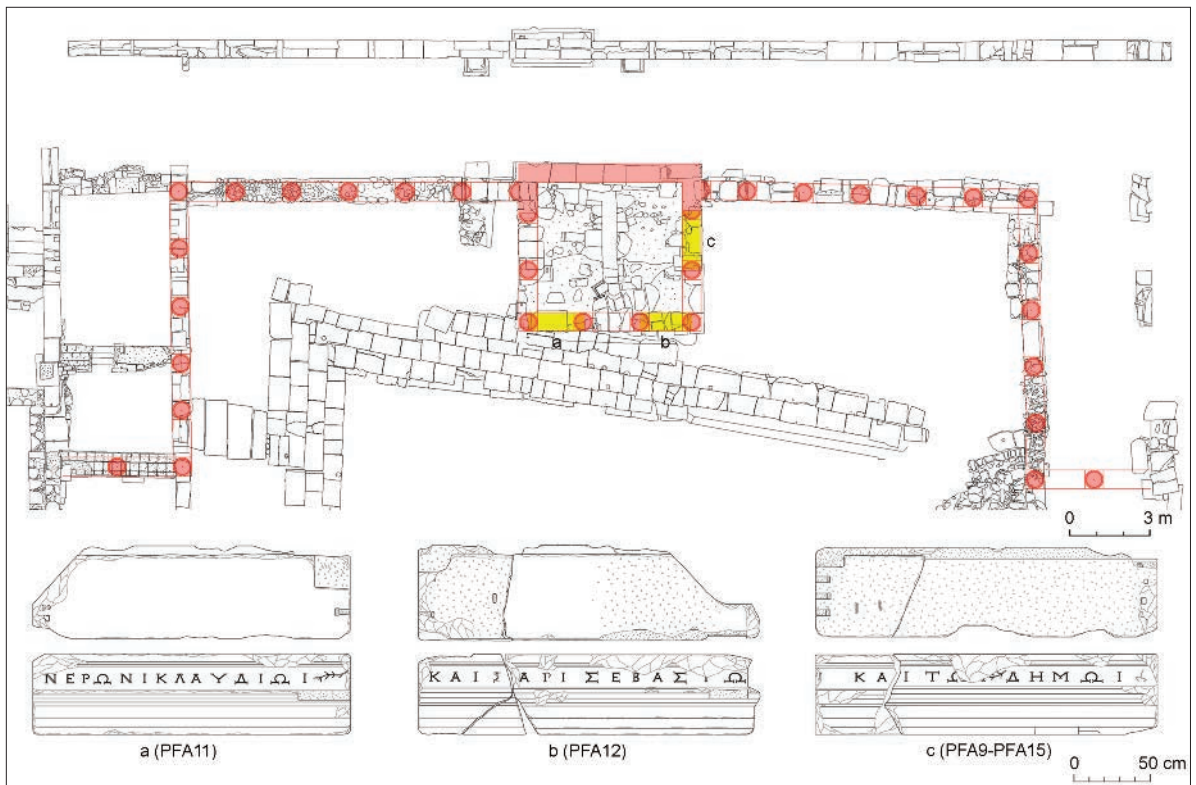
⁵⁹ On the sanctuary of Pessinus, cf. WAELKENS 1986; DEVREKER, THOEN, VERMEULEN 1995; VERLINDE 2015.

⁶⁰ The theatron of Apollo Sanctuary is presented in SEMERARO 2014, 22-26; SEMERARO 2016.

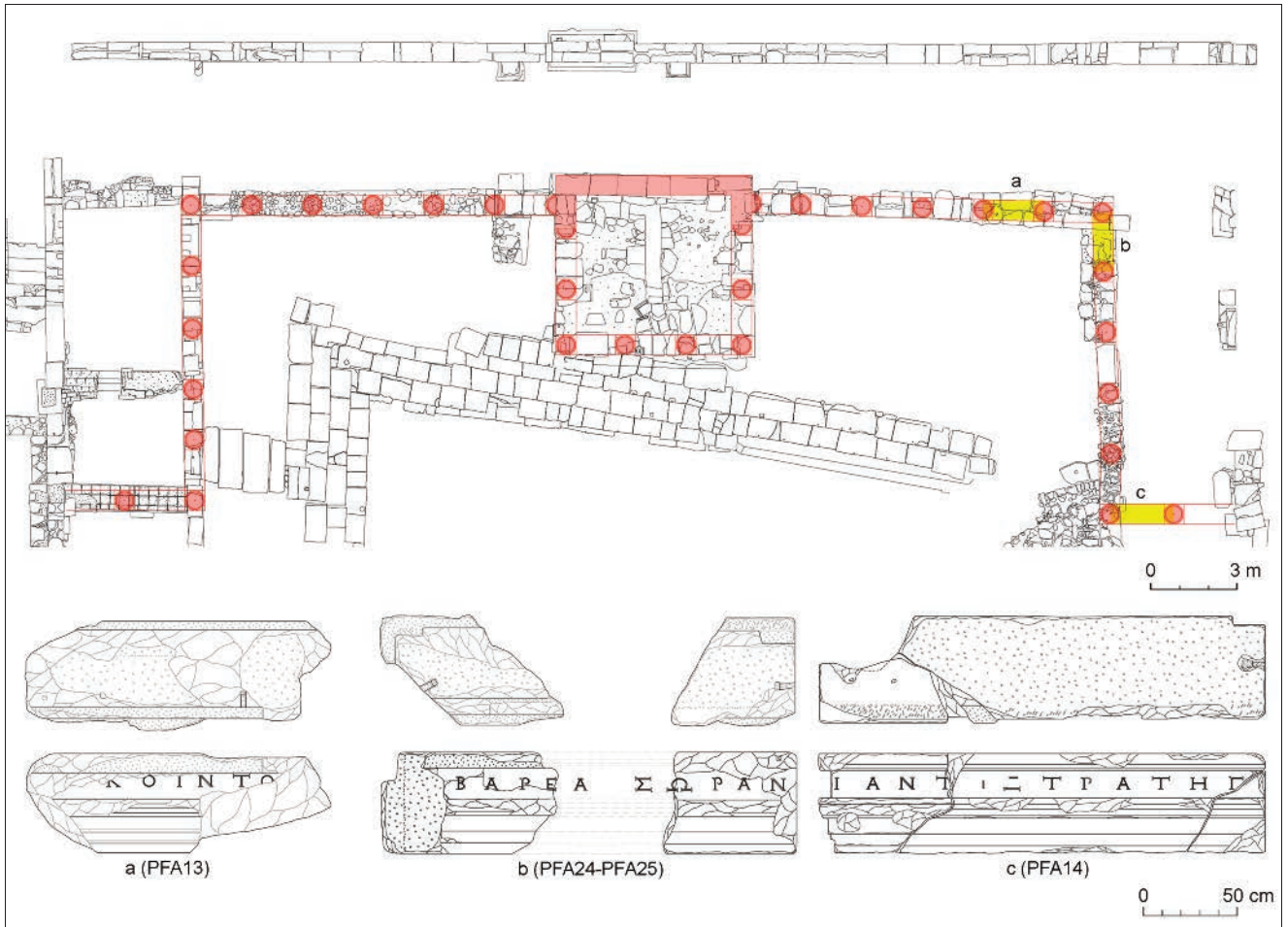
⁶¹ On this building type, see NIELSEN 2002, 196-204 (with examples in Italy, Greece and Africa); GROS 2009. On the small temple in summa cavea in the theatre of Patara, perhaps attributable to the Imperial cult, cf. PIESKER, GANZERT 2012, 192, 283-284.



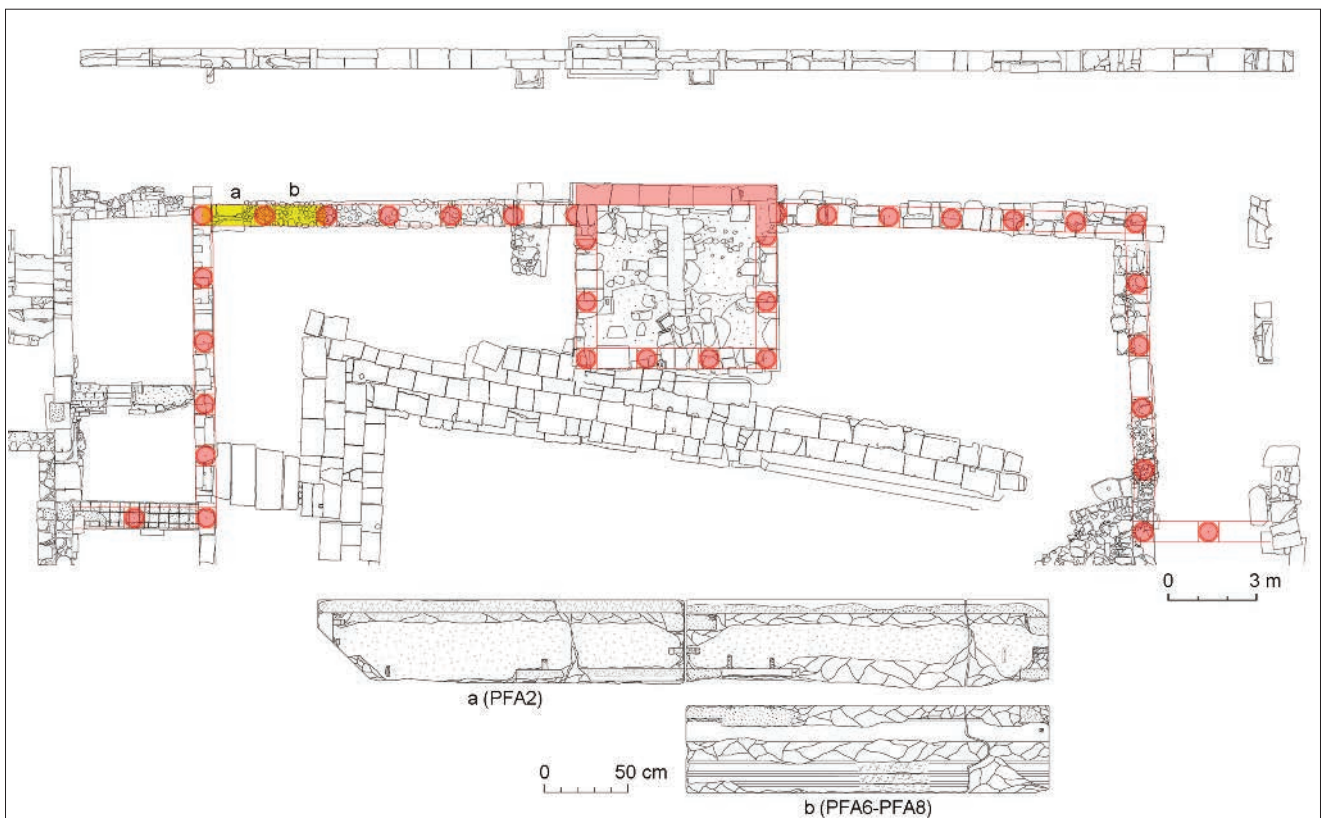
Pl. 31, 1. Hierapolis. General plan of the Ploutonion (after PANARELLI forthcoming, modified).



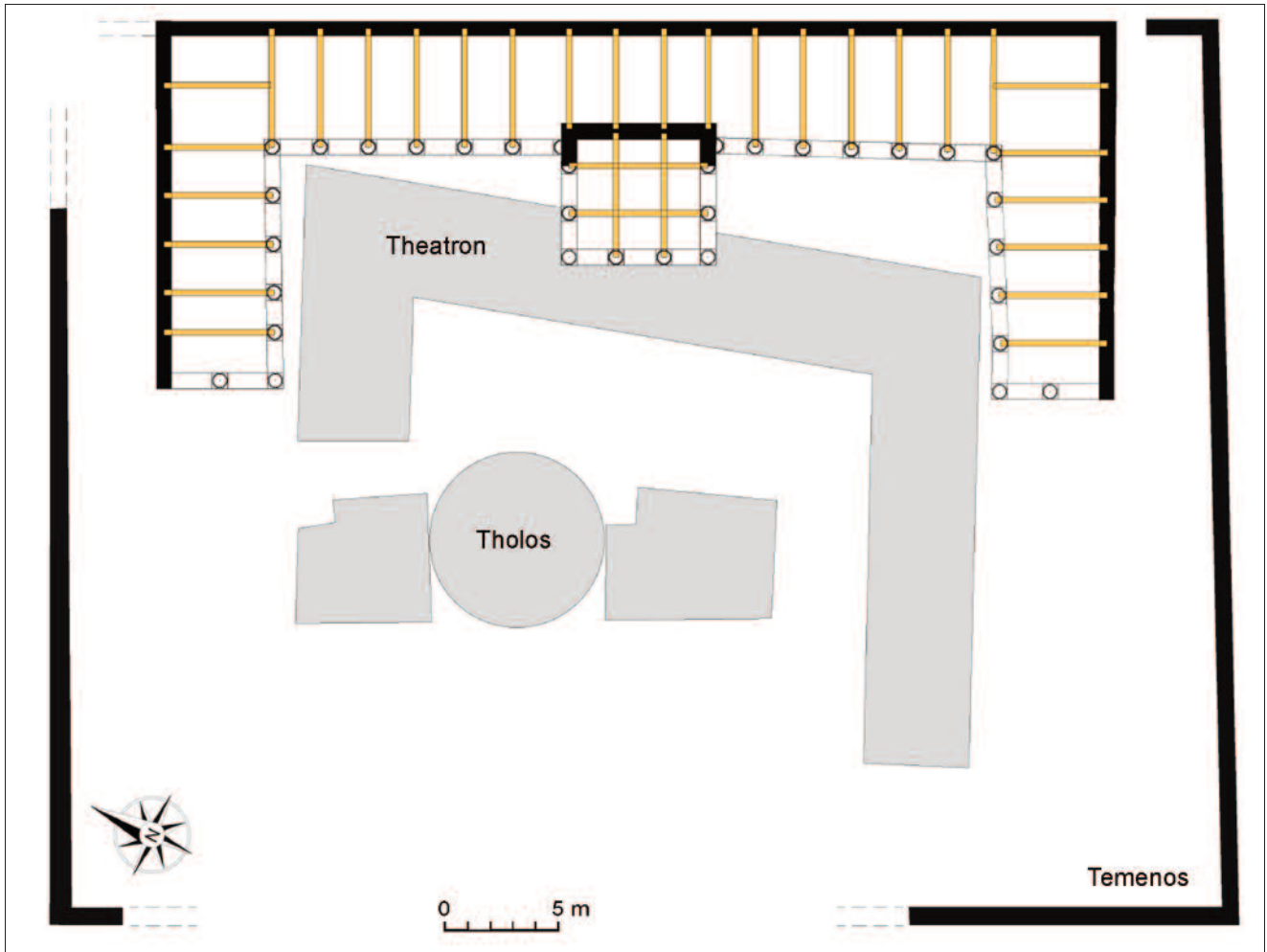
Pl. 31, 2. Hierapolis, Ploutonion. The position of blocks PFA11, PFA12, PFA9-PFA15.



Pl. 32, 1. Hierapolis, Ploutonion. The position of the blocks PFA13, PFA24-PFA25, PFA14.



Pl. 32, 2. Hierapolis, Ploutonion. The position of blocks PFA2, PFA6-PFA8.



Pl. Pl. 33, 1. Hierapolis. Sketch plan of the Ploutonion, with indication of the horizontal beams of the Ionic portico.



Pl. 33, 2. Hierapolis. The Ploutonion during the Neronian era: above the theatron, the Ionic portico and the central aedicula with Hades' cult statue (M. Limoncelli).

REFERENCES

- AE = *L'Année épigraphique*, Paris 1888-.
- ABBASOĞLU H. 1994 = *Perge Roma devri mimarisinde arşitravların soffit bezemeleri. Tipolojik yönden bir araştırma*, Ankara.
- ACCORSI G., VERRI G., BOLOGNESI M., ARMAROLI N., CLEMENTI C., MILIANI C., ROMANI A. 2009 = *The exceptional near infrared luminescence properties of cuprorivaite (Egyptian Blue)*, in *Chemical Communications* 23, 3392-3394.
- ADAM J.-P. 2005 = *Roman Building. Materials and Techniques*, London-New York.
- ADAM S. 1966 = *The technique of Greek sculpture in the Archaic and Classical period*, Oxford.
- ADLER W. 2008 = *Early Christian Historians and Historiography*, in S.A. HARVEY, D.G. HUNTER (eds.), *The Oxford Handbook of Early Christian Studies*, Oxford, 584-602.
- AGELIDIS S. 2011 = *Kulte und Heiligtümer in Pergamon*, in R. GRÜSSINGER, V. KÄSTNER, A. SCHOLL (eds.), *Pergamon. Panorama der antiken Metropole. Begleitbuch zur Ausstellung*, Berlin, 175-183.
- AGNOLI N. 1992 = *I sarcofagi a ghirlande con busti-ritratto*, in *ArchCl* 44, 235-261.
- AGUS M., CARA S., LAZZARINI L., CORDA A. 2007 = *I marmi colorati di Uthina*, in G. SOTGIU, H. BENHASSEN, A. CORDA (eds.), *Scavi archeologici ad Uthina (2001-2007), Fouilles archéologiques à Uthina (2001-2007)*, Ortacesus, 375-394.
- AHRENS S. 2005 = *Die Architekturdekoration von Italica (IA 6)*, Mainz.
- AHRENS S. 2015 = *Necropoli Nord-Est*, in *ATLANTE* 2015, 77-79.
- AHRENS S., BRANDT R. 2016 = *Excavations in the North-East Necropolis of Hierapolis 2007-2011*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 395-414.
- AHRENS S., BRILLI M., COX J., MANIATIS Y., LAPUENTE P., SCARDOZZI G., TAMBAKOPOULOS D., VAN KEUREN F. forthcoming = *Marble sarcophagi from the North-east necropolis of Hierapolis*, in *The North-east Necropolis of Hierapolis. Hierapolis di Frigia*, Istanbul.
- AKAN S.B., ŞİMŞEK Ş. 1997 = *Study of the gas discharges in the Denizli-Pamukkale geothermal area (SW Turkey)*, in H. GÖKÇEKUŞ (ed.), *Proceedings of International Conference on Water Problems in the Mediterranean Countries (Leşkoşa, Turkish Republic of Northern Cyprus, 17-21 November 1997)*, Nicosia, 207-215.
- AKGÜN F., AKYOL E. 2000 = *Palynostratigraphy of the coal-bearing Neogene deposits in Büyük Menderes Graben, western Anatolia*, in *Geobios* 32, 367-383.
- AKGÜN F., SÖZBİLİR H. 2001 = *A palynostratigraphic approach to the SW Anatolian molasse basin: Kale-Tavas Molasse and Denizli Molasse*, in *Geodinamica Acta* 14, 71-93.
- ALADE S., MURIANA O., OLAYINKA H. 2012 = *Modified Volumetric Joint Count to check for suitability of granite outcrops for dimension stone production*, in *Journal of Engineering Science and Technology* 7, 5, 646-660.
- ALBUSTANLIOĞLU T. 2011 = *Roma İmparatorluk Döneminde Mermer Ocakları Organizasyonu*, Ankara.
- ALÇİÇEK H. 2010 = *Stratigraphic correlation of the Neogene basins in southwestern Anatolia. Regional palaeogeographical, palaeoclimatic and tectonic implications*, in *Palaeogeography, Palaeoclimatology, Palaeoecology* 291, 3-4, 297-318.
- ALÇİÇEK H., VAROL B., ÖZKUL M. 2007 = *Sedimentary facies, depositional environments and palaeogeographic evolution of the Neogene Denizli Basin, SW Anatolia, Turkey*, in *Sedimentary Geology* 202, 596-637.
- ALEXAKIS D.D., AGAPIOU A., HADJIMITSIS D.G., SARRIS A. 2012 = *Remote Sensing Applications in Archaeological Research*, in B. ESCALANTE (ed.), *Remote Sensing - Applications*, Rijeka, 435-462.
- ALPASLAN S. 2001 = *Architectural Sculpture in Constantinople and the Influence of the Capital in Anatolia*, in N. NECİPOĞLU (ed.), *Byzantine Constantinople. Monuments, Topography and Everyday Life*, Leiden-Boston-Köln, 187-200.
- ALPASLAN-DOĞAN S. 2008 = *La sculpture byzantine en Lycie et à Antalya: sa place dans l'évolution de l'art byzantin*, in CH. PENNAS, C. VANDERHEYDE (eds.), *La sculpture byzantine: VII^e-XIII^e siècles. Actes du colloque international organisé par la 2^e Éphorie*

- des antiquités byzantines et l'École française d'Athènes* (Athènes, 6-8 Septembre 2000) (BCH Supplément 49), Athènes, 123-138.
- ALTENHÖFER E. 1986 = *Das erste römische Bühnengebäude des Theaters von Milet*, in *Milet 1899-1980 (IstMitt Beiheft 31)*, Tübingen, 163-173.
- ALTUNEL E. 1996 = *Pamukkale travertenlerinin morfolojik özellikleri, yaşları ve neotektonik önemleri*, in *Maden Tetkik ve Arama dergisi* 118, 47-64.
- ALTUNEL E. 2000 = *L'attività sismica a Hierapolis e nelle zone limitrofe*, in D'ANDRIA, SILVESTRELLI 2000, 299-314.
- ALTUNEL E., HANCOCK P.L. 1993a = *Active fissuring and faulting in Quaternary travertines at Pamukkale, western Turkey*, in I.S. STEWART, C. VITA-FINZI, L.A. OWEN (eds.), *Neotectonics and Active Faulting (Zeitschrift für Geomorphologie Supplementband 94)*, Stuttgart, 285-302.
- ALTUNEL E., HANCOCK P.L. 1993b = *Morphological features and tectonic setting of Quaternary travertines at Pamukkale, western Turkey*, in *Geological Journal* 28, 335-346.
- ALTUNEL E., HANCOCK P.L. 1996 = *Structural attributes of travertine-filled extensional fissures in the Pamukkale plateau, western Turkey*, in *International Geology Review* 38, 768-777.
- ALTUNEL E., KARABACAK V. 2005 = *Determination of horizontal extension from fissure-ridge travertines: a case study from the Denizli Basin, southwestern Turkey*, in *Geodinamica Acta* 18, 335-342.
- ALZINGER W. 1979 = *Die Altertümer von Belevi*, in C. PRASCHNIKER, M. THEUER (eds.), *Das Mausoleum von Belevi, FiE VI*, Wien, 167-200.
- AMICI C.M. 2008 = *Dal monumento all'edificio: il ruolo delle dinamiche di cantiere*, in J. JIMENEZ AVILA (ed.), *Sidereum Ana I. El rio Guadiana en época postorientalizante (Anejos de Archivo Español de Arqueología 46)*, Madrid, 17-38.
- AMICI C.M. 2011 = *L'utilizzazione delle catene metalliche nei sistemi voltati di età romana*, in C. GIARDINO (ed.), *Archeometallurgia dalla conoscenza alla fruizione. Atti del Workshop (22-25 maggio 2006, Cavallino - LE)*, Bari, 221-228.
- AMICI C.M. 2015 = *Hidden iron: high tech devices in Roman imperial architecture*, in B. BOWEN, D. FRIEDMAN, T. LESLIE, J. OCHSENDORF (eds.), *Proceedings of the Fifth International Congress on Construction History (Chicago, 3-7 June 2015)*, Chicago, 63-71.
- AMICI C.M. 2016 = *Architettura romana. Dal cantiere all'architetto: soluzioni concrete per idee progettuali (Bibliotheca archaeologica 53)*, Roma.
- AMY R., GROS P. 1979 = *La Maison Carrée de Nîmes* (Supplément à Gallia 38), Paris.
- ANDERSON J.G.C. 1897 = *A Summer in Phrygia I*, in *JHS* 17, 396-424.
- ANDRAE W. 1941 = *Alte Feststrassen im Nahen Osten*, Leipzig.
- ANDREAU J., SCHNAPP A., PANTEL P. 1978 = *Paul Veyne et l'évergétisme*, in *AnnEconSoc-Civ* 33, 307-325.
- ANDREOTTI A., BONADUCE I., COLOMBINI M.P., MODUGNO F., RIBECHINI E. 2009 = *Diagnosis of the yellowing of the marble high reliefs and the black decorations in the chapel of the tomb of Saint Anthony (Padua, Italy)*, in *International Journal of Mass Spectrometry* 284, 123-130.
- ANGELIER J., DUMONT J.F., KARAMANDERESI I.H., POISSON A., ŞİMŞEK Ş., UYSAL Ş. 1981 = *Analyses of fault mechanisms and expansion of South-western Anatolia since the Late Miocene*, in *Tectonophysics* 75, T1-T9.
- ANGUISSOLA A., BOCHICCHIO L., CALABRÒ A., COSTA S. 2013 = *Funerary architecture at Hierapolis in Phrygia: the case of the south-western necropolis*, in L. BOMBARDIERI, A. D'AGOSTINO, G. GUARDUCCI, V. ORSI, S. VALENTINI (eds.), *SOMA 2012. Identity and Connectivity. Proceedings of the 16th Symposium on Mediterranean Archaeology* (Florence, 1-3 March 2012) (BARIntSer 2581), Oxford, 457-466.
- ANGUISSOLA A., BOCHICCHIO L., CALABRÒ A., COSTA S. 2016 = *La Necropoli Sud-Ovest a Hierapolis di Frigia: lo scavo della tomba di Tiberius Claudius Thalamus (S10)*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 503-527.
- ANTONELLI F., LAZZARINI L. 2015 = *An updated petrographic and isotopic reference database for white marbles used in antiquity*, in *Rendiconti Lincei Scienze Fisiche e Naturali* 26, 399-413.

- ANTONELLI F., LAZZARINI L., CANCELLIERE S., DESSANDIER D. 2009 = *Minero-petrographic and Geochemical Characterization of Greco Scritto Marble from Cap de Garde, near Hippo Regius (Annaba, Algeria)*, in *Archaeometry* 51, 3, 351-365.
- ANTONELLI F., LAZZARINI L., CANCELLIERE S., DESSANDIER D. 2010 = *On the white and coloured marbles of the Roman town of Cuicul (Djemila, Algeria)*, in *Archaeometry* 52, 4, 575-596.
- ARTHUR P. 2006 = *Hierapolis bizantina e turca (Pamukkale). Guida archeologica/Byzantine and Turkish Hierapolis*, Istanbul.
- ARTHUR P., BRUNO B. 2007 = *Hierapolis di Frigia in età medioevale (scavi 2001-2003)*, in D'ANDRIA, CAGGIA 2007, 511-529.
- ASGARI N. 1977 = *Die Halbfabrikate kleinasiatischer Girlandensarkophage und ihre Herkunft*, in *AA*, 329-380.
- ASGARI N. 1979 = *Anadolu'da Antik Mermer Ocakları*, in 8. Türk Tarih Kurumu Kongresi (Ankara, 11-15 Ekim 1976), Ankara, 451-456.
- ASGARI N. 1992 = Unpublished report.
- ASGARI N. 1995 = *The Proconnesian Production of Architectural Elements in Late Antiquity, Based on Evidence from the Marble Quarries*, in C. MANGO, G. DAGRON (eds.), *Constantinople and its Hinterland. Papers from the Twenty-seventh Spring Symposium of Byzantine Studies* (Oxford, April 1993), Aldershot, 263-288.
- ASGARI N., MATTHEWS KJ. 1995 = *The stable isotope analysis of marble from Proconnesos*, in Y. MANIATIS, N. HERZ, Y. BASIAKOS (eds.), *The study of marble and other stones used in the antiquity*, London, 123-129.
- ASPINALL A., GAFFNEY C., SCHMIDT A. 2008 = *Magnetometry for archaeologists*, New York.
- ATLANTE 2008 = D'ANDRIA F., SCARDOZZI G., SPANÒ A. (eds.), *Atlante di Hierapolis di Frigia, Hierapolis di Frigia II*, Istanbul.
- ATLANTE 2015 = SCARDOZZI G. (ed.), *Nuovo Atlante di Hierapolis di Frigia. Cartografia archeologica della città e delle necropoli, Hierapolis di Frigia VII*, Istanbul.
- ATTANASIO D. 2003 = *Ancient White Marbles. Analysis and Identification by Paramagnetic Resonance Spectroscopy*, Roma.
- ATTANASIO D., ARMIENTO G., BRILLI M., EMANUELE M.C., PLATANIA R., TURI B. 2000 = *Multimethod marble provenance determinations: the Carrara marbles as a case study for the combined use of isotopic, electron spin resonance and petrographic data*, in *Archaeometry* 42, 2, 257-272.
- ATTANASIO D., BRILLI M., BRUNO M. 2008 = *The properties and identification of marble from Proconnesos (Marmara Island, Turkey): a new database including isotopic, EPR and petrographic data*, in *Archaeometry* 50, 5, 747-774.
- ATTANASIO D., BRILLI M., OGLE N. 2006 = *The isotopic signature of classical marbles*, Roma.
- ATTANASIO D., BRUNO M., PROCHASKA W., YAVUZ A.B. 2012 = *Aphrodisian marble from the Göktepe quarries: the little barbarians, Roman copies from the Attalid dedication in Athens*, in *BSR* 80, 65-87.
- ATTANASIO D., BRUNO M., PROCHASKA W., YAVUZ A.B. 2015a = *A multi-method database of the black and white marbles of Göktepe (Aphrodisias), including isotopic, EPR, trace and petrographic data*, in *Archaeometry* 57, 2, 217-245.
- ATTANASIO D., BRUNO M., PROCHASKA W., YAVUZ A.B. 2015b = *Analysis and discrimination of Phrygian and other Pavonazzetto-like marbles*, in PENSABENE, GASPARINI 2015, 753-764.
- ATTANASIO D., BRUNO M., YAVUZ A.B. 2009 = *Quarries in the region of Aphrodisias: the black and white marbles of Göktepe (Muğla)*, in *JRA* 22, 313-348.
- ATTANASIO D., BRUNO M., YAVUZ A.B. 2014 = *On the provenance of some sculptural and decorative marbles used at Aphrodisias*, in *RendLinc* 9, 25, 105-151.
- ATTANASIO D., BRUNO M., YAVUZ A.B., ELÇİ H. 2008 = *Aphrodisias and the Newly Discovered Quarries at Göktepe*, in R.R.R. SMITH, J.L. LENAGHAM (eds.), *Roman Portraits from Aphrodisias*, Istanbul, 217-227.
- ATTANASIO D., PENSABENE P. 2002 = *I marmi del teatro di Hierapolis*, in DE BERNARDI FERRERO 2002a, 69-85.

- ATTANASIO D., YAVUZ A.B., BRUNO M., HERRMANN J.J. JR., TYKOT R.H., VAN DEN HOEK A. 2012 = *On the Ephesian origin of greco scritto marble*, in GUTIÉRREZ GARCIA, LAPUENTE, RODÀ 2012, 245-254.
- AURENHAMMER M. 1990 = *Die Skulpturen von Ephesos. Bildwerke aus Stein. Idealplastik 1, FiE X, 1*, Wien.
- AURENHAMMER M., PLATTNER G.A. 2014 = *Der Erosen-/Satyrfries vom Theater in Ephesos*, in E. TRINKL (ed.), *Akten des 14. Österreichischen Archäologentages* (Graz, 19.-21. April 2012), Wien, 47-62.
- AYLWARD W., CARLSON D., LAROCHE D., MORETTI J. C., PIKE S. 2012 = *The Temple of Apollo at Claros and the Kizilburun shipwreck: preliminary analysis of isotopic data*, in GUTIÉRREZ GARCIA, LAPUENTE, RODÀ 2012, 540-548.
- BACCI M. 2000 = *UV-VIS-NIR, FT-IR, and FORS spectroscopies*, in E. CILIBERTO, G. SPOTO (eds.), *Modern Analytical Methods in Art and Archaeology* (Chemical Analyses Series 155), New York, 321-361.
- BACHMANN M. (ed.) 2009 = *Bautechnik im antiken und vorantiken Kleinasien. Internationale Konferenz* (Istanbul, 13.-16. Juni 2007) (Byzas 9), Istanbul.
- BAĞCI M., KIBICI Y., YILDIZ A., TEZCAN AKINCI Ö. 2010 = *Petrographical and geochemical investigation of the Triassic marbles associated with Menderes massif metamorphics, Kavaklıdere, Muğla, SW Turkey*, in *Journal of Geochemical Exploration* 107, 39-55.
- BAI T., POLLARD D. 2000 = *Fracture Spacing in Layered Rocks. A New Explanation based on the Stress Transition*, in *Journal of Structural Geology* 22, 43-57.
- BAIER CH. 2006 = *Kaiserzeitliche Konsolengeisa in Kleinasien. Untersuchungen zur Bauornamentik von flavischer bis in severischer Zeit am Beispiel Ephesos* (unpublished master thesis), Wien.
- BAIER CH. 2014 = *Zum Nutzen multivariater Analyseverfahren für die Erforschung von Fertigungsprozessen antiker Bauornamentik am Beispiel des Nymphäums des C. Laecanius Bassus in Ephesos*, in LIPPS, MASCHKE 2014b, 69-83.
- BALLANCE M.H. 1966 = *The origin of Africano*, in *BSR* 34, 79-81.
- BALTSAVIAS E., GRUEN A., EISENBEISS H., ZHANG L., WASER L.T. 2008 = *High-quality image matching and automated generation of 3D tree models*, in *International Journal of Remote Sensing* 29, 5, 1243-1259.
- BANKEL H. 1989-1990 = *Knidos. Neue Forschungen im antiken Stadtgebiet*, in *NüBLA* 6, 17-21.
- BANKEL H. 1997 = *Knidos. Der hellenistische Rundtempel und sein Altar. Vorbericht*, in *AA*, 51-71.
- BARATTOLO A. 1982 = *Afrodisia e Roma: nuove testimonianze per la storia della decorazione*, in *RM* 89, 133-151.
- BARBIERI M., TESTA G., MEROLA D., POLYCHRONAKIS Y., SIMITZIS V. 2002 = *Comparative strontium-isotope analysis and petrography of Egyptian and Cretan limestone and calcite-alabaster*, in LAZZARINI 2002a, 415-425.
- BARBIN V., RAMSEYER K., DÉCROUEZ D., HERB R. 1989 = *Marbres blancs: caractérisation par cathodoluminescence*, in *Comptes Rendus de l'Académie des Sciences* 308, 2, 861-866.
- BARBIN V., RAMSEYER K., DÉCROUEZ D., BURNS S.J., CHAMAY J., MAIER J.L. 1992 = *Cathodoluminescence of white marbles: an overview*, in *Archaeometry* 34, 2, 175-183.
- BARCÈLO J. 2001 = *Virtual Reality for archaeological explanation beyond "picturesque" reconstruction*, in *ACalc* 12, 221-244.
- BARCÈLO J., FORTE M., SANDERS D. (eds.) 2003 = *Virtual Reality in Archaeology*, Oxford.
- BARKER S., RUSSELL B. 2012 = *Labour Figures for Roman Stone-Working. Pitfalls and Potential*, in CAMPOREALE, DESSALES, PIZZO 2012, 83-94.
- BARRESI P. 2003 = *Province dell'Asia Minore. Costo dei marmi, architettura pubblica e committenza* (Studia archaeologica 125), Roma.
- BARRESI P. 2004 = *Anfiteatro flavio di Pozzuoli, portico in summa cavea: una stima dei costi*, in E.C. DE SENA, H. DESSALES (eds.), *Metodi e approcci archeologici. L'industria e il commercio nell'Italia antica - Archaeological Methods and Approaches. Industry and Commerce in Ancient Italy* (BARIntSer 1262), Oxford, 262-267.

- BARRESI P. 2015 = *Calculating the cost of columns: the case of the Temple of Apollo at Didyma*, in PENSABENE, GASPARINI 2015, 933-940.
- BARRIER E., VRIELYNCK B. 2008 = *MEBE Atlas of Paleotectonic maps of the Middle East. Commission for the Geological Map of the World*, Paris.
- BARSANTI C. 1988 = *Scultura anatolica in epoca mediobizantina*, in C. BARSANTI, A. GUIGLIA GUIDOBALDI, A. IACOBINI (eds.), *Atti della giornata di studio. Gruppo Nazionale di Coordinamento C.N.R. "Storia dell'Arte e della Cultura Artistica Bizantina"* (Milion. Studi e ricerche d'arte bizantina 1), Roma, 275-306.
- BARSANTI C. 2004 = *Le transenne. Gli elementi marmorei di reimpiego*, in A. GUIGLIA GUIDOBALDI, C. BARSANTI (eds.), *Santa Sofia di Costantinopoli. L'arredo marmoreo della Grande Chiesa giustiniana*, Città del Vaticano, 489-529.
- BARSANTI C. 2007 = *La scultura mediobizantina fra tradizione e innovazione*, in F. CONCA, G. FIACCADORI (eds.), *Bisanzio nell'età dei Macedoni. Forme della produzione letteraria e artistica. VIII Giornata di Studi Bizantini* (Milano, 15-16 marzo 2005), Milano, 5-49.
- BARSANTI C. 2008 = *Una nota sulla diffusione della scultura a incrostazione nelle regioni adriatiche del meridione d'Italia tra XI e XIII secolo*, in C. PENNAS, C. VANDERHEYDE (eds.), *La sculpture byzantine: VII^e-XII^e siècles. Actes du colloque international organisé par la 2^e Ephorie des antiquités byzantines et l'École française d'Athènes* (6-8 Septembre 2000) (BCH Supplément 49), Paris, 515-557.
- BARSANTI C. 2014 = *Una rara scultura costantinopolitana di epoca paleologa a Murano*, in *VenArt* 27, 24, 10-25.
- BARSANTI C. 2016 = *Scultura dipinta a Bisanzio*, in P.A. ANDREUCCETTI, D. BINDANI (eds.), *Il Colore nel Medioevo. Arte, Simbolo, Tecnica. Tra materiali costruttivi e colori aggiunti: mosaici, intarsi e plastica lapidea. Atti delle Giornate di Studio* (Lucca, 24-26 ottobre 2013), Lucca, 61-85.
- BARSANTI C., PEDONE S. 2005 = *Una nota sulla scultura ad incrostazione e il templon della Panaghia Episcopi di Santorini*, in *Mélanges Jean-Pierre Sodini* (Travaux et Mémoires 15), Paris, 405-425.
- BARSOTTELLI M., FRATINI F., GIORGETTI G., MANGANELLI DEL FA' C., MOLLI G. 1998 = *Microfabric and alteration in Carrara marble: a preliminary study*, in *Science and Technology for Cultural Heritage* 7, 2, 115-126.
- BARTOLI D.G. 2008 = *Marble Transport in the Time of the Severans. A New Analysis of the Punta Scifo. A Shipwreck at Croton, Italy*, Ph.D. dissertation, Texas A&M University (<http://oaktrust.library.tamu.edu/handle/1969.1/ETD-TAMU-2871>).
- BARTOLUCCI D. 2009 = *Principi di Laser scanning 3D*, Palermo.
- BAŞARAN C. 1999 = *Anadolu Kompozit Baslıkları*, Istanbul.
- BASILE G. 1989 = *Che cos'è il restauro*, Roma.
- BAXANDALL M. 1988² = *Painting and Experience in Fifteenth-Century Italy. A Primer in the Social History of Pictorial Style*, Oxford.
- BEAN G.E. 1980 = *Turkey beyond the Maeander, an Archaeological Guide*, London.
- BEAN G.E., MITFORD T.B. 1970 = *Journeys in Rough Cilicia, 1964-1968* (DenkschrWien 102), Wien.
- BECKMANN M. 2009 = *Survey and Excavation at Nysa on the Meander, 2009. The Gymnasium Portico and Palaestra*, in *Mouseion* 53, 125-142.
- BECKER TH. 2003 = *Griechische Stufenanlagen. Untersuchungen zur Architektur, Entwicklungsgeschichte, Funktion und Repräsentation*, Münster, 217-259.
- BEJOR G. 1991 = *Hierapolis. Scavi e Ricerche III. Le statue* (Archaeologica 99), Roma.
- BEJOR G. 2000 = *Per una ricerca di Laodicea ellenistica*, in G. TRAVERSARI (ed.), *Laodicea di Frigia I (RdA Supplementi 24)*, Roma, 15-23.
- BEJOR G. 2002 = *Il teatro di Hierapolis. Appunti sulle stratigrafie dell'iposcenio*, in DE BERNARDI FERRERO 2002a, 45-50.
- BEJOR G., BONETTO J. 2000 = *La ricognizione del 1999: dalla Porta Efesia all'Agorà Occidentale*, in G. TRAVERSARI (ed.), *Laodicea di Frigia I (RdA Supplementi 24)*, Roma, 105-124.
- BELKE K., MERSICH N. 1990 = *Phrygien und Pisidien, Tabula Imperii Bizantini* 7, Wien.

- BENNARDI D., FURFERI R. 2007 = *Restauro Virtuale. Tra ideologia e metodologia*, Firenze.
- BENTKOWSKA-KAFEL A., DENARD H., BAKER D. 2012 = *Paradata and Transparency in Visual Heritage*, London.
- BERNARD S. G. 2013 = *The Transport of Heavy Loads in Antiquity. Lifting, Moving, and Building in Ancient Rome*, in S. ALTEKAMP, C. MARCKS-JACOBS, P. SEILER (eds.), *Perspektiven der Spolienforschung I. Spolierung und Transposition*, Berlin, 99-122.
- BERNOULLI D., DE GRACIANSKY P.C., MONOD O. 1974 = *The extension of the Lycian nappes (SW Turkey) into the southeastern Aegean islands*, in *Eclogae Geologicae Helvetiae* 67, 39-90.
- BERNS C. 2011 = *Review to ISMAELLI 2009*, in *Gnomon* 83, 471-473.
- BERNS C., VON HESBERG H., VANDEPUT L., WAELEKENS M. (eds.) 2002 = *Patris und Imperium: kulturelle und politische Identität in den Städten der römischen Provinzen Kleinasien in der frühen Kaiserzeit* (Köln, 19.-21. November, 1998) (BABesch Supplement 8), Leuven.
- BERTI F. 1975 = *Materiale dai vecchi scavi del Palazzo di Teodorico, II, Elementi di decorazione architettonica e frammenti diversi*, in *FelRav* 109-110, 97-127.
- BEVILACQUA L. 2013 = *Arte e aristocrazia a Bisanzio nell'età dei Macedoni: Costantinopoli, la Grecia, l'Asia Minore*, Roma.
- BEYKAN M. 1988 = *The marble architectural elements in export-form from the Şile shipwreck*, in HERZ, WAELEKENS 1988, 127-137.
- BIEBER M. 1961 = *The History of the Greek and Roman Theater*, Princeton.
- BİNGÖL O. 1980 = *Das ionische Normalkapitell in hellenistischer und römischer Zeit in Kleinasien (IstMitt Beiheft 20)*, Tübingen.
- BİNGÖL O. 2004 = *Arkeolojik Mimari de Taş*, Istanbul.
- BİNGÖL O. 2012a = *Neue Erkenntnisse am Tempel der Artemis Leukophryene in Magnesia*, in TH. SCHULZ (ed.), *Dipteros und Pseudodipteros. Bauhistorische und archäologische Forschungen. Internationale Tagung* (Regensburg, 13.-15. November 2009) (Byzas 12), Istanbul, 113-121.
- BİNGÖL O. 2012b = *Bu Koca Taşları Nasıl İşlediler, Nasıl Kaldırdılar*, Ankara.
- BİNGÖL O. 2012c = *The conservation work in the theatron at Magnesia*, in MASINO, MIGHETTO, SOBRÀ 2012, 69-78.
- BITTERER T. 2013 = *Marmorverkleidung stadtrömischer Architektur. Öffentliche Bauten aus dem 1. Jahrhundert v. Chr. bis 7. Jahrhundert n. Chr.*, München, PhD Thesis.
- BLANC A., BLANC P. 2012 = *Ancient Uses of the Roman Breccia (Brèche des Romains) in Gaul*, in GUTIÉRREZ GARCIA, LAPUENTE, RODÀ 2012, 487-492.
- BLANC P. 1999 = *La quantification de la cathodoluminescence des marbres blancs et de leurs minéraux accessoires*, in SCHVOERER 1999, 45-54.
- BLANC P., BROMBLET P., LEROUX L. 2012 = *White marbles provenance study of Caesar's head and other major sculptures found in the Rhône River at Arles (France)*, in GUTIÉRREZ GARCIA, LAPUENTE, RODÀ 2012, 401-406.
- BLID J. 2010 = *Archaeological investigations at the "West Church"*, in *Opuscula* 3, 30-51.
- BLID J. 2012 = *Felicitium Temporum Reparatio. Labraunda in Late Antiquity (c. AD 300-600)*, Stockholm.
- BLÜMEL W. 1995 = *Inchriften aus Karien I*, in *EpigrAnat* 25, 35-64.
- BLÜMEL W., OLSHAUSEN E. 2002 = *Teos*, in *DNP* 12,1, 137-139.
- BOATWRIGHT M.T. 2000 = *Hadrian and the Cities of the Roman Empire*, Princeton.
- BOGGS S. JR., KRINSLEY D. 2006 = *Application of cathodoluminescence imaging to the study of sedimentary rocks*, Cambridge.
- BOINEAU A., PERRIER R. 1995 = *La décohésion granulaire, maladie des revêtements de façades en marbres*, in *Mines et Carrières-Industrie Minière*, Aout-September, 69-77.
- BOLMAN E.S. 2010 = *Painted Skins. The Illusions and Realities of Architectural Polychromy, Sinai and Egypt*, in S.E.J. GERSTEL, R. NELSON (eds.), *Approaching the Holy Mountain. Art and Liturgy at St Catherine's Monastery in the Sinai*, Turnhout, 119-140.
- BONETTO J., CAMPOREALE S., PIZZO A. (eds.) 2014 = *Arqueología de la construcción IV. Las canteras en el mundo antiguo: sistemas de explotación y procesos productivos* (Pa-

- dova, 22-24 de noviembre de 2012) (Anejos de Archivo Español de Arqueología 69), Madrid-Mérida.
- BORCHHARDT J. 1974 = *Ein Kenotaph für Gaius Caesar*, in *JdI* 89, 217-241.
- BORCHHARDT J. 1991 = *Ein Ptolemaion in Limyra*, in *RA*, 309-322.
- BORG B. 2001 = *Marmor für Apoll. Ein Beitrag zur Baugeschichte des jüngeren Didymaion und der historischen Topographie seiner Umgebung*, in J. BERGEMANN (ed.), *Wissenschaft mit Enthusiasmus. Beiträge zu antiken Bildnissen und zur historischen Landeskunde, Klaus Fittschen gewidmet* (Internationale Archäologie. Studia honoraria 14), Rahden-Leidorf, 79-101.
- BORG B., BORG G. 2002 = *The history of Apollo's Temple at Didyma, as told by marble analyses and historical sources*, in LAZZARINI 2002a, 271-278.
- BORGHINI G. (ed.) 1989 = *Marmi antichi* (Materiali della cultura artistica 1), Roma.
- BORGIA E. 2012 = *Attestazioni epigrafiche di mestieri legati alla costruzione nell'Asia Minore romana e proto-bizantina: specializzazioni e ruolo sociale*, in CAMPOREALE, DESALES, PIZZO 2012, 53-68.
- BOSCHUNG D., PFANNER M. 1988 = *Antike Bildhauertechnik. Vier Untersuchungen an Beispielen in der Münchner Glyptothek*, in *MüJb* 39, 7-28.
- BOTTICELLI G., CHIARI G., MATTEINI M., CARSON D., FRATINI F. 2010 = *Ammonium phosphate-based treatment: an innovative mineral-inorganic approach for the consolidation of mural paintings. Pilot tests and scientific investigation, ICOM Interim Meeting - Scientific Research Working Group* (Pisa, 7-8 October 2010), oral communication.
- BOTTICELLI G., FRATINI F., MATTEINI M., RESCIC S. 2011 = *Consolidamento di manufatti lapidei calcarei mediante fosfati ammoniaci. Un trattamento di grande interesse tuttora in fase sperimentale*, in *Scienza e Beni Culturali: Governare l'innovazione. Atti del convegno* (Bressanone, 21-24 giugno 2011), Padova, 693-702.
- BOULAY T., PONT A.-V. 2014 = *Chalkêtôr en Carie* (Mémoire de l'Académie des Inscriptions et Belles Lettres 48), Paris.
- BOURAS L.P.H., TAFT R.F. 1991 = *Ambo*, in A.P. KAZHDAN (ed.), *The Oxford Dictionary of Byzantium* I, New York-Oxford, 75-76.
- BOYD S. 1999 = *Champlevé production in Early Byzantine Cyprus*, in N. PATTERSON SEVCENKO, C. MOSS (eds.), *Medieval Cyprus. Studies in Art, Architecture and History in Memory of Doula Mouriki*, Princeton, 49-70.
- BOYD S. 2000 = *The Relief Decoration of the Church Building at Seleucia Pieria*, in C. KONDOLÉON (ed.), *Antioch. The Lost Ancient City*, Princeton, 220-222.
- BOYD S. 2007 = *The Champlevé Revetments*, in A.H.S. MEGAW (ed.), *Kourion. Excavations in the Episcopal Precinct* (Dumbarton Oaks Studies 38), Washington, 235-320.
- BOZKURT E. 2000 = *Timing of extension on the Büyük Menderes Graben, western Turkey, and its tectonic implications*, in E. BOZKURT, J.A. WINCHESTER, J.D.A. PIPER (eds.), *Tectonics and Magmatism of Turkey and the Surrounding Area* (Geological Society London Special Publications 173), 385-403.
- BOZKURT E. 2003 = *Origin of NE-trending basins in western Turkey*, in *Geodinamica Acta* 16, 61-81.
- BOZKURT E. 2004 = *Granitoid rocks of the southern Menderes Massif (south-west Turkey): field evidence for Tertiary magmatism in an extensional shear zone*, in *International Journal of Earth Science* 93, 52-71.
- BOZKURT E., MITTWEDE S.K. 2005 = *Introduction: evolution of continental extensional tectonics of western Turkey*, in *Geodinamica Acta* 18, 153-165.
- BOZKURT E., OBERHÄNSLI R. 2001 = *Menderes Massif (western Turkey): structural, metamorphic and magmatic evolution - a synthesis*, in *International Journal of Earth Science* 89, 679-708.
- BOZKURT E., PARK R.G., WINCHESTER J.A. 1993 = *Evidence against the core/cover interpretation of the southern sector of the Menderes Massif, west Turkey*, in *Terra Nova* 5, 445-451.
- BOZKURT E., PARK R.G., WINCHESTER J.A. 1995 = *Geochemistry and tectonic significance of augen gneisses from the southern Menderes Massif (West Turkey)*, in *Geological Magazine* 132, 287-301.
- BOZKURT E., WINCHESTER J.A., YİĞİTBAŞ E., OTTLEY C.J. 2008 = *Proterozoic ophiolites and*

- mafic-ultramafic complexes marginal to the Istanbul Block: an exotic terrane of Avalonian affinity in NW Turkey*, in *Tectonophysics* 461, 240-251.
- BOZZA S. 2016 = *Architettura ionica a Hierapolis di Frigia*, Università Cattolica del Sacro Cuore, Milano, PhD Thesis.
- BRANDT J.R., HAGELBERG E., BJØRNSTAD G., AHRENS S. 2016 = *Life and Death in Asia Minor in Hellenistic, Roman, and Byzantine Times. Studies in Archaeology and Bioarchaeology* (Studies in Funerary Archaeology 10), Oxford.
- BRANDT H., KOLB F. 2005 = *Lycia et Pamphylia. Eine römische Provinz im südwesten Kleinasien*, Mainz.
- BREUSS O., JOHN V. 2004 = *New and interesting records of lichens from Turkey*, in *Österreichische Zeitschrift für Pilzkunde* 13, 281-294.
- BREZZA L. 1870 = *Iscrizioni dei marmi grezzi*, in *AdI* 42, 106-204.
- BRILLI M., CAVAZZINI G., TURI B. 2005 = *New data of $^{87}\text{Sr}/^{86}\text{Sr}$ ratio in classical marble: an initial database for marble provenance determination*, in *JASc* 32, 1543-1551.
- BRILLI M., GIUSTINI F., CONTE A.M., LAPUENTE MERCADAL P., QUARTA G., ROYO PLUMED H., SCARDOZZI G., BELARDI G. 2015 = *Petrography, geochemistry, and cathodoluminescence of ancient white marble from quarries in the southern Phrygia and northern Caria regions of Turkey. Considerations on provenance discrimination*, in *JASc, Reports* 4, 124-142.
- BRILLI M., GIUSTINI F., FAYEK ALI ELMOUGHAZI A., BARONE P.M., SCARDOZZI G. 2017 = *Characterizing the alabastro listato or fiorito of Hierapolis in Phrygia: a simple method to identify its provenance using carbon stable isotopes*, in *Archaeometry*.
- BRINGMANN K., VON STEUBEN H. (eds.) 1995-2000 = *Schenkungen hellenistischer Herrscher an griechische Städte und Heiligtümer I-II*, Berlin.
- BRIZIO A.M. 1996 = *Il rilievo dei monumenti antichi nei disegni di architettura della prima metà del Cinquecento*, Roma.
- BROGI A., CAPEZZUOLI E., ALÇIÇEK M.C., GANDIN A. 2014 = *Evolution of a fault-controlled fissure-ridge type travertine deposit in the western Anatolia extensional province: the Çukurbağ fissure-ridge (Pamukkale, Turkey)*, in *Journal of the Geological Society* 171, 425-441.
- BRÜCKNER H. 2012 = *Ephesos. Paläogeografie*, in *Wissenschaftlicher Jahresbericht des Österreichischen Archäologischen Instituts*, 46-49.
- BRÜCKNER H. 2014 = *Ephesos. Paläogeografie*, in *Wissenschaftlicher Jahresbericht des Österreichischen Archäologischen Instituts*, 29-31.
- BRUN J.-P., FACCENNA C. 2008 = *Exhumation of high-pressure rocks driven by slab rollback*, in *Earth and Planetary Science Letters* 272, 1-7.
- BRUNO M. 1998 = *Su una cava d'alabastro del Circeo in località "la Batteria"*, in *PENSABENE* 1998a, 213-22.
- BRUNO M. 2002a = *Alabaster quarries near Hierapolis (Turkey)*, in *LAZZARINI* 2002a, 19-24.
- BRUNO M. 2002b = *Il mondo delle cave in Italia: considerazioni su alcuni marmi e pietre usati nell'antichità*, in *DE NUCCIO, UNGARO* 2002, 277-90.
- BRUNO M. 2002c = 294. *Rocchio*, in *DE NUCCIO, UNGARO* 2002, 532-533.
- BRUNO M. 2002d = *Considerazioni sulle cave, sui metodi di estrazione, di lavorazione e sui trasporti*, in *DE NUCCIO, UNGARO* 2002, 179-194.
- BRUNO M. 2012 = *Quarry blocks in marmor lassense from the Balık Pazari at Iasos (Turkey)*, in *GUTIÉRREZ GARCIA, LAPUENTE, RODÀ* 2012, 706-714.
- BRUNO M., ATTANASIO D., PROCHASKA W., YAVUZ A.B. 2015 = *An update on the use and distribution of white and black Göktepe marbles from the first century AD to Late Antiquity*, in *PENSABENE, GASPARINI* 2015, 461-468.
- BRUNO M., BIANCHI F. 2015 = *Marmi di Leptis Magna*, Roma.
- BRUNO M., ELÇI H., YAVUZ A.B., ATTANASIO D. 2012 = *Unknown Ancient Marble Quarries of Western Asia Minor*, in *GUTIÉRREZ GARCIA, LAPUENTE, RODÀ* 2012, 562-572.
- BRUNS-ÖZGAN C. 2002 = *Knidos. Ein Führer durch die Ruinen*, Konya.
- BRUNT P.A. 1980 = *Free Labour and Public Works at Rome*, in *JRS* 70, 81-100.

- BRUSINI S. 2001 = *La decorazione scultorea della villa romana di Monte Calvo (RIA 55)*, Roma.
- BUCHWALD H. 1995 = *Notes on the design of aisled basilicas in Asia Minor*, in B. SCHELLEWALD, B. BORKOPP, L. THEIS (eds.), *Studien zur byzantinischen Kunstgeschichte. Festschrift für Horst Hallensleben zum 65. Geburtstag*, Amsterdam, 19-30.
- BUCKLER W.H., CALDER W.M. 1939 = *Monuments and Documents from Phrygia and Caria, MAMA VI*, Manchester.
- BUCKLER W.H., CALDER W.M., GUTHRIE W.K.C. 1933 = *Monuments and Documents from Eastern Asia and Western Galatia, MAMA IV*, Manchester.
- BUGINI R., TONIOLO L. 1990 = *La presenza di grumi bianchi nelle malte antiche: ipotesi sull'origine*, in *Arkos* 12, 4-8.
- BUICK I.S., HOLLAND T.J.B. 1989 = *The P-T-t path associated with crustal extension, Naxos, Cyclades, Greece*, in J.S. DALY, R.A. CLIFF, B.W.D. YARDLEY (eds.), *Evolution of Metamorphic Belts*, London, 365-369.
- BURCHFIEL B.C., NAKOV R., DUMURDZANOV N., PAPANIKOLAOU D.J., TZANKOV T.Z., SERAFIOVSKI T., KING R.W., KOTSEV V., TODOSOV A., NURCE B. 2008 = *Evolution and dynamics of the Cenozoic tectonics of the South Balkan extensional system*, in *Geosphere* 4, 919-938.
- BURTON G.P. = *Provincial Procurators and the Public Provinces*, in *Chiron* 23, 24-26.
- BURFORD A. 1960 = *Heavy Transport in Classical Antiquity*, in *The Economic History Review* 13, 1-18.
- BURFORD A. 1969 = *The Greek Temple Builders at Epidauros*, Liverpool.
- BURRELL B. 2004 = *Neokoroi. Greek Cities and Roman Emperors*, Leiden-Boston.
- BURRELL B. 2009 = *Phrygian for Phrygians: semiotics of "exotic" local marble*, in GUTIÉRREZ GARCIA, LAPUENTE, RODÀ 2012, 780-786.
- BÜYÜKKOLANCI M., ÖZTAŞKIN G.K. 2010 = *Selçuk-Efes Müzesi'nde Sergilenen St. Jean Kilisesi'ne Ait Korkuluk Levhaları ve Templon Arşitavları*, in *Pamukkale Üniversitesi Sosyal Bilimler Enstitüsü Dergisi* 7, 39-49.
- CAGGIA M.P. 2014 = *La collina di San Filippo a Hierapolis di Frigia: osservazioni sulle fasi di occupazione bizantina e selgiuchide (IX-XIV sec.)*, in *ScAnt* 20, 2, Roma, 143-161.
- CAGGIA M.P. 2016a = *Le Terme Ottagonali e le loro trasformazioni in quartiere abitativo: osservazioni sulle fasi di età proto e mediobizantina*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 689-714.
- CAGGIA M.P. 2016b = *Prime indagini sul terrazzo dell'Aghiasma: la chiesa di San Filippo*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 729-765.
- CAGGIA M.P. forthcoming = *Mosaic and opus sectile pavements in the Church of St. Philip in Hierapolis*, in *Proceedings of the 2nd International Symposium on Archaeological Practices. The Lykos Valley and Neighbourhood in Late Antiquity (Laodikeia-Denizli, 22-23 May 2015)*.
- ÇAĞLAR K.Ö. 1961 = *Türkiye maden suları ve kaplıcaları MTA Enstitüsü Yayını. No. 107*, in *Fasikül* 4, Ankara.
- ÇAĞLAYAN A., ÖZTÜRK E., ÖZTÜRK Z., SAV H., AKAT U. 1980 = *Menderes masifi güneyine ait bulgular ve yapısal yorum*, in *Jeoloji Mühendisliği Dergisi* 10, 9-17.
- CAIN H.-U., PFANNER M. 2009 = *Die Agora Milets in der Kaiserzeit und der Spätantike*, in O. DALLY, M. MAISCHBERGER, P.I. SCHNEIDER, A. SCHOLL (eds.), *Zeit Räume. Milet in Kaiserzeit und Spätantike*, Regensburg, 83-95.
- ÇAKIR Z. 1999 = *Along-strike discontinuity of active normal faults and its influence on Quaternary travertine deposition: examples from western Turkey*, in *Turkish Journal of Earth Science* 8, 67-80.
- CAMPAGNA L. 2006 = *Monumental Fountains at Hierapolis of Phrygia during the Severan Age. The Nymphaeum of the Tritons and the Nymphaeum of the Sanctuary of Apollo*, in *Wiplinger* 2006, 387-395.
- CAMPAGNA L. 2007 = *Le recenti indagini al Ninfeo dei Tritoni (Regio II): nuovi dati per lo studio del monumento*, in D'ANDRIA, CAGGIA 2007, 311-332.

- CAMPAGNA L. 2012 = *Ninfeo dei Tritoni. Le ricerche sulla restituzione della facciata*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 533-564.
- CAMPAGNA L., LIMONCELLI M. 2011 = *The Nymphaeum of the Tritons at Hieropolis of Phrygia (Turkey) from excavations to 3D-virtual reconstruction: an example of integrated methods in the study of ancient architecture*, in *Proceedings of the 5th International Congress "Science and Technology for the Safeguard of Cultural Heritage in the Mediterranean Basin" Vol. I* (Istanbul, 22-25 November 2011), Roma, 281-290.
- CAMPAGNA L., SCARDOZZI G. 2013 = *Archeologia delle acque a Hierapolis di Frigia: tematiche principali e metodologie integrate di ricerca*, in H. BRU, G. LABARRE (eds.), *L'Anatolie des peuples, cites et cultures (II^e millénaire av. J.-C. - V^e siècle ap. J.-C.). Autour du projet d'Atlas historique et archéologique de l'Asie Mineure antique. Actes du colloque International* (Besançon, 26-27 novembre 2010), Besançon, 197-220.
- CAMPAGNA L., SULFARO N., TERRANOVA C. 2016 = *Nuove ricerche al Ninfeo del Santuario di Apollo*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 223-235.
- CAMPBELL S.D. 1991 = *The Mosaics of Aphrodisias in Caria*, Toronto.
- CAMPOREALE S., DESSALES H., PIZZO A. (eds.) 2008 = *Arqueología de la construcción I. Los procesos constructivos en el mundo romano: Italia y provincias occidentales* (Mérida, Instituto de Arqueología, 25-26 Octubre 2007) (Anejos de Archivo Español de Arqueología 50), Mérida.
- CAMPOREALE S., DESSALES H., PIZZO A. (eds.) 2010 = *Arqueología de la construcción II. Los procesos constructivos en el mundo romano: Italia y provincias orientales* (Certosa di Pontignano, Siena, 13-15 Noviembre 2008) (Anejos de Archivo Español de Arqueología, 57), Madrid-Mérida.
- CAMPOREALE S., DESSALES H., PIZZO A. (eds.) 2012 = *Arqueología de la construcción III. Los procesos constructivos en el mundo romano: la economía de las obras* (École Normale Supérieure, Paris, 10-11 Diciembre 2009) (Anejos de Archivo Español de Arqueología 64), Madrid-Mérida.
- CAMPOREALE S., PAPI E., PASSALACQUA L. 2008 = *L'organizzazione dei cantieri a Volubilis (Mauretania Tingitana). Iscrizioni e opere pubbliche, la maison aux deux pressoirs e l'arco di Caracalla*, in CAMPOREALE, DESSALES, PIZZO 2008, 285-308.
- CANTISANI E., CANOVA R., FRATINI F., MANGANELLI DEL FA' C., MAZZUOLI R., MOLLI G. 2000 = *Relationships between microstructures and physical properties of white Apuan marbles: inferences on weathering durability*, in *Periodico di Mineralogia* 69, 3, 257-268.
- CANTISANI E., PECCHIONI E., FRATINI F., GARZONIO C.A., MALESANI P., MOLLI G. 2009 = *Thermal stress in the Apuan marbles: relationship between microstructure and petro-physical characteristics*, in *International Journal of Rock Mechanics and Mining Sciences* 46, 128-137.
- CANTZLER H. 2003 = *Improving Architectural 3D Reconstruction by Constrained Modeling*, College of Science and Engineering. School of Informatics, University of Edinburgh, PhD Thesis.
- CAPEDE S., VENTURELLI G. 2004 = *Accessory minerals as tracers in the provenancing of archaeological marbles, used in combination with isotopic and petrographic data*, in *Archaeometry* 46, 4, 517-536.
- CAPEDE S., VENTURELLI G., PHOTIADES A. 2004 = *Accessory minerals and $\delta^{18}O$ and $\delta^{13}C$ of marbles from the Mediterranean area*, in *Journal of Cultural Heritage* 5, 1, 27-47.
- CASADIO F., TONIOLO L. 2001 = *The analysis of polychrome works of art: 40 years of infrared spectroscopic investigations*, in *Journal of Cultural Heritage* 2, 1, 71-78.
- CARETTONI G. 1963-1964 = *Scavo del tempio di Apollo a Hierapolis (rapporto preliminare)*, in *ASAtene* 41-42, 411-433.
- CARRUTHERS M. 2013 = *The Experience of Beauty in the Middle Ages*, Oxford.
- CASAGRANDE L., CAVALLINI P., FRIGERI A., FURIERI A., MARCHESINI I., NETELER M. 2012 = *Gis open source. Grass Gis, Quantum Gis e SpatialLite. Elementi di software libero applicato al territorio*, Palermo.
- CASTRIANNI L. 2015 = *La cinta muraria protobizantina*, in *ATLANTE* 2015, 58-62.
- CASTRIANNI L., DI GIACOMO G., DITARANTO I., SCARDOZZI G. 2010a = *Il geodatabase del-*

- la cinta muraria protobizantina di Hierapolis di Frigia. Tecnologie integrate per la conoscenza del monumento e della città*, in *ACalc* 21, 93-126.
- CASTRIANNI L., DI GIACOMO G., DITARANTO I., SCARDOZZI G. 2010b = *High resolution satellite ortho-images for archaeological research: different methods and experiences in the Near and Middle East*, in *Advances in Geosciences* 24, 97-110.
- CASTRIANNI L., SCARDOZZI G. 2012 = *I resoconti dei viaggiatori alla luce delle recenti ricognizioni archeologiche: la localizzazione di Thiounta e Mossyna nel territorio di Hierapolis*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 81-106.
- CAVALIER L. 2005 = *Architecture romaine d'Asie Mineure. Les monuments de Xanthos et leur ornementation* (Scripta antiqua 13), Paris.
- CATLOS E.J., ÇEMEN I. 2005 = *Monazite ages and the evolution of the Menderes Massif, western Turkey*, in *International Journal of Earth Science* 94, 204-217.
- CEYLAN A., RITTI T. 1997 = *A New Dedication to Apollo Kareios*, in *EpigrAnat* 28, 57-67.
- ÇELİK M., SABAH E. 2008 = *Geological and Technical Characterization of Işçehisar (Afyon-Turkey) Marble Deposits and the Impact of Marble Waste on Environmental Pollution*, in *Journal of Environmental Management* 87, 106-116.
- ÇELİK S.B. 2003 = *Evaluation of Denizli city center lands with respect to geological and geotechnical properties and assessment of their liquefaction susceptibility*, Pamukkale University, Denizli, Turkey, M.Sc. thesis.
- CHAFETZ H.S., RUSH P.F., UTECH N.M. 1991 = *Microenvironmental controls on mineralogy and habit of CaCO₃ precipitates: an example from an active travertine system*, in *Sedimentology* 38, 107-126.
- CHANIOTIS A. (ed.) 2011 = *Ritual Dynamics in the Ancient Mediterranean. Agency, Emotion, Gender, Representation*, Stuttgart.
- CHANIOTIS A., CORSTEN T., STROUD R.S., TYBOUT R.A. 2009 = *Ephesos. The family and house of C. Flavius Furius Aptus*, in *SEG*, 59, 1308.
- CHARTERS S., EVERSHERD R.P., GOAD L.J. 1993 = *Identification of an adhesive used to repair a Roman jar*, in *Archaeometry* 35, 1, 91-101.
- CHRISTOL M., DREW-BEAR T. 1986 = *Documents latins de Phrygie*, in *Tyche* 1, 41-87.
- CHRISTOL M., DREW-BEAR T. 1987 = *Inscriptions de Dokimeion*, in *Anatolia Antiqua* 1, 83-139.
- CHRISTOL M., DREW-BEAR T. 1999 = *Antioche de Pisidie, capitale provinciale et l'œuvre de M. Valerius Diogenes*, in *AntTard* 7, 39-71.
- CHRISTOL M., DREW BEAR T. 2005 = *De Lepcis à Aizanoi: Hesperus Procurateur de Phrygiae et l'administration des carriers de marbre*, in J. DESMULLIEZ, C. HOËT-VAN CAUWENBERGHE (eds.), *Le monde romain à travers l'épigraphie: methods et pratiques*, Villeneuve d'Asq, 189-216.
- CIG = BOECKH A. (ed.), *Corpus Inscriptionum Graecarum I-IV*, Berlin 1828-1877.
- CIL = *Corpus Inscriptionum Latinarum*, Berlin 1862-.
- CIMMA M.R. 1981 = *Ricerche sulle società di publicani*, Milano.
- CIOTTA G., PALMUCCI L. 2002 = *La cattedrale di Hierapolis*, in DE BERNARDI FERRERO 2002a, 179-201.
- CLARIDGE A. 1990 = *Ancient Techniques of Making Joints in Marble Statuary*, in M. TRUE, J. PODANY (eds.), *Marble. Art Historical and Scientific Perspectives on Ancient Sculpture*, Malibu, 135-162.
- COARELLI F. 1987 = *I santuari del Lazio in età repubblicana* (Studi NIS archeologia 7), Roma.
- COARELLI F. 2012 = *Palestrina e il santuario della Fortuna Primigenia*, in H. VON HESBERG, P. ZANKER (eds.), *Storia dell'architettura italiana. Architettura romana. Le città in Italia*, Milano, 298-309.
- ÇOLAK M., LAZZARINI L. 2002 = *Quarries and characterisation of a hitherto unknown alabaster and marble from Thyatira (Akhisar, Turkey)*, in LAZZARINI 2002a, 35-40.
- COLL C., CASELLES V., RUBIO E., SOSPEDRA F., VALOR R. 2001 = *Analysis of thermal infrared data from the Digital Airborne Imaging Spectrometer*, in *International Journal of Remote Sensing* 22, 3703-3718.
- COLLINS A.S., ROBERTSON A.H.F. 1998 = *Processes of Late Cretaceous to Late Miocene*

- episodic thrust-sheet translation in the Lycian Taurides, SW Turkey*, in *Journal of the Geological Society* 155, 759-772.
- CONDIE K.C., WILKS M., ROSEN D.M., ZLOBIN V. 1991 = *Geochemistry of metasediments from the Precambrian Hapschan Series, Eastern Anabar Shield, Siberia*, in *Precambrian Research* 50, 37-47.
- CONNOR C.L. 1997 = *The Color of Ivory. Polychromy on Byzantine Ivories*, Princeton.
- CONYERS L.B. 2004 = *Ground-penetrating Radar for Archaeology*, Walnut Creek.
- CONYERS L.B. 2006 = *Innovative ground-penetrating radar methods for archaeological mapping*, in *Archaeological Prospection* 13, 2, 139-141.
- CONYERS L.B. 2012 = *Interpreting Ground-penetrating Radar for Archaeology*, Walnut Creek.
- CONYERS L.B., DANIELS J.M., HAWS J., BENEDETTI M. 2013 = *An Upper Palaeolithic landscape analysis of coastal Portugal using ground-penetrating radar*, in *Archaeological Prospection* 20, 45-51.
- CONYERS L.B., GOODMAN D. 1997 = *Ground-penetrating Radar. An Introduction for Archaeologists*, Walnut Creek.
- COPLIN T.B., KENDALL C., HOPPLE J. 1983 = *Comparison of stable isotope reference samples*, in *Nature* 302, 236-238.
- CORALINI A., SCAGLIARINI CORLAITA D. (eds.) 2007 = *UT Natura ARS, Atti sull'incontro sulla Virtual Reality applicata all'archeologia*, Bologna.
- CORBIER M. 1980 = *Salaires et salariat sous le Haut-Empire*, in S. MROZEK (ed.), *Les dévaluations à Rome. Époque républicaine et impériale II*, Paris, 61-95.
- CORCELLA A., MONACO M.C., NUZZO E. 2013 = *Ancora su Pausania I 18,9, la cd. Biblioteca di Adriano e il Panellenio*, in *ASAtene* 91, 111-156.
- CORMACK R., VASSILAKI M. (eds.) 2008 = *Byzantium 330-1453, Catalogue of Exposition*, London.
- CORMACK S. 1997 = *Funerary Monuments and Mortuary Practice in Roman Asia Minor*, in S.E. ALCOCK (ed.), *Early Roman Empire in the East*, Oxford, 137-156.
- CORNELIS K., CORNELIUS S.H.J. 1993 = *Manual of Mineralogy*, New York.
- CORREMANS M., DEGRYSE P., WIELGOSZ D., WAELEKENS M. 2009 = *The Import and Use of White Marble and Coloured Stone for Wall and Floor Revetment at Sagalassos*, in GUTIÉRREZ GARCÍA, LAPUENTE, RODÀ 2012, 38-51.
- CORSI F. 1833 = *Delle pietre antiche, trattato di Faustino Corsi romano*, Roma.
- COTTICA D. 2004 = *Pavimenti in opus sectile dall'insula 104 a Hierapolis di Frigia*, in *RdA* 28, 89-106.
- COULTON J.J. 1976 = *The architectural development of the Greek Stoa* (Oxford Monographs on Classical Archaeology), Oxford.
- COUTELAS A., GUYARD L., DAVID C. 2000 = *Pétraarchéologie de mortiers gallo-romains: application de méthodes analytiques à l'étude des thermes du Vieil-Evreux (Eure)*, in *Les Nouvelles de l'Archéologie* 81, 31-36.
- CRAMER T. 2004 = *Multivariate Herkunftsanalyse von Marmor auf petrografischer und geochemischer Basis*, Berlin.
- CRAMER T., GERMANN K., HEILMEYER W.-D. 2002 = *Petrographic and Geochemical Characterization of the Pergamon Altar (Telephos Frieze) Marble in the Pergamon Museum*, Berlin, in LAZZARINI 2002a, 285-291.
- CRAMME ST. 2001 = *Die Bedeutung des Euergetismus für die Finanzierung städtischer Aufgaben in der Provinz Asia*, Köln.
- CRAMPA J. 1969 = *The Greek Inscriptions, period of Olympichos*, in *Labraunda. Swedish Excavations and Research Vol. III, part I* (Skrifter utgivna av Svenska Institutet i Athen 4, V, III.1), Lund, 1-12.
- CRAMPA J. 1972 = *The Greek Inscriptions*, in *Labraunda, Swedish Excavations and Research Vol. III, part II* (Skrifter utgivna av Svenska Institutet i Athen 4, V, III.2), Stockholm, 13-133.
- The Customs Law of Asia* = COTTIER M., CRAWFORD M.H., CROWTHER C.V., FERRARY J.-L., LEVICK B.M., SALOMIES O., WÖRRLE M. (eds.), *The Customs Law of Asia*, Oxford 2008.

- CUVIGNY H., WAGNER G. 1986 = *Ostraca grecs du Mons Claudianus*, in *ZPE* 62, 63-73.
- D'ANDREA A. 2006 = *Documentazione archeologica, standard e trattamento informatico*, Budapest.
- D'ANDREA A., NICCOLUCCI F. 2000 = *L'Archeologia Computazionale in Italia: orientamenti, metodi e prospettive*, in *ACalc* 11, 13-31.
- D'ANDRIA F. 2001 = *Hierapolis of Phrygia: its evolution in Hellenistic and Roman times*, in D. PARRISH (ed.), *Urbanism in Western Asia Minor. New Studies on Aphrodisias, Ephesos, Hierapolis, Pergamon, Perge and Xanthos* (JRA Supplementary Series 45), Rhode Island, 97-115.
- D'ANDRIA F. 2003 = *Hierapolis di Frigia (Pamukkale). Guida archeologica /Hierapolis (Pamukkale), Arkeoloji Rehberi*, Istanbul.
- D'ANDRIA F. 2007 = *Le attività della MAIER - Missione Archeologica Italiana a Hierapolis: 2000-2003*, in D'ANDRIA, CAGGIA 2007, 1-45.
- D'ANDRIA F. 2010 = *Phrygia Hierapolis 'i 2008 yılı çalışmaları*, in *KST* 31, 2 (Denizli, 25-29 Mayıs 2009), Ankara, 213-234.
- D'ANDRIA F. 2011 = *Gods and Amazons in the nymphaea of Hierapolis*, in D'ANDRIA, ROMEO 2011, 151-172.
- D'ANDRIA F. 2011-2012 = *Il santuario e la tomba dell'apostolo Filippo a Hierapolis di Frigia*, in *RendPontAcc* 84, 1-52.
- D'ANDRIA F. 2012a = *Archaeology of the theatre in Hierapolis (Pamukkale)*, in MASINO, MIGHETTO, SOBRÀ 2012, 143-161.
- D'ANDRIA F. 2012b = *Le attività della MAIER - Missione Archeologica Italiana a Hierapolis, 2004-2006*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 1-29.
- D'ANDRIA F. 2013 = *Il Ploutonion a Hierapolis di Frigia*, in *IstMitt* 63, 157-217.
- D'ANDRIA F. 2014 = *Cehennem'den cennet'e Hierapolis. Pluotonion. Aziz Philippus'un Mezarı ve Kutsal Alani*, Istanbul.
- D'ANDRIA F. 2015a = *Phrygia Hierapolis 'i (Pamukkale) / Hierapolis di Frigia (Pamukkale)*, in *Arkeoloji ve Sanat* 148, 99-110.
- D'ANDRIA F. 2015b = *Phrygia Hierapolis Martyrion'u Hakkındaki Bir Kitabın Hikayesi*, in C. ŞİMŞEK, B. DUMAN, E. KONAKÇI (eds.), *C. Mustafa Büyükkolancı'ya Armağan / Essays in Honour of Mustafa Büyükkolancı*, Istanbul, 171-192.
- D'ANDRIA F. 2017 = *The Sanctuary of St Philip in Hierapolis and the tombs of saints in Anatolian cities*, in J.R. BRANDT, E. HAGELBERG, G. BJORNSTAD, S. AHRENS (eds.), *Life and Death in Asia Minor in Hellenistic, Roman and Byzantine times*, Oxford, 3-18.
- D'ANDRIA F. forthcoming (a) = *Saints and Pilgrims in the Lykos Valley (Asia Minor)*, in *Proceedings of the 36th Symposium on Byzantine and Post-Byzantine Art and Archaeology* (Athens, 20-22 May 2016).
- D'ANDRIA forthcoming (b) *Geç Antik Çağ ve Erken Bizans Dönemi'nde Phrygia Hierapolis'i*, in *Proceedings of the 2nd International Symposium on Archaeological Practices. The Lykos Valley and Neighbourhood in Late Antiquity* (Laodikeia-Denizli, 22-23 May 2015).
- D'ANDRIA F. forthcoming (c) = *The Cult of Cybele in Hierapolis of Phrygia*, in *Proceedings of the International Conference* (Anadolu University, Eskişehir, 2-8 November 2015).
- D'ANDRIA F., CAGGIA M.P. (eds.) 2007 = *Le attività delle campagne di scavo e restauro 2000-2003, Hierapolis di Frigia I*, Istanbul.
- D'ANDRIA F., CAGGIA M.P., ISMAELLI T. (eds.) 2012 = *Le attività delle campagne di scavo e restauro 2004-2006, Hierapolis di Frigia V*, Istanbul.
- D'ANDRIA F., CAGGIA M.P., ISMAELLI T. (eds.) 2016 = *Le attività delle campagne di scavo e restauro 2007-2011, Hierapolis di Frigia VIII*, Istanbul.
- D'ANDRIA F., GÜMGÜM G. 2010 = *Archaeology and Architecture in the Martyrium of Hierapolis*, in S. AYBEK, A.K. ÖZ (eds.), *Metropolis Ionia II. The Land of the Crossroads. Essays in Honour of Recep Meriç* (Arkeoloji ve Eskiçağ Tarihi 63), Istanbul, 95-104.
- D'ANDRIA F., MALFITANA D., MASINI N., SCARDOZZI G. (eds.) 2010 = *Il dialogo dei saperi. Metodologie integrate per i Beni Culturali* (Monografie dell'Istituto per i Beni Archeologici e Monumentali 3), Napoli-Roma.

- D'ANDRIA F., RITTI T. 1985 = *Le sculture del teatro. I rilievi con i cicli di Apollo e Artemide, Hierapolis. Scavi e ricerche II* (Archaeologica 54), Roma.
- D'ANDRIA F., ROMEO I. (eds.) 2011 = *Roman Sculpture in Asia Minor. Proceedings of the International Conference to celebrate the 50th anniversary of the Italian excavations at Hierapolis in Phrygia* (Cavallino, Lecce, May 24-26, 2007) (JRA Supplementary Series 80), Portsmouth.
- D'ANDRIA F., ROSSIGNANI M.P. 2012 = *La stoa-basilique de Hiérapolis de Phrygie. Architecture et contexte urbain*, in L. CAVALIER, R. DESCAT, J. DES COURTILS (eds.), *Basiliques et agoras de Grèce et d'Asie Mineure* (Ausonius Mémoires 27), Bordeaux, 127-152.
- D'ANDRIA F., SILVESTRELLI F. (eds.) 2000 = *Ricerche archeologiche turche nella valle del Lycos*, Galatina.
- DAGUET-GAGEY A. 1997 = *Les "opera pubblica" à Rome*, Paris.
- DARBLADE-AU-DOIN M.P., TAMBAKOPOULOS D., MANIATIS Y. 2015 = *Provenance investigation of a marble sculptures from Lyon Museum*, in PENSABENE, GASPARINI 2015, 503-512.
- DE ANGELI S. 1992 = *Templum Divi Vespasiani* (Lavori e Studi 18), Roma.
- DE ANGELIS D'OSSAT M., PALMA VENETUCCI B. (ed.) 2008 = *Culti orientali: tra scavo e collezionismo. Atti del Convegno "Testimonianze di culti orientali tra scavo e collezionismo"* (Roma, 23-24 marzo 2006), Roma, 158-164.
- DE BERNARDI FERRERO D. 1966-1974 = *Teatri classici in Asia Minore I-IV*, Roma.
- DE BERNARDI FERRERO D. 1985 = *Note sulla decorazione architettonica della fronte scena del teatro di Hierapolis*, in D'ANDRIA, RITTI 1985, 19-28.
- DE BERNARDI FERRERO D. 1988 = *Fouilles et restaurations à Hierapolis en 1987*, in KST 10, 2 (Ankara, 23-27 Mayıs 1988), Ankara, 293-300.
- DE BERNARDI FERRERO D. 1993 = *Hierapolis, in Arslantepe, Hierapolis, Iasos, Kyme. Scavi archeologici italiani in Turchia*, Venezia, 143-157.
- DE BERNARDI FERRERO D. 1999 = *Alcune considerazioni sul ninfeo di Hierapolis antistante il tempio di Apollo*, in FRIESINGER, KRINZINGER 1999, 695-702.
- DE BERNARDI FERRERO D. (ed.) 2002a = *Saggi in onore di Paolo Verzone, Hierapolis. Scavi e Ricerche IV* (Archaeologica 137), Roma.
- DE BERNARDI FERRERO D. 2002b = *Architettura e decorazione di età flavia a Hierapolis di Frigia*, in DE BERNARDI FERRERO 2002a, 1-43.
- DE BERNARDI FERRERO D. 2007 = *Il teatro di Hierapolis di Frigia*, in DE BERNARDI FERRERO, CIOTTA, PENSABENE 2007, 17-227.
- DE BERNARDI FERRERO D., CIOTTA G., PENSABENE P. (eds.) 2007 = *Il Teatro di Hierapolis di Frigia. Restauro, architettura ed epigrafia*, Genova.
- DE CHAISEMARTIN N., THEODORESCU D. 1991 = *Recherches préliminaires sur la frons scaenae du théâtre*, in SMITH, ERİM 1991, 29-65.
- DE CHAISEMARTIN N. 2002 = *Continuité dans la thématique décorative hellénistique et nouveaux thèmes idéologiques dans le décor architectural aphrodisien entre Actium et l'époque julio-claudienne*, in BERNIS ET ALII 2002, 233-245.
- DE CHAISEMARTIN N. 2011 = *Remarques sur la syntaxe décorative de la frons scaenae d'Aphrodisias: le rôle des décors en bande*, in D'ANDRIA, ROMEO 2011, 77-90.
- DE CHAISEMARTIN N., THEODORESCU D. 2006 = *Le bâtiment de scène du théâtre d'Aphrodisias: restitution et étude fonctionnelle de la structure scénique*, in Pallas 71, 57-70.
- DE DOMENICO D., GIANNINO F., LEUCCI G., BOTTARI C. 2006 = *Geophysical surveys in the archaeological site of Tindari (Sicily, Italy)*, in JASc 33, 961-970.
- DE FILIPPIS L., FACCENNA C., BILLI A., ANZALONE E., BRILLI M., ÖZKUL M., SOLIGO M., TUCCIMEI P., VILLA I.M. 2012 = *Growth of fissure ridge travertines from geothermal springs of Denizli Basin, western Turkey*, in *Geological Society of America Bulletin* 124, 9-10, 1629-1645.
- DE FILIPPIS L., FACCENNA C., BILLI A., ANZALONE E., BRILLI M., SOLIGO M., TUCCIMEI P. 2013 = *Plateau versus fissure ridge travertines from Quaternary geothermal springs of Italy and Turkey: interactions and feedbacks among fluid discharge, paleoclimate, and tectonics*, in *Earth-Science Reviews* 123, 35-52.

- DE GIORGI M. forthcoming = *Divine Liturgy and Human Skills in the Architectural Sculpture from the Church of the Apostle in Hierapolis (Phrygia)*, in *Proceedings of the 2nd International Symposium on Archaeological Practices. The Lykos Valley and Neighbourhood in Late Antiquity* (Laodikeia-Denizli, 22-23 May 2015).
- DE GIORGI M., PEDONE S. forthcoming = *La scultura bizantina dalla chiesa di San Filippo di Hierapolis di Frigia*.
- DE LA BEAUJARDIÈRE J. 2006 = *OpenGIS® Web Map Server Implementation Specification, Version 1.3.0*, Wayland.
- DE LA BEAUJARDIÈRE J., DOYLE A. 2002 = *Web Map Service Implementation Specification*, Wayland.
- DE LABORDE L. 1838 = *Voyage de l'Asie Mineure*, Paris.
- DE NUCCIO M., UNGARO L. (eds.) 2002 = *I marmi colorati della Roma Imperiale*, Venezia.
- DE RUYT C. 1983 = *Macellum. Marché alimentaire des Romains* (Publications d'histoire de l'art et d'archéologie de l'Université catholique de Louvain 35), Louvain.
- DE STAEBLER P. 2008 = *The City Wall and the Making of a Late Antique Provincial Capital*, in RATTÉ, SMITH 2008, 285-318.
- DEBORD P., VARINLIOĞLU E. 2010 = *Cités de Carie. Harpasa, Bargasa et Orthosia dans l'Antiquité*, Rennes.
- DEGASPERI A. 2013 = *Die Marienkirche in Ephesos: die Bauskulptur aus frühchristlicher und byzantinischer Zeit* (ÖJh Ergänzungsheft 14), Wien.
- DE GROOT-HEDLIN C., CONSTABLE S. 1990 = *Occam's inversion to generate smooth, two dimensional models from magnetotelluric data*, in *Geophysics* 55, 1613-1624.
- DEGRYSE P. (ed.) 2007 = *QuarryScapes Report. The Sagalassos quarry landscape: bringing quarries in context*. Work Package 3, Deliverable no. 3, <http://www.quarryscapes.no/publications.php>.
- DEGRYSE P., WAELEKENS M. 2007 = *Chapter 1: introduction*, in DEGRYSE 2007, 1-7.
- DELAINE J. 1997 = *The Baths of Caracalla. A Study in the Design, Construction, and Economics of Large-scale Building Projects in Imperial Rome* (JRA Supplementary Series 25), Portsmouth.
- DELAINE J. 2000 = *Bricks and Mortar. Exploring the Economics of Building Techniques at Rome and Ostia*, in D.J. MATTINGLY, J. SALMON (eds.), *Economies beyond Agriculture in the Classical World* (Leicester-Nottingham Studies in Ancient Society 9), London, 271-296.
- DELAINE J. 2006 = *The Cost of Creation. Technology at the Service of Construction*, in E. LO CASCIO (ed.), *Innovazione tecnica e progresso economico nel mondo romano. Atti degli incontri capresi di storia dell'economia antica* (Capri, 13-16 aprile 2003), Bari, 237-252.
- DEMETRESCU E. 2012 = *Modellazione 3D, visualizzazione scientifica e realtà virtuale*, in S. GIANOLIO (ed.), *Archeologia Virtuale. La metodologia prima del software. Atti del II Seminario Palazzo Massimo alle Terme* (Roma, 5-6 aprile 2011), Roma, 147-153.
- DEMİREL Z., ŞENTÜRK N. 1996 = *Geology and hydrogeology of deep thermal aquifers in Turkey*, in S.N. AL-BEIRUTI, M.J. BINO (eds.), *Integration of information between oil drilling and hydrogeology of deep aquifers*, Amman.
- DEMİRTAŞ B. 2006 = *Magnesia Artemis tapınağı'nin teknik ve işçilik özellikleri*, Ankara, PhD Thesis.
- DENT WEIL PH. 1967 = *Contributions toward a History of Sculpture Techniques 1. Orfeo Boselli on the Restoration of Antique Sculpture*, in *Studies in Conservation* 12, 3, 81-101.
- DERCOURT J., ZONENSHAIN L.P., RICOU L.-E., KAZMIN V.G., LE PICHON X., KNIPPER A.L., SBORTSHIKOV I.M., GEYSSANT J., LEPVRIER C., PECHERSKY D.H., BOULIN J., SIBUET J.-C., SAVOSTIN L.A., SOROKHTIN O., WESTPHAL M., BAZHENOV M.L., LAUER J.P., BIJUDUVAL B. 2000 = *Atlas Peri-Tethys, palaeogeographical maps, 24 maps and explanatory notes: I-XX*, CCGM/CGMW, Paris.
- DERRICK M.R., STULIK D., LANDRY J.M. 1999 = *Infrared Spectroscopy in Conservation Science*, Los Angeles.
- DES GAGNIERS J. 1969 = *Introduction Historique*, in DES GAGNIERS ET ALII 1969, 1-11.

- DES GAGNIERS J., DEVAMBEZ P., KAHIL L., GINOUVÈS R. (eds.) 1969 = *Laodicée du Lycos. Le Nymphée, Campagnes 1961-1963* (Université Laval Recherches Archéologiques. Série I. Fouilles), Québec-Paris.
- DES GAGNIERS J., TINH T.T. 1985 = *Soloi: dix campagnes de fouilles (1964-1974) I. La Basilique, Sainte-Foy*.
- DESIDERI P. 2007 = *Scrittura pubblica e scritture nascoste*, in F. FONTANELLA (ed.), *Elio Aristide, A Roma* (Testi e commenti 5), Pisa, 3-22.
- DEVREKER J., THOEN H., VERMEULEN F. 1995 = *The Imperial sanctuary at Pessinus and its predecessors: a revision*, in *Anatolia Antiqua* 3, 125-144.
- DEWEY J.F., ŞENGÖR A.M.C. 1979 = *Aegean and surrounding regions: complex multiphase and continuance tectonics in convergent zone*, in *Geological Society of America Bulletin* 90, 84-92.
- DHORN T. 1965 = *Crustae*, in *RM* 72, 124-141.
- DI GIACOMO G., DITARANTO I., LEUCCI G., MICCOLI I., SCARDOZZI G. 2013 = *Integrated Ground-penetrating Radar and Archaeological Surveys in the Ancient City of Hierapolis of Phrygia (Turkey)*, in *Archaeological Prospection* 20, 4, 285-301.
- DI GIACOMO G., DITARANTO I., SCARDOZZI G. 2011 = *Cartography of archaeological surveys taken from an Ikonos stereo pair: a case from Hierapolis of Phrygia territory (Turkey)*, in *JASc* 38, 2051-2060.
- DI GIACOMO G., SCARDOZZI G. 2014 = *Gis Cloud per l'archeologia. Strumenti open source per la gestione e la condivisione dei dati*, in *ACalc25*, 93-112.
- DI GIACOMO G., SCARDOZZI G. 2015 = *A GIScloud system for knowledge, data sharing and management: urban archaeology and smart city solutions for culture and tourism in Lecce (Apulia, Italy)*, in *Proceedings of the 19th International Conference on Cultural Heritage and New Technologies (CHNT19, 2014)*, Wien, 1-18.
- DI GIACOMO G., SCARDOZZI G. forthcoming = *Riprese aeree con pallone aerostatico frenato e droni: esperienze tra ricerca e documentazione archeologica a Hierapolis di Frigia*, in *Archeologia Aerea* 10.
- DI GRAZIA V. 1991 = *Rilievo e disegno nell'archeologia e nell'architettura. Tecniche, opinioni e teorie*, Roma.
- DI NAPOLI V. 2002 = *Il fregio a tema agonistico del teatro di Hierapolis (Frigia). Iconografia e iconologia nell'arte romana imperiale*, in *ASAtene* 80, 379-411.
- Didyma* = REHM A., HARDER R., *Didyma II. Die Inschriften*, Berlin 1958.
- DİLSİZ C. 2006 = *Conceptual hydrodynamic model of the Pamukkale hydrothermal field, southwestern Turkey, based on hydrochemical and isotopic data*, in *Hydrogeology Journal* 14, 562-572.
- DINSTL A. 1986-1987 = *Bauornamentik am Theater von Limyra*, in *ÖJh* 57, 140-219.
- DITARANTO I. 2015 = *La rete dei canali di travertino*, in *ATLANTE* 2015, 63-68.
- DITARANTO I., ISMAELLI T., SCARDOZZI G. forthcoming = *La Stoà delle Sorgenti: le campagne di scavo del 2014-2015 e lo studio dell'arco settentrionale*.
- D'ORONZO C. 2012 = *Strutture di combustione e contesti archeologici: indagine archeobotanica e definizione del protocollo d'intervento*, Università Cattolica del Sacro Cuore, Milano, tesi di Dottorato, <http://hdl.handle.net/10280/1418>.
- DOCCI M., MAESTRI D. 1984 = *Il rilevamento architettonico. Storia, metodi e disegno*, Roma-Bari.
- DODGE H. 1991 = *Ancient marble studies: recent research*, in *JRA* 4, 28-50.
- DOMINGO J.Á. 2013 = *The Differences in Roman Construction Costs: The Workers' Salary*, in *Boreas* 36, 119-143.
- DONATI A. (ed.) 1998 = *Romana pictura. La pittura romana dalle origini all'età bizantina*, Roma.
- DOUGLAS M., LIN S., CHODORONEK M. 2015 = *The applications of 3D Photogrammetry for in-field documentation archaeological features*, in *Journal of Society for American Archaeology* 3, 136-152.
- DOWNEY G. 1959 = *The Tombs of the Byzantine Emperors at the Church of the Holy Apostles in Constantinople*, in *JHS* 79, 27-51.
- DÖRPFELD W. 1902 = *Die Arbeiten zu Pergamon - Die Bauwerke*, in *AM* 27, 10-43.

- DREW-BEAR T., THOMAS C.M., YILDIZTURAN M. 1999 = *Phrygian Votive Steles*, Ankara.
- DREXHAGE H.-J. 1991 = *Preise, Mieten/Pachten, Kosten und Löhne im römischen Ägypten bis zum Regierungsantritt Diokletians. Vorarbeiten zu einer Wirtschaftsgeschichte des römischen Ägyptens 1*, St. Katharinen.
- DUBOIS CH. 1908 = *Étude sur l'administration et l'exportation des carrières de marbre, porphyre, granit, etc., dans le monde romain*, Paris.
- DUMAN B. 2013 = *Son arkeolojik arařtırmalar ve yeni bulgular ışığında Tripolis ad Maeandrum*, in *Cedrus* 1, 179-200.
- DUMAN B. 2016 = *Tripolis'te Gerçekleřtirilen Arkeolojik Arařtırmaların Özeti (2012-2015)*, in *Geçmişten Günümüze Denizli, Özel Sayı* 47, 78-87.
- DUMAN B., BAYSAL H. 2015 = *Tripolis 2. Sezon kazı ve restorasyon raporu: 2013*, in *KST* 36, 2 (Gaziantep, 2-4 Haziran 2014), Ankara, 633-65.
- DUMAN B., BAYSAL H. 2016 = *Tripolis ad Maeandrum 2014 Yılı Kazı, Onarım ve Koruma Çalışmaları*, in *KST* 37, 1 (Erzurum, 11-15 Mayıs 2015), Ankara, 563-584.
- DUNCAN-JONES R. 1982² = *The Economy of the Roman Empire. Quantitative Studies*, Cambridge.
- DUROSOY E., ALTINÖZ A.G.B. 2013 = *The cultural road between Milas and Labraunda*, in *Anatolia Antiqua* 21, 342-350.
- DWORAKOWSKA A. 1983 = *Quarries in Roman Province*, Warsaw.
- DWORAKOWSKA A. 1990 = *Once again on Marmor Lucullaeum*, in M. TRUE, J. PODANY (eds.), *Marble: art historical and scientific perspectives on ancient sculpture. Papers delivered at a symposium organized by the Departments of Antiquities and Antiquities Conservation and held at the J. Paul Getty Museum (Malibu, April 28-30, 1988)*, Malibu, 253-262.
- EASTMAN C., TEICHOLZ P., SACKS R., LISTON K. 2008 = *BIM Handbook. A Guide to Building Information Modeling for Owners, Managers, Designers, Engineers and Contractors*, San Francisco.
- EBERT A., GNOS E., RAMSEYER K., SPANDLER C., FLEITMANN D., BITZIOS D., DECROUEZ D. 2010 = *Provenance of marbles from Naxos based on microstructural and geochemical characterization*, in *Archaeometry* 52, 2, 209-228.
- ECCEL E., ARMAN G., ZOTTELE F., GIOLI B. 2008 = *Thermal infrared remote sensing for high-resolution minimum temperature mapping*, in *Italian Journal of Agrometeorology* 3, 52-61.
- EFE T. 2007 = *The theories of the "Great Caravan Route" between Cilicia and Troy. The early Bronze Age III period in inland Western Anatolia*, in *AnSt* 57, 47-64.
- EHRHARDT N., WEISS P. 1995 = *Trajan, Didyma und Milet. Neue Fragmente von Kaiserbriefen und ihr Kontext*, in *Chiron* 25, 315-355.
- EICHLER F. 1956-1958 = *Eine neue Amazone und andere Skulpturen aus dem Theater von Ephesos*, in *ÖJh* 43, 7-18.
- EKINCI D. 2010 = *The Noticeable Geomorphosites of Turkey*, in *International Journal of Arts and Sciences* 3, 15, 303-321.
- ELÇİ H., TURK N. 2014 = *Rock Mass Block Quality Production Designation for Marble Production*, in *International Journal of Rock Mechanics and Mining Sciences* 69, 26-30.
- ELSNER J. 2007 = *The Rhetoric of Buildings in the De Aedificiis of Procopius*, in L. JAMES (ed.), *Art and Text in Byzantine Culture*, Cambridge, 33-57.
- EMME B. 2013 = *Peristyl und Polis. Entwicklung und Funktionen öffentlicher griechischer Hofanlagen (Urban spaces 1)*, Berlin-Boston.
- ENGELMANN H. 1977 = *Inschriften aus Ephesos*, in *ZPE* 24, 201-204.
- ENGELMANN H. 1996 = *Das Grab des Androklos und ein Olympeion (Pausanias VII 2, 9)*, in *ZPE* 112, 131-134.
- ENGELMANN H., KNIBBE D. 1989 = *Das Zollgesetz der Provinz Asia. Eine neue Inschrift aus 'Ephesos'*, in *EpigrAnat* 14, 1-206.
- ERCAN T., MATSUDA J., NAGAO K., KITA I. 1994 = *Anadolu'daki sıcak sular da bulunan doğal suların izotopik bileşimleri ve karbondioksit gazının enerji açısından önemi*, in *Dünya Enerji Konseyi, Türkiye 6. Enerji Kongresi (Izmir, 17-22 Ekim 1994)*, Izmir, 197-207.
- ERDKAMP P. 2016 = *Seasonal Labour and Rural-Urban Migration in Roman Italy*, in L.

- DE LIGHT, L. TACOMA (eds.), *Migration and Mobility in the Early Roman Empire*, Leiden, 33-49.
- ERDOĞAN E., GÜNGÖR T. 2004 = *The problem of the core-cover boundary of the Mendere Massif and an emplacement mechanism for regionally extensive gneissic granites, western Anatolia (Turkey)*, in *Turkish Journal of Earth Science* 13, 15-36.
- ERİM K.T. 1986 = *Aphrodisias*, New York.
- ERİM K.T. 1997 = *Aphrodisias*, Istanbul.
- ERİM K.T., REYNOLDS J. 1970 = *The Copy of Diocletian's Edict on Maximum Prices from Aphrodisias in Caria*, in *JRS* 60, 120-141.
- ERİM K.T., SMITH R.R.R. 1991 = *Sculpture from the theatre: a preliminary report*, in SMITH, ERİM 1991, 67-98.
- ERTEN H., SEN S., ÖZKUL M. 2005 = *Pleistocene mammals from travertine deposits of the Denizli basin (SW Turkey) / Mammifères pléistocènes dans les travertins du bassin de Denizli (Turquie)*, in *Annales de Paléontologie* 91, 267-278.
- ESCALANTE B. 2012 = *Remote Sensing - Applications*, Rijeka.
- FACCENNA C., JOLIVET L., PIROMALLO C., MORELLI A. 2003 = *Subduction and the depth of convection of the Mediterranean mantle*, in *Journal of Geophysical Research* 108 (B2), 2099.
- FALLA CASTELFRANCHI M. 1994 = *Amboni carii: un caso desueto*, in *Boreas* 17, 49-52.
- FALLA CASTELFRANCHI M. 2015 = *La cultura artistica alla corte di Giustiniano (527-65)*, in *Le corti nell'Alto Medioevo. Atti della LXII settimana di studio della Fondazione Centro Italiano di Studi sull'Alto Medioevo* (Spoleto, 25-29 aprile 2014), Spoleto, 821-852.
- FANCELLI P. 2001 = *Indagini preliminari e diagnostiche. Rilievo storico-critico delle fasi costruttive*, in L. ZEVI (ed.), *Il manuale del restauro architettonico*, Roma, E13.
- FANT J.C. 1987 = *Three Seasons of Epigraphical Survey at the Roman Imperial Quarries at Docimium (Iscehisar) 1983-1985*, in *AST 4.1* (Ankara, 26-30 Mayıs 1986), Ankara, 127-132.
- FANT J.C. 1988 = *Preliminary report of the Teos/Karagöl Survey*, in *AST 5.1* (Ankara, 6-10 Nisan 1987), Ankara 389-401.
- FANT J.C. 1989a = *Poikiloi Lithoi: the anomalous economics of the Roman Imperial marble quarry at Teos*, in S. WALKER, A. CAMERON (eds.), *The Greek Renaissance in the Roman Empire. Papers from the Tenth British Museum Classical Colloquium (BICS Supplement 55)*, London, 206-218.
- FANT J.C. 1989b = *Cavum antrum Phrygiae. The organization and operations of the Roman Imperial marble quarries in Phrygia* (BARIntSer 482), Oxford.
- FANT J.C. 1994 = *Ideology, Gift and Trade. A Distribution Model for the Roman Imperial Marbles*, in W.V. HARRIS, S. PANCIERA (eds.), *The inscribed Economy. Production and Distribution in the Roman Empire in the Light of "instrumentum domesticum"* (JRA Supplementary Series 6), Ann Arbor, 145-170.
- FANT J.C. 1999 = *Augustus and the city of marble*, in SCHVOERER 1999, 277-280.
- FARIOLI CAMPANATI R., BORBOUDAKIS M. 2005 = *Basilica di Métropolis. Scavi 2005*, in *ASAtene* 83, 2, 673-681.
- FARNSWORTH M., SIMMONS I. 1960 = *A Unique Cement from Athens*, in *Hesperia* 29, 118-122.
- FASOLO F., GULLINI G. 1953 = *Il santuario della Fortuna Primigenia a Palestrina*, Roma.
- FERRARI G. 1966 = *Il commercio dei sarcophagi asiatici*, Roma.
- FERRARY J.-L. 2000 = *Les inscriptions du sanctuaire de Claros en l'honneur de Romains*, in *BCH* 124, 331-376.
- FERRARY J.-L. 2014 = *Les mémoriaux de délégations du sanctuaire oraculaire de Claros, d'après la documentation conservée dans le Fonds Louis Robert I-II (MemAcInscr 49)*, Paris.
- FERRER-VIDAL CORTELLA V., MARTINEZ ALONSO S. E., SOLÉ-SUGRANES L. 1993 = *Radio-metric Anomalies Caused by Industrial Activity in Barcelona Suburban Areas*, in *Proceedings of the 25th International Symposium, Remote Sensing and Global Environmental Change Vol. II* (Graz, 4-8 aprile 1993), Ann Arbor, 403-407.
- FILGIS M.N., RADT W. 1986 = *Die Stadtgrabung I. Das Heroon*, *AvP XV, 1*, Berlin.

- FILIPPINI A. forthcoming = *Councillors, Heretics and Archbishops in Late Antique Hierapolis. Recent Epigraphical Findings Concerning the City, its Territory, and the History of Hierapolis' Bishopric (IV-IX cent.)*, in *Proceedings of the 2nd International Symposium on Archaeological Practices. The Lykos Valley and Neighbourhood in Late Antiquity* (Laodikeia-Denizli, 22-23 May 2015).
- FIorentino G., SOLINAS F. 2008 = *Micro-stratigraphical and archaeobotanical approaches to investigating ash deposits in the Apollo Sanctuary in Hierapolis*, in *1. Uluslararası Antik Dönemede Kehanet Apollon'un Anadolu Kültürleri Sempozyum Bildirileri = 1st International Symposium on Oracle in Antiquity and the Cult of Apollo in Asia Minor* (Izmir, 17-20th of August 2005) (*ADerg* 12, 2), 89-98.
- FIRATLI N. 1969 = *Découverte d'une église byzantine à Sébaste de Phrygie*, in *CArch* 19, 151-166.
- FIRATLI N. 1970 = *Uşak-Selçukler kazısı ve çevre araştırmaları 1966 - 1970*, in *TAD* 19, 1, 109-160.
- FISCHER G. 1996 = *Das römische Pola. Eine archäologische Stadtgeschichte* (Bayerische Akademie der Wissenschaften Phil.-hist.Kl. Abhandlungen N.F. 110), München.
- FITTSCHEN K. 2010 = *Lesefrüchte II*, in *Boreas* 33, 31-34.
- FLAMINIO R. 2004 = *Gli elementi marmorei di reimpiego*, in A. GUIGLIA GUIDOBALDI, C. BARSANTI (eds.), *Santa Sofia di Costantinopoli. L'arredo marmoreo della Grande Chiesa giustiniana*, Città del Vaticano, 533-648.
- FOBELLI M.L. 2004 = *Un tempio per Giustiniano. Santa Sofia di Costantinopoli e la Descrizione di Paolo Silenziario*, Roma.
- FOLK R.L. 1994 = *Interaction between bacteria, nanobacteria, and mineral precipitation in hot springs of Central Italy*, in *Geographie Physique et Quaternaire* 48, 233-246.
- FONDAZIONE BARRACCO 1910 = *Museo di Scultura Antica*, Fondazione Barracco, Roma.
- FORBES R.J. 1965 = *Studies in Ancient Technology*, Leiden.
- FORTE M. 1996 = *Archeologia, Percorsi virtuali delle civiltà scomparse*, Milano.
- FORTE M. (ed.) 1997 = *Virtual Archaeology*, New York.
- FORTE M. 2014 = *Virtual Reality, Cyberarchaeology, Teleimmersive Archaeology*, in F. REMONDINO, S. CAMPANA (eds.), *3D Recording and Modelling in Archaeology and Cultural Heritage*, Oxford, 113-127.
- FORTE M., BELTRAMI R., 2000 = *A proposito di Virtual Archaeology, disordini, interazioni cognitive e virtualità*, in *ACalc* 11, 273-300.
- FORTE M., GUIDAZZOLI A., 1993 = *Archeologia e visualizzazione scientifica*, in *Notizie dal CINECA* 17, 1-3.
- FORTE M., GUIDAZZOLI A., CALORI L. 1996 = *3D Virtual scientific visualization of archaeological sites: new navigation metaphores*, in *Scienza e Supercalcolo*, luglio, 9-12.
- FORTE M., PESCARIN S., PIETRONI E., DELL'UNTO N. 2010 = *An integrated approach to archaeology: from the fieldwork to virtual reality systems*, in F. NICCOLUCCI, S. HERMON (eds.), *Beyond the Artifact. Digital Interpretation of the Past*, Oxford, 325-334.
- FOSS C. 1976 = *Byzantine and Turkish Sardis*, Cambridge.
- FOSS E., LANGMANN G. 1972-1975 = *Nymphaeum des C. Laekanius Bassus*, in *ÖJh* 50, 301-310.
- FRAISSE P., LLINAS C. 1995 = *Documents d'architecture hellénique et hellénistique, Délos 36*, Paris.
- FRANZINI M., GRATZIU C., SPAMPANATO M. 1984 = *Degradazione del marmo per effetti di variazione di temperatura*, in *Rendiconti della Società Italiana di Mineralogiae Petrologia* 39, 47-51.
- FRATE O. 2003-2004 = *Hierapolis di Frigia. I sarcofagi di marmo della Necropoli Nord*, Università Cattolica del Sacro Cuore di Milano, PhD Thesis.
- FRATE O. 2006 = *Il materiale lapideo come indicatore sociale, culturale ed economico. Il caso dei sarcofagi di marmo della necropoli nord di Hierapolis di Frigia*, in V. BADINO, G. BALDASSARRE (eds.), *Le risorse lapidee dall'antichità ad oggi in area mediterranea*, Torino, 423-430.
- FRATE O. 2007 = *I sarcofagi in marmo della Necropoli Nord. Metodo della ricerca e risultati preliminari*, in D'ANDRIA, CAGGIA 2007, 457-472.

- FRATINI F., PECCHIONI E., CANTISANI E. 2008 = *The petrographic study in the ancient mortar characterization*, in *Atti del Convegno HMC 08, 1st Historical Mortar Conference* (Lisbon, 24-28 september 2008), Lisbon, 1-10.
- FRECCERO A. 2005 = *Pompeian Plasters. Insula I 9 and Forum*, Roma.
- FRECCERO A. 2008 = *Pompeian Plasters. Buildings in Regiones I, V, VI, VII, VIII, and IX*, Roma.
- FRECCERO A. 2013 = *Marble conservation project*, in *Anatolia Antiqua* 21, 322-327.
- FRECCERO A. 2015 = *Marble trade in Antiquity. Looking at Labraunda*, in *Anatolia Antiqua* 23, 11-54.
- FRENCH D.H. 2007 = *Inscriptions from Cappadocia II*, in *EpigrAnat* 40, 67-108.
- FREU C. 2012 = *Le statut des metallarii dans le Code Théodosien*, in S. CROGIEZ-PÉTRÉQUIN, P. JAILLETTE (eds.), *Société, économie, administration dans le Code Théodosien* (Histoire et civilisations 1365), Villeneuve d'Ascq, 427-450.
- FREYBERGER K.S. 1990 = *Stadtrömische Kapitelle aus der Zeit von Domitian bis Alexander Severus. Zur Arbeitsweise und Organisation stadtrömischer Werkstätten der Kaiserzeit*, Mainz.
- FREYBERGER K.S. 1995 = *Review to THÜR 1989*, in *GGA* 247, 207-216.
- FREYBERGER K.S. 1998a = *Die frühkaiserzeitlichen Heiligtümer der Karawanenstationen im hellenistischen Osten. Zeugnisse eines kulturellen Konflikts im Spannungsfeld zweier politischer Formationen* (Damaszener Forschungen 6), Mainz.
- FREYBERGER K.S. 1998b = *Zur Produktionsweise stadtrömischer Marmordekoration in severischer Zeit*, in PESCHLOW U., MÖLLERS S. (eds.), *Spätantike und byzantinische Baukunst* (Forschungen zur Kunstgeschichte und christlichen Archäologie 19), Stuttgart, 37-41.
- FREYBERGER K.S. 2013 = *Ostia. Facetten des Lebens in einer römischen Hafenstadt*, Mainz.
- FRÉZOULS E. 1995 = *L'apport de l'épigraphie à la connaissance des métiers de la construction*, in G. CAVALIERI MANASSE, E. ROFFIA (eds.), *Splendida civitas nostra. Studi archeologici in onore di Antonio Frova* (Studi e ricerche sulla Gallia Cisalpina 8), Roma, 35-44.
- FRIESINGER H., KRINZINGER F. (eds.) 1999 = *100 Jahre Österreichische Forschungen in Ephesos, Akten des Symposions Wien 1995* (DenkschrWien 260), Wien.
- FRISCHER B., DAKOURI-HILD A. (eds.) 2008 = *Beyond Illustration: 2D and 3D Digital Technologies as Tools for Discovery in Archaeology*, Oxford.
- GABELLONE F. 2012 = *La scansione laser terrestre per lo studio di reperti archeologici: ambiti di applicazione e operatività sul campo*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 61-68.
- GABELLONE F., GIURI F., FERRARI I., LIMONCELLI M. 2011 = *Virtual Hierapolis: tra tecnicismo e realismo*, in *Virtual Archaeology Review* 2, 3, 131-136.
- GAGE J. 1993 = *Color and Culture. Pratiche and Meaning from Antiquity to Abstraction*, Boston.
- GAGLIARDI L. 2006 = *Mobilità e integrazione delle persone nei centri cittadini romani. Aspetti giuridici I. La classificazione degli incolae* (Pubblicazioni dell'Istituto di diritto romano 40), Milano.
- GALLI M. 2013 = *The Celebration of Lucius Verus in the Provincia Achaia. Imperial Cult, Ritual Actors and Religious Networks*, in M. GALLI (ed.), *Roman power and Greek sanctuaries: forms of interaction and communication* (Tripodes 14), Athens, 265-298.
- GALLI M. 2016 = *Le statue di Demetra e Kore-Persephone nel Teatro di Hierapolis*, in *IstMitt* 66, 161-224.
- GALLI M., BRACCI S., CANTISANI E., RIMINESI C., VETTORI S. forthcoming = *Colour traces on sculpture decoration in the Hierapolis of Phrygiae archaeological site (Turkey)*, in *7th Round Table on Polychromy in Ancient Sculpture and Architecture* (Firenze, 4-6 novembre 2015).
- GALVAGNO F., MIGHETTO P. 2016 = *Opera felice il rimettere in posto gli elementi originali ritrovati (Carta di Atene, cap. 4). Anastilosi e interventi di miglioramento statico del primo ordine della scaenae frons del Teatro*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 171-190.

- GAUTIER P., BRUN J.-P., MORICEAU R., SOKOUTIS D., MARTINOD J., JOLIVET L. 1999 = *Timing, kinematics and cause of Aegean extension: a scenario based on a comparison with simple analogue experiments*, in *Tectonophysics* 315, 31-72.
- GAZDA E.K., NG D.Y. (eds.) 2011 = *Building a New Rome. The Imperial Colony of Pisidian Antioch (25 BC - AD 700)* (Kelsey Museum Publication 5), Ann Arbor.
- GENOVESE C. 2009 = '*... alla terra gloriosa di Troia*': il mito delle Amazzoni nei rilievi del ninfeo dei Tritoni a Hierapolis di Frigia, in *MedAnt* 12, 409-428.
- GENOVESE C. 2013 = *I rilievi figurati dei Ninfei di Hierapolis di Frigia: il tema dell'amazzonomachia nella decorazione architettonica dell'Asia Minore*, in *QArch* 3, 123-129.
- GEORGIEV N., PLEUGER J., FROITZHEIM N., SAROV S., JAHN-AWE S., NAGEL T.J. 2010 = *Separate Eocene-Early Oligocene and Miocene stages of extension and core complex formation in the Western Rhodopes, Mesta Basin, and Pirin Mountains (Bulgaria)*, in *Tectonophysics* 487, 59-84.
- GERMANN K., HOLZMANN G., WINKLER F.J. 1980 = *Determination of marble provenance: limits of isotope analysis*, in *Archaeometry* 22, 1, 99-106.
- GESCHWINDE E., SCHÖNG H.J. 2002 = *PostgreSQL Developer's Handbook*, Indianapolis.
- GESSNER K., COLLINS A.S., RING U., GÜNGÖR T. 2004 = *Structural and thermal history of poly-orogenic basement: U-Pb geochronology of granitoid rocks in the southern Menderes Massif, Western Turkey*, in *Journal of the Geological Society of London* 161, 93-101.
- GIANNACCINI S., AIME A. 2011 = *Geoserver, il server open source per la gestione interoperabile dei dati geospaziali*, in *Atti della XV Conferenza ASITA* (Reggia di Colorno, 15-18 novembre 2011), Milano, 1183-1194.
- GINOUVÈS R. 1969 = *Architecture*, in *DES GAGNIERS ET ALII* 1969, 13-185.
- GINOUVÈS R., MARTIN R. 1985 = *Dictionnaire méthodique de l'architecture grecque et romaine I. Matériaux, techniques de construction, techniques et formes du décor* (CEFR 84), Athènes-Rome.
- GINOUVÈS R. 1992 = *Dictionnaire méthodique de l'architecture grecque et romaine II. Éléments constructifs: supports, couvertures, aménagements intérieurs* (CEFR 84), Athènes-Rome.
- GIOVANNONI G. 1936 = *Restauo*, in *Enciclopedia Italiana* 29, 127-130.
- GLEASON K. L. 1994 = *Porticus Pompeiana. A New Perspective on the First Public Park of Ancient Rome*, in *Journal of Garden History* 14, 1, 13-27.
- GLIWITZKY CH. 2010 = *Späte Blüte in Side und Perge. Die pamphyllische Bauornamentik des 3. Jahrhunderts n. Chr.*, Bern.
- GLOVER C., ROBERTSON A. 1998 = *Neotectonic intersection of the Aegean and Cyprus tectonic arcs: extensional and strike-slip faulting in the Isparta Angle, SW Turkey*, in *Tectonophysics* 298, 103-132.
- GNOLI R. 1971 = *Marmora Romana*, Roma.
- GNOLI R. 1988² = *Marmora Romana*, Roma.
- GNOLI R., MARCHEI M.C., SIRONI A. 2004⁵ = *Repertorio*, in G. BORGHINI (ed.), *Marmi antichi*, Roma, 131-295.
- GOETTE H.R., POLYKRETI K., VACOULIS T., MANIATIS Y. 1999 = *Investigation of the greyish-blue marble of Pentelikon and Hymettus*, in *SCHVOERER* 1999, Bordeaux, 83-90.
- GOLDSMITH R.W. 1984 = *An Estimate of the Size and Structure of the National Product of the Early Roman Empire*, in *Review of Income and Wealth* 30, 263-288.
- GOMARASCA A. 2003 = *L'interpretazione delle immagini telerelevate*, in *Bollettino SIFET* 3, 93-108.
- GONOSOVÀ A., KONDOLÉON C. 1994 = *Art of Late Rome and Byzantium in the Virginia Museum of Fine Arts*, Baltimore.
- GOODMAN D. 2013 = *GPR Slice Version 7.0 Manual*, <http://www.gpr-survey.com>
- GOODMAN D., PIRO S. 2013 = *GPR Remote Sensing in Archaeology* (Geotechnologies and the Environment Series 9), Berlin.
- GOODMAN D., STEINBERG J., DAMIATA B., NISHIMURE Y., SCHNEIDER K., HIROMICHI H., HISASHI N. 2006 = *GPR overlay analysis for archaeological prospection. Proceedings of*

- the 11th International Conference on Ground Penetrating Radar, Columbus, Ohio, CD-rom.
- GORGONI C., LAZZARINI L., PALLANTE P. 2002 = *New archaeometric data on Rosso Antico and other red marbles used in antiquity*, in LAZZARINI 2002a, 199-206.
- GORGONI C., LAZZARINI L., PALLANTE P., TURI B. 2002 = *An updated and detailed mine-rotopetrographic and C-O stable isotopic reference database for the main Mediterranean marbles used in antiquity*, in HERRMANN, HERZ, NEWMAN 2002, 115-131.
- GORGONI C., PALLANTE P. 2000 = *On Cycladic marbles use in the Greek and Phoenician colonies of Sicily*, in D.U. SCHILARDI, D. KATSONOPOULOU (eds.), *Paria Lithos. Parian Quarries, Marble and Workshops of Sculpture. Paros I. Proceedings of the First International Conference on the Archaeology of Paros and the Cyclades* (Paroikia, Paros, October 2-5, 1997), Athens, 497-506.
- GÖRÜR N., ŞENGÖR A.M.C., SAKINÇ M., TÜYSÜZ O., AKKÖK R., YİĞİTBAŞ E., OKTAY F.Y., BARKA A.A., SARICA N., ECEVİTOĞLU B., DEMİRBAĞ E., ERSOY Ş., ALGAN O., GÜNEY-SU C., AKYOL A. 1995 = *Rift formation in the Gökova region, southwest Anatolia: implications for the opening of the Aegean Sea*, in *Geological Magazine* 132, 637-650.
- GOVERS R., WORTEL M.J.R. 2005 = *Lithosphere tearing at STEP faults: response to edges of subduction zones*, in *Earth and Planetary Science Letters* 236, 505-523.
- GOZICH R. 2016 = *Sulle rovine di Troia*, in LUSUARDI SIENA, PERASSI, SACCHI, SANNAZARO 2016, 513-517.
- GRABAR A. 1963 = *Sculptures byzantines de Constantinople (IV^e-X^e siècle)* (Bibliothèque archéologique et historique de l'Institut Français d'Archéologie d'Istanbul 17), Paris.
- GREGAREK H. 1999 = *Untersuchungen zur kaiserzeitlichen Idealplastik aus Buntmarmor*, in *KölnJb* 32, 33-284.
- GREWE K., KESSENER P. 2007 = *A stone relief of a water-powered stone saw at Hierapolis, Phrygia. A first consideration and reconstruction attempt*, in D'ANDRIA, CAGGIA 2007, 627-634.
- GROS P. 1976 = *Aurea templa. Recherches sur l'architecture religieuse de Rome à l'époque d'Auguste* (BEFAR 231), Roma.
- GROS P. 1983 = *Statut social et rôle culturel des architectes (période hellénistique et augustéenne)*, in *Architecture et société de l'archaïsme grec à la fin de la République. Actes du colloque* (Rome, 2-4 décembre 1980) (CEFR 66), Roma, 425-452.
- GROS P. (ed.) 1990 = *Vitruve De l'Architecture. Livre III. Texte établi, traduit et commenté*, Paris.
- GROS P. 1996 = *L'architettura romana. Dagli inizi del III secolo a.C. alla fine dell'Alto Impero. I monumenti pubblici* (Biblioteca di Archeologia 30), Milano.
- GROS P. (ed.) 1997 = *Vitruvio De Architectura, traduzione e commento di Antonio Corso e Elisa Romano*, Torino.
- GROS P. 2009 = *Les sanctuaires in summa cavea. L'enseignement des recherches récentes sur le théâtre de Pompée à Rome*, in J.CH. MORETTI (ed.), *Fronts de scène et lieux de culte dans le théâtre antique* (Travaux de la Maison de l'Orient et de la Méditerranée 52), Lyon, 53-64.
- GRÜNER A. 2014 = *Vom Sinn zur Sinnlichkeit. Probleme und Perspektiven des Ornamentbegriffs in der antiken Architektur*, in LIPPS, MASCHKE 2014b, 25-51.
- GUIDOBALDI F. 2009 = *Sectilia pavimenta tardoantichi e paleocristiani a piccolo modulo dell'Italia settentrionale*, in *RACr* 85, 355-420.
- GUIDOBONI E., COMASTRI A., TRAINA G. 1994 = *Catalogue of ancient earthquakes in the Mediterranean area up to the 10th century*, Bologna.
- GUIGLIA GUIDOBALDI A. 2004 = *I plutei delle finestre*, in A. GUIGLIA GUIDOBALDI, C. BARSANTI (eds.), *Santa Sofia di Costantinopoli. L'arredo marmoreo della Grande Chiesa giustiniana*, Città del Vaticano, 89-232.
- GUIGLIA GUIDOBALDI A. 2011 = *The Marble Floor Decoration in Constantinople. Prolegomena to a Corpus*, in M. ŞAHİN (ed.), *11th International Colloquium on Ancient Mosaiscs* (Bursa, October 16th - 20th 2009), Istanbul, 413-436.
- GUIZZI F. 2012 = *Una 'nuova' parola di Apollo. Sull'oracolo di Apollo Klarios a Hierapolis di Frigia*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 679-683.
- GUIZZI F. 2014 = *Mopso protettore di Hierapolis*, in *ScAnt* 20, 2, 31-44.

- GUIZZI F. 2016 = *Un figlio di Hierapolis e due 'monetali'*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 799-806.
- GUIZZI F., MIRANDA DE MARTINO E., RITTI T. 2012 = *Acquisizioni epigrafiche: iscrizioni ritrovate o studiate nel triennio 2004-2006*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 643-678.
- GUIZZI F., NOCITA M. 2015 = *Novità epigrafiche da Hierapolis di Frigia (2013-2014)*, in *ScAnt* 21, 1, 31-46.
- GUIZZI F., NOCITA M. 2016 = *Novità epigrafiche da Hierapolis di Frigia (2015)*, in *ScAnt* 22, 1, 17-25.
- GÜMGÜM G. 2012 = *Il Martyrion di Hierapolis di Frigia (Turchia). Analisi archeologica e architettonica* (BARIntSer 2385), Oxford.
- GÜNAY G., ŞİMŞEK Ş., EKMEKÇİ M., ELHATIP H., YESERTENER C., DİLSİZ C., CETİNER Z., KELOĞLU N. 1997 = *Karst hydrogeological and environmental studies of the Pamukkale thermal springs*, in G. GÜNAY, A.I. JOHNSON (eds.), *Karst Waters and Environmental Impacts*, Rotterdam, 29-35.
- GÜNTHER H. 1978 = *Zeugnisse ägyptischer Religionsvorstellungen für Ephesus* (EPRO 73), Leiden.
- GUTIÉRREZ GARCIA M.A., LAPUENTE P., RODÀ I. (eds.) 2012 = *Interdisciplinary Studies on Ancient Stone. Proceedings of the IX ASMOSEA International Conference* (Tarragona, June 8-13, 2009) (Documenta 23), Tarragona.
- GUTNIC M., MONOD O., POISSON A., DUMONT J.F. 1979 = *Géologie des Taurides Occidentales (Turquie)*, in *Mémoires de la Société géologique de France* 137, 1-112.
- HABERMANN D., NEUSER R.D., RICHTER K. 1996 = *REE-activated cathodoluminescence of calcite and dolomite: high-resolution spectrometric analysis of CL emission (HRS-CL)*, in *Sedimentary Geology* 101, 1-7.
- HABERMANN D., NEUSER R.D., RICHTER K. 1998 = *Lower limit of Mn²⁺-activated cathodoluminescence of calcite: state of art*, in *Sedimentary Geology* 116, 13-24.
- HAFKENSCHIED E., WORTEL M.J.R., SPAKMAN W. 2006 = *Subduction history of the Tethyan region derived from seismic tomography and tectonic reconstructions*, in *Journal of Geophysical Research* 111, B08401.
- HALFMANN H. 2004 = *Éphèse et Pergame. Urbanisme et commanditaires en Asie Mineure romaine* (Scripta Antiqua 11), Paris.
- HALFMANN H. 1979 = *Die Senatoren aus dem östlichen Teil des Imperium Romanum bis zum Ende des 2. Jh. n. Chr.*, Göttingen.
- HALFMANN H. 2001 = *Städtebau und Bauherren im römischen Kleinasien. Ein Vergleich zwischen Pergamon und Ephesos* (IstMitt Beiheft 43), Tübingen.
- HALL A., WAEKENS M. 1982 = *Two Dokimeian sculptors in Iconium*, in *AnSt* 32, 151-155.
- HALL B., LEAHY M.G. (eds.) 2008 = *Open Source Approaches in Spatial Data Handling*, Berlin.
- HANCOCK P.L., ALTUNEL E. 1997 = *Faulted archaeological relics at Hierapolis (Pamukkale), Turkey*, in *Journal of Geodynamics* 24, 1, 21-36.
- HANCOCK P.L., BARKA A.A. 1987 = *Kinematic indicators on active normal faults in western Turkey*, in *Journal of Structural Geology* 9, 573-584.
- HANCOCK P.L., CHALMERS R.M.L., ALTUNEL E., ÇAKIR Z. 1999 = *Travertines: using travertines in active fault studies*, in *Journal of Structural Geology* 21, 903-916.
- HANCOCK P.L., CHALMERS R.M.L., ALTUNEL E., ÇAKIR Z., BECHER-HANCOCK A. 2000 = *Creation and destruction of travertine monumental stone by earthquake faulting at Hierapolis, Turkey*, in W.G. MCGUIRE, D.R. GRIFFITHS, P.L. HANCOCK, I.S. STEWART (eds.), *The Archaeology of Geological Catastrophes*, London, 1-14.
- HANSEN E., DOEHNE E., FIEDLER J., LARSON J., MARTIN B., MATTEINI M., RODRIGUEZ-NAVARRO C., PARDO E.S., PRICE C., DE TAGLE A., TEUTONICO J.M., WEISS N. 2003 = *A review of selected inorganic consolidants and protective treatments for porous calcareous materials*, in *Reviews in Conservation* 4, 13-25.
- HARMON C., VALERIE C. 1972 = *Greek Marbles. Determination of Provenance by Isotopic Analysis*, in *Science* 176, 401-403.

- HARRISON R.M., GILL M.V. 1986 = *Painted plaster*, in R.M. HARRISON, L.B. HILL (eds.), *Excavations at Sarchane in Istanbul Vol. I*, Princeton, 197-203.
- HAYASHI K., TAKAHASHI T. 2001 = *High resolution seismic refraction method using surface and borehole data for site characterization of rocks*, in *International Journal of Rock Mechanics and Mine Science* 38, 807-813.
- HAYASHIDA Y., YOSHITAKE R., ITO J. 2013 = *Architectural Study of the Stoas of the Asklepieion at Ancient Messene*, Fukuoka.
- HAZZARD E. 2011 = *OpenLayers 2.10 Beginner's Guide. Create, optimize and deploy stunning cross-browser web maps with the Open Layers Javascript web-mapping library*, Birmingham-Mumbai.
- HEBERDEY R. 1912 = 9. *Vorläufiger Bericht über die Grabungen in Ephesos*, in *ÖJh* 15, Beibl., 182.
- HEBERDEY R. 1915 = 11. *Vorläufiger Bericht über die Grabungen in Ephesos*, in *ÖJh* 18, Beibl., 77-88.
- HEDLUND R. 2014 = *Antae in the afternoon: notes on the Hellenistic and Roman architecture of Labraunda*, in L. KARLSSON, S. CARLSSON, J. BLID KULLBERG (eds.), *Labrys. Studies presented to Pontus Hellström* (Acta Universitatis Upsaliensis. Boreas 35), Uppsala, 57-70.
- HEILMEYER W.-D. 1970 = *Korinthische Normalkapitelle. Studien zur Geschichte der römischen Architekturdekoration* (RM Ergänzungshefte 16), Heidelberg.
- HEILMEYER W.-D. 1986 = *Antike Kunst und Kunstproduktion. Werkstattforschung in der klassischen Archäologie*, in *JbPreussKul* 23, 95-123.
- HEILMEYER W.-D. 2007 = *Berliner Marmore aus Kleinasien*, in *JdI* 122, 127-161.
- HELD W. 2008 = *Gergakome. Ein 'althehrwürdiges' Heiligtum im kaiserzeitlichen Karien* (IstForsch 49), Tübingen.
- HELLMANN M.-CH. 1992 = *Recherches sur le vocabulaire de l'architecture grecque, d'après les inscriptions de Délos* (BEFAR 278), Paris.
- HELLMANN M.-CH. 1994 = *Les signatures d'architectes en langue grecque: essai de mise au point*, in *ZPE* 104, 151-178.
- HELLMANN M.-CH. 2002 = *L'architecture grecque 1. Les principes de la construction*, Paris.
- HELLSTRÖM P. 2007 = *Labraunda. A Guide to the Karian Sanctuary of Zeus Labraundos*, Istanbul.
- HELLSTRÖM P. 2011 = *Feasting at Labraunda and the chronology of the Andrones*, in L. KARLSSON, S. CARLSSON (eds.), *Labraunda and Karia* (Acta Universitatis Upsaliensis. Boreas 32), Uppsala, 149-157.
- HELLSTRÖM P. forthcoming = *Labraunda before the Hekatomids. Excavations on the Temple Terrace 1949-1953*, in H. OLIVIER, K. KONUK (eds.), *Karia Arkana*, Istanbul.
- HELLSTRÖM P., THIEME T. 1982 = *Labraunda. The Temple of Zeus*, in *Labraunda. Swedish Excavations and Researches I*, 3, Stockholm.
- HEMPTON M.R. 1987 = *Constraints on Arabian plate motion and extensional history of the Red Sea*, in *Tectonics* 6, 687-705.
- HENNEMEYER A. 2013 = *Das Athenaheiligtum von Priene. Die Nebenbauten - Altar, Halle und Propylon und die bauliche Entwicklung des Heiligtums, Priene II* (AF 27), Wiesbaden.
- HENRY O. 2013a = *La tombe monumentale*, in *Anatolia Antiqua* 21, 301-310.
- HENRY O. 2013b = *A tribute to the Ionian Renaissance in 4th Century Karia. Defining a Karian Identity under the Hekatomnids*, Paris, 81-90.
- HENRY O. 2014 = *Then Whose tomb is that?*, in L. KARLSSON, S. CARLSSON, J. BLID KULLBERG (eds.), *Labrys. Studies presented to Pontus Hellström* (Acta Universitatis Upsaliensis. Boreas 35), Uppsala, 71-85.
- HENRY O. 2015 = *Labraunda 2014*, in *Anatolia Antiqua* 23, 301-394.
- HENRY O., KELP U. (eds.) 2016 = *Tumulus as sema. Space, politics, culture and religion in the first millennium BC* (Topoi 27), Berlin-Boston.
- HERO A.C. 2006² = *Life of St. Theoktiste of Lesbos*, in A.-M. TALBOT (ed.), *Holy Women of Byzantium. Ten Saints' lives in English Translation* (Byzantine saints' lives in translation 1), Washington, 95-116.

- HERRMANN J.J. JR., ATTANASIO D., TYKOT R.H., VAN DEN HOEK A. 2012 = *Characterization and distribution of marble from Cap de Garde and Mt. Filfila, Algeria*, in GUTIÉRREZ GARCIA, LAPUENTE, RODÀ 2012, 300-309.
- HERRMANN J.J. JR., HERZ N., NEWMAN R. (eds.) 2002 = *ASMOSIA V. 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, 11-15 June 1998), London.
- HERRMANN J.J. JR., VAN DEN HOEK A., TYKOT R. H. 2012 = *Alabastro a pecorella, Ain Tekbalet, and Bou Hanifia, Algeria: a preliminary report*, in GUTIÉRREZ GARCIA, LAPUENTE, RODÀ 2012, 463-470.
- HERRMANN P. 1988 = *Chresimus, procurator lapicidarum. Zur Verwaltung der kaiserlichen Steinbrüche in der Provinz Asia*, in *Tyche* 3, 119-129.
- HERRMANN P. 1993 = *Inschriften von Sardeis*, in *Chiron* 23, 233-265.
- HERZ N. 1985 = *Isotopic analysis of marble*, in G. RAPP JR., J.A. GIFFORD (eds.), *Archaeological Geology*, London, 331-351.
- HERZ N. 1987 = *Carbon and Oxygen Isotopic Ratios. A Data Base for Classical Greek and Roman Marble*, in *Archaeometry* 29, 1, 35-43.
- HERZ N. 1992 = *Provenance Determination of Neolithic to Classical Mediterranean Marbles by Stable Isotopes*, in *Archaeometry* 34, 2, 185-194.
- HERZ N., DEAN N.E. 1986 = *Stable isotopes and archaeological geology: the Carrara marble, Northern Italy*, in *Applied Geochemistry* 1, 139-151.
- HERZ N., WAELKENS M. (eds.) 1988 = *Classical Marble. Geochemistry, Technology, Trade* (NATO ASI series. Series E, Applied sciences 153), Dordrecht-Boston.
- HETZEL R., REISCHMANN T. 1996 = *Intrusion age of Pan-African augen gneisses in the southern Menderes Massif and the age of cooling after Alpine ductile extensional deformation*, in *Geological Magazine* 133, 565-572.
- HIERAPOLIS 1957-1987 = *Hierapolis di Frigia, 1957-1987, Catalogo della Mostra*, Milano.
- HIESEL G., STROCKA V.M. 2006 = *Die Bibliothek von Nysa am Mäander. Vorläufiger Bericht über die Kampagnen 2002-2006*, in *AA*, 81-97.
- HILL D.J.A., LIENG ANDREADAKIS L., AHRENS S. 2016 = *The North-East Necropolis survey 2007-2011: methods, preliminary results and representivity*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 109-120.
- HIRT A.M. 2010 = *Imperial Mines and Quarries in the Roman World. Organizational aspects, 27 BC-AD 235*, Oxford.
- HOBDAI E. 2007-2008 = *Ambonët e kishave të Shqipërisë*, in *Iliria* 33, 325-350.
- HOEPFNER W. 1991 = *Zum Problem griechischer Holz- und Kassettendecken*, in A. HOFFMANN, E.L. SCHWANDNER, W. HOEPFNER, G. BRANDS (eds.), *Bautechnik der Antike*, Internationales Kolloquium (Berlin, 15.-17. Februar 1990) (Diskussionen zur archäologischen Bauforschung 5), Mainz, 90-98.
- HOEPFNER W. 2011 = *Ionien. Brücke zum Orient*, Darmstadt.
- HOFFMANN A. (ed.) 2005 = *Ägyptische Kulte und ihre Heiligtümer im Osten des römischen Reiches* (Byzas 1), Istanbul.
- HOFFMANN A. 2011 = *Das Asklepieion Teil 5, Die Platzhallen und die zugehörigen An-
nexbauten in römischer Zeit*, *AvP XI*, 5, Berlin-New York.
- HOLLINSHEAD M.B. 2012 = *Monumental Steps and the Shaping of Ceremony*, in B.D. WESCOAT, R.G. OUSTERHOUT (eds.), *Architecture of the Sacred. Space, Ritual, and Experience from Classical Greece to Byzantium*, Cambridge, 27-65.
- HOLLINSHEAD M.B. 2015 = *Shaping ceremony: monumental steps and Greek architecture* (Wisconsin studies in Classics), Madison, Wisconsin.
- HOREJS B. 2014 = *Rohstoffsurvey*, in *Wissenschaftlicher Jahresbericht des Österreichischen Archäologischen Instituts*, 35-36.
- HORNOSTEL W. 1973 = *Sarapis: Studien zur Überlieferungsgeschichte, den Erscheinungsformen und Wandlungen der Gestalt eines Gottes* (EPRO 32), Leiden.
- HORSTE M. 2011 = *Princeps iuventutis. Concept, realisation, representation*, in S. BENOIST, A. DAGUET-GAGEY, C. HOËT-VAN CAUWENBERGHE (eds.), *Figures d'empire*,

- fragments de mémoire. Pouvoirs et identités dans le monde romain impérial (II^e s. av. n.è. - VI^e s. de. n. è.)*, Villeneuve D'Ascq, 73-104.
- HORSTKOTTE H. 1996 = *Systematische Aspekte der munera publica in der römischen Kaiserzeit*, in *ZPE* 111, 233-255.
- HOSTEIN A., MAIRAT J. 2015 = *Les monnaies d'Alexandrie de Troade au milieu du 3^e siècle: liaisons de coins inédites*, in R. BLAND, D. CALAMINO (eds.), *Studies in Ancient Coinage in Honour of Andrew Burnett*, London, 223-235.
- HUBERT-FERRARI A., ARMIJO R., KING G., MEYER B., BARKA A. 2002 = *Morphology, displacement, and slip rates along the North Anatolian Fault, Turkey*, in *Journal of Geophysical Research* 107 (B10), 2235.
- HUBERT-FERRARI A., KING G., VAN DERWOERD J., VILLA I., ALTUNEL E., ARMIJO R. 2009 = *Long-term evolution of the North Anatolian Fault: new constraints from its eastern termination*, in D.J.J. VAN HINSBERGEN, M.A. EDWARDS, R. GOVERS (eds.), *Collision and Collapse at the Africa-Arabia-Eurasia Subduction Zone* (Geological Society London Special Publications 311), London, 133-154.
- HUEBER F. 1984 = *Beobachtungen zur Kurvatur und Scheinperspektive an der Celsusbibliothek und anderen kaiserzeitlichen Bauten*, in W. HOEPFNER (ed.), *Bauplanung und Bautheorie der Antike* (DiskAB 4), Berlin, 175-200.
- HUGHES J.J., LESLIE A. B 2001 = *The petrography of lime inclusions of historic lime based mortars*, in *Proceedings of the 8th Euroseminar on Microscopy applied to building materials*, Athens, 359-364.
- HÜLSEN J. 1919 = *Das Nymphaeum, Milet I*, 5, Berlin.
- HUMANN C., CICHORIUS C., JUDEICH W., WINTER F. 1898 = *Altertümer von Hierapolis (Jdl Ergänzungsheft 4)*, Berlin.
- HÜSING S.K., ZACHARIASSE W.J., VAN HINSBERGEN D.J.J., KRIJGSMAN W., INCEÖZ M., HARZHAUSER M., MANDIC O., KROH A. 2009 = *Oligo-Miocene foreland basin evolution in SE Anatolia: constraints on the closure of the eastern Tethys gateway*, in D.J.J. VAN HINSBERGEN, M.A. EDWARDS, R. GOVERS (eds.), *Collision and Collapse at the Africa-Arabia-Eurasia Subduction Zone* (Geological Society London Special Publications 311), London, 107-132.
- HUTTNER U. 2003 = *Early Christianity in the Lycus Valley* (Ancient Judaism and Early Christianity 85; Early Christianity in Asia Minor 1), Leiden-Boston.
- IACOVELLA S. 2014 = *Geoserver Cookbook*, Birmingham-Mumbai.
- JAKOBS P.H.F. 1987 = *Die frühchristlichen Ambone Griechenlands* (Habelts Dissertationsdrucke. Reihe Klassische Archäologie 24), Bonn.
- Iaph 2007* = REYNOLDS J.M., ROUECHÉ C., BODARD G. 2007 *Inscriptions of Aphrodisias*, <http://insaph.kcl.ac.uk/iaph2007>.
- Asklepieion* = HABICHT C., *Die Inschriften des Asklepieions, AvP VIII*, 3, Berlin 1969.
- İDİL V. 1999 = *Nysa ve Akharaka/Nysa and Acharaca*, Istanbul.
- İDİL V. 2006 = *Neueste Grabungsergebnisse von der Agora in Nysa am Mäander*, in W. HOEPFNER, L. LEHMANN (eds.), *Die griechische Agora* (Schriften des Instituts für klassische Archäologie der Freien Universität Berlin), Mainz, 66-76.
- İDİL V., KADIOĞLU M. 2005 = *2003 Yılı Nysa Kazı ve Restorasyon Çalışmaları*, in *KST* 26, 1 (Konya, 24-28 Mayıs 2004), Ankara, 387-400.
- İDİL V., KADIOĞLU M. 2006 = *2004 Yılı Nysa Kazı ve Restorasyon Çalışmaları*, in *KST* 27, 2 (Antalya, 30 Mayıs - 3 Haziran 2004), Ankara, 131-146.
- İDİL V., KADIOĞLU M. 2007 = *2005 Yılı Nysa Kazı ve Restorasyon Çalışmaları*, in *KST* 28, 1 (Çanakkale, 29 Mayıs - 2 Haziran 2006), Ankara, 647-670.
- İDİL V., KADIOĞLU M. 2008 = *2006 Yılı Nysa Kazı ve Restorasyon Çalışmaları*, in *KST* 29, 2 (Kocaeli, 28 Mayıs - 1 Haziran 2007), Ankara, 197-226.
- İDİL V., KADIOĞLU M. 2009 = *2007 Yılı Nysa Kazı ve Restorasyon Çalışmaları*, in *KST* 30, 3 (Ankara, 36-30 Mayıs 2008), Ankara, 499-522.
- İDİL V., KADIOĞLU M., BECKMANN M., ÖZBİL SERİN C., TAMSÜ POLAT R. 2010 = *2008 Yılı Nysa Kazı ve Restorasyon Çalışmaları*, in *KST* 31, 2 (Denizli, 25-29 Mayıs 2009), Ankara, 271-295.
- IG = Inscriptiones Graecae*, Berlin 1873-.

- IGBulg* 1² = MIHAILOV G., *Inscriptiones Graecae in Bulgaria repertae, 1. Inscriptiones orae Ponti Euxini. Editio altera emendata*, Sofia 1970.
- IGR* = CAGNAT R. (ed.), *Inscriptiones Graecae ad Res Romanas Pertinentes Auctoritate et Impensis Academiae Inscriptionum et Litterarum Humaniorum Collectae et Editae I-IV*, Paris 1906-1927.
- İHLAN S. 2014 = *Restaurierung im Marmorsaal 31*, in H. THÜR, I. ADENSTEDT (eds.), *Das Hanghaus 2 in Ephesos: die Wohneinheit 6, Baubefund, Ausstattung, Funde, FiE VIII*, 9, Wien, 803-829.
- IK* = *Inschriften griechischer Städte aus Kleinasien*, Bonn 1972-.
- ILS* = DESSAU H., *Inscriptiones Latinae Selectae I-III*, Berlin 1892-1916.
- IMagnesia* = KERN O., *Die Inschriften von Magnesia am Maeander*, Berlin 1900.
- IManisa* = MALAY H., *Greek and Latin inscriptions in the Manisa Museum* (Ergänzungsbände zu den *Tituli Asiae Minoris* 19; Österreichische Akademie der Wissenschaften, Philosophisch-Historische Klasse, Denkschriften 237), Wien 1994.
- INGLESE C., PIZZO A. 2014 = *I tracciati di cantiere di epoca romana: progetti, esecuzioni e montaggi*, Roma.
- INGLESE C., PIZZO A. 2016 = *I tracciati di cantiere. Disegni esecutivi per la trasmissione e diffusione delle conoscenze tecniche*, Roma.
- İNAN J., ATIK N., ÖZTÜRK A. 2000 = *Vorbericht über die Untersuchungen an der Fassade des Theaters von Perge*, in *AA*, 285-340.
- IPergamon* = FRÄNKEL M. (ed.), *Die Inschriften von Pergamon, AvP VIII*, Berlin 1890-1895.
- IPriene* = HILLER VON GAERTRINGEN F., *Inschriften von Priene*, Berlin 1906.
- IRT2009* = REYNOLDS J.M., WARD-PERKINS J.B., BODARD G., ROUECHÉ C. (eds.), *Inscriptions of Roman Tripolitania*, <http://inslib.kcl.ac.uk/irt2009/>
- IŞIK F. 1984 = *Die Sarkophage von Aphrodisias*, in B. ANDREAE (ed.), *Symposium über die antiken Sarkophage* (Pisa, 5.-12. September 1982), Marburg, 243-281.
- IŞIK F. 1992 = *Zum Produktionsbeginn von Halbfabrikaten kleinasiatischer Girlandensarkophage*, in *AA*, 121-145.
- IŞIK F. 1998 = *Zu Produktionsbeginn und Ende der kleinasiatischen Girlandensarkophage der Hauptgruppe*, in G. KOCH (ed.), *Akten des Symposiums "125 Jahre Sarkophag-Corpus"* (Marburg, 4.-7. Oktober 1995) (SarkSt 1), Mainz, 278-294.
- IŞIK F. 2007a = *Girlandensarkophage aus Aphrodisias* (SarkSt5), Mainz.
- IŞIK F. 2007b = *Werkstätten der Girlandensarkophage der kleinasiatischen Hauptgruppe*, in G. KOCH (ed.), *Akten des Symposiums des Sarkophag-Corpus 2001* (SarkSt 3), Mainz, 279-289.
- İŞKAN-IŞIK H., ECK W., ENGELMANN H. 2008 = *Der Leuchtturm von Patara und Sex. Marcianus Priscus als Statthalter der Provinz Lycia von Nero bis Vespasian*, in *ZPE* 164, 91-121.
- ISMAELLI T. 2009a = *Architettura dorica a Hierapolis di Frigia, Hierapolis di Frigia III*, Istanbul.
- ISMAELLI T. 2009b = *Il monopteros del Santuario di Apollo a Hierapolis di Frigia. Ricerche sull'oracolo alfabetico*, in *IstMitt* 59, 131-192.
- ISMAELLI T. 2010 = *La Via di Frontino a Hierapolis di Frigia. Aspetti tecnici, organizzazione e committenza di un grande cantiere pubblico di prima età imperiale*, in CAMPOREALE, DESSALES, PIZZO 2010, 375-396.
- ISMAELLI T. 2011 = *Una nuova proposta di interpretazione per il Sebasteion di Aphrodisias: attività commerciali e bancarie nel santuario del culto imperiale*, in *MedAnt* 14, 1-2, 149-202.
- ISMAELLI T. 2012a = *La Stoà di Marmo. Le trasformazioni dell'edificio alla luce delle prime ricerche*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 387-418.
- ISMAELLI T. 2012b = *Un ritratto di età gallienica da Hierapolis di Frigia*, in *RA* 2, 243-274.
- ISMAELLI T. 2013a = *Ancient Architectural Restoration in Asia Minor. Typology, Techniques and Meanings Discussed with Reference to Examples of Large-scale Public Buildings in Hierapolis of Phrygia, a Seismic City in Western Turkey*, in *IstMitt* 63, 267-324.

- ISMAELLI T. 2013b = *La tholos ed i materiali architettonici ellenistici*, in D'ANDRIA 2013, 199-207.
- ISMAELLI T. 2016a = *La Stoà di Marmo: nuovi dati dagli scavi della campagna 2011 e dallo studio architettonico del monumento*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 237-278.
- ISMAELLI T. 2016b = *La tholos del Ploutonion, l'edificio augusteo e le preesistenze ellenistiche*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 321-353.
- ISMAELLI T. 2016c = *Il Ginnasio, campagne di scavo 2007-2010*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 529-551.
- ISMAELLI T. 2016d = *Nuovi dati sull'architettura del Ginnasio di Hierapolis*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 553-596.
- ISMAELLI T. 2016e = *Modelli, architetti e maestranze a Hierapolis di Frigia. Il caso del Tempio A nel Santuario di Apollo*, in LUSUARDI SIENA, PERASSI, SACCHI, SANNAZARO 2016, 477-486.
- ISMAELLI T. 2017a = *Il Tempio A del Santuario di Apollo, Hierapolis di Frigia*, Istanbul.
- ISMAELLI T. 2017b = *Hierapolis di Frigia in età augustea e giulio-claudia: spazi sacri ed immagine urbana tra radici anatoliche e modelli romani*, in L. CAVALIER, M.-C. FERRIÈS, F. DELRIEUX (eds.), *Auguste e l'Asie mineure. Actes du colloque à Bordeaux* (20-22 novembre 2014), Bordeaux, 309-329.
- ISMAELLI T., CATANIA M. 2016 = *Il restauro del Ginnasio di Hierapolis*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 597-608.
- ISMAELLI T., SCARDOZZI G. forthcoming = *Alcuni monumenti "in search of location": il contributo dello studio delle mura bizantine alla conoscenza delle architetture e della città di epoca imperiale*.
- ISMAELLI T., SCARDOZZI G., BOZZA S. forthcoming = *Nuove ricerche sull'Agora Centrale di Hierapolis*, in *Mare Internum*.
- JACKSON J. 1994 = *Active tectonics of the Aegean region*, in *Annual Review of Earth and Planetary Sciences* 22, 239-271.
- JACKSON J., MCKENZIE D. 1984 = *Active tectonics of the Alpine-Himalayan belt between Turkey and Pakistan*, in *The Geophysical journal of the Royal Astronomical Society* 77, 185-264.
- JACQUES F. 1982 = *Les curateurs des cités africaines au III^e siècle*, in *ANRW II*, 10.2, Berlin, 62-135.
- JACQUES F. 1984 = *Le privilège de liberté. Politique impériale et autonomie municipale dans les cités de l'Occident romain (161-244)* (CEFR 76), Rome.
- JAMES L. 2007 = *And Shall These Mute Stone Speak?*, in L. JAMES (ed.), *Art and Text in Byzantine Culture*, Cambridge, 188-206.
- JARČ S., ZUPANČIČ N. 2009 = *A cathodoluminescence and petrographical study of marbles from the Pohorje area in Slovenia*, in *Chemie der Erde-Geochemistry* 69, 75-80.
- JENEWEIN G. 1999 = *Verkehrte Wege*, in P. SCHERRER, H. TAEUBER, H. THÜR (eds.), *Steine und Wege. Festschrift für Dieter Knibbe zum 65. Geburtstag* (SDAIK 32), Wien, 43-49.
- JEPPESEN K. 1955 = *The Propylaea, in Labraunda, Swedish Excavations and Researches I, 1*, Lund.
- JI S., ZHU Z., WANG Z. 1998 = *Relationship between Joint Spacing and Bed Thickness in Sedimentary Rocks. Effects of Interbed Slip*, in *Geology Magazine* 135, 637-655.
- JOHNSON A.C. 1936 = *An Economic Survey of Ancient Rome II. Roman Egypt to the Reign of Diocletian*, Baltimore.
- JOLIVET L. 2001 = *A comparison of geodetic and finite strain pattern in the Aegean, geodynamic implications*, in *Earth and Planetary Science Letters* 187, 95-104.
- JOLIVET L., BRUN J.-P. 2010 = *Cenozoic geodynamic evolution of the Aegean*, in *International Journal of Earth Sciences* 99, 109-138.
- JOLIVET L., FACENNA C., GOFFÉ B., BUROV E., AGARD P. 2003 = *Subduction tectonics and exhumation of high-pressure metamorphic rocks in the Mediterranean orogeny*, in *American Journal of Science* 303, 353-409.
- JOLIVET L., FACENNA C., PIROMALLO C. 2009 = *From mantle to crust: stretching the Mediterranean*, in *Earth and Planetary Science Letters* 285, 198-209.

- JOLIVET L., TROTET F., MONIÉ P., VIDAL O., GOFFÉ B., LABROUSSE L., AGARD P., GHORBAL B. 2010 = *Along-strike variations of P-T conditions in accretionary wedges and synorogenic extension, the HP-LT Phyllite-Quartzite Nappe in Crete and the Peloponnese*, in *Tectonophysics* 480, 133-148.
- JOLIVET-LEY C. 2001 = *La Cappadoce médiévale*, Paris.
- JONES A.H.M. 1971 = *Cities of the Eastern Roman Provinces*, Oxford.
- JONES C. 2007 = *Three New Letters of the Emperor Hadrian*, in *ZPE* 161, 145-156.
- JONES C. 2014 = *Earthquakes and Emperors*, in A. KOLB (ed.), *Infrastruktur und Herrschaftsorganisation im Imperium Romanum*, Berlin, 52-65.
- JONES C.P. 1993 = *The Olympeion and the Hadrianeion at Ephesos*, in *JHS* 113, 149-152.
- JONES M., WESTAWAY R. 1991 = *Microseismicity and structure of the Germencik area, western Turkey*, in *Geophysical Journal International* 106, 293-300.
- JOUFFROY H. 1977 = *Le financement des constructions publiques en Italie. Initiative municipale, initiative impériale, évergétisme privé*, in *Ktéma* 2, 329-337.
- JUDEICH W. 1898 = *Inscripfen*, in HUMANN ET ALII 1898, 67-180.
- JUNG K. 2006 = *Das Hydrekdocheion des Gaius Laecanius Bassus in Ephesos*, in WIPLINGER 2006, 79-86.
- JUNKELMANN M. 1991⁵ = *Die Legionen des Augustus. Der römische Soldat im archäologischen Experiment*, Mainz.
- KADIOĞLU M. 1999 = *Der Opus Sectile-Boden aus dem Gerontikon-Bouleuterion von Nysa ad Maeandrum*, in *Studien zum antiken Kleinasien IV (AMS 34)*, 175-188.
- KADIOĞLU M. 2001 = *Zwei korinthische Kapitelle aus Nysa am Mäander*, in C. ÖZGÜNEL, O. BİNGÖL, V. İDİL, K. GÖRKAY, M. KADIOĞLU (eds.), *Cevdet Bayburtluoğlu için yazılar / Essays in Honour of C. Bayburtluoğlu. Günışığında Anadolu / Anatolia in Daylight*, Istanbul, 156-161.
- KADIOĞLU M. 2006 = *Die Scaenae frons des Theaters von Nysa am Mäander. Forschungen in Nysa am Mäander I*, Mainz.
- KADIOĞLU M. 2007 = *Die opus sectile – Wanderkleidung der Agora von Hierapolis in Phrygia (Regio I)*, in D'ANDRIA, CAGGIA 2007, 413-418.
- KADIOĞLU M. 2008 = *Ein Porträtfragment des Lucius Verus? aus dem Gerontikon von Nysa am Mäander*, in E. WINTER (ed.), *Vom Euphrat an den Bosporus. Kleinasien in der Antike. Festschrift für Elmar Schwertheim zum 65. Geburtstag (AMS 65, 2)*, Bonn, 359-366.
- KADIOĞLU M. 2011 = *Vorbericht über die Arbeiten im Gerontikon von Nysa am Mäander (2006-2009)*, in *JdI* 126, 107-154.
- KADIOĞLU M. 2012a = *Teos Rehber Kitap / Guide Book*, Izmir.
- KADIOĞLU M. 2012b = *Teos (1962-1966, 2010-)*, in O. BİNGÖL, A. ÖZTAN, H. TAŞKIRAN (eds.), *DTCF Arkeoloji Bölümü Tarihçesi ve Kazıları (1936-2011) Anadolu/Anatolia Ek Dizi III.2. Dil ve Tarih-Coğrafya Fakültesi 75. Yıl Armağanı*, Ankara, 505-522.
- KADIOĞLU M. 2014 = *Das Gerontikon von Nysa am Mäander. Forschungen in Nysa am Mäander III*, Darmstadt.
- KADIOĞLU M., ADAK M., ÖZBİL C., TAMSÜ POLAT R., ÖZTANER S.H., POLAT Y. 2013 = *2011 Yılı Teos Kazı Çalışmaları (2. Sezon)*, in *KST* 34, 2 (Çorum, 28 Mayıs - 1 Haziran 2012), Ankara, 211-232.
- KADIOĞLU M., KADIOĞLU Y.K. 2008 = *Native of the marble in ancient city. Nysa on the Meander of Hellenistic and Roman Period, Aydın - Western Anatolia - Turkey*, in E.J. CATLOS (ed.), *Donald D. Harrington Symposium on the Geology of the Aegean (Earth and Environmental Science 2)*, Bristol, 141-147.
- KADIOĞLU M., ÖZBİL C. 2015 = *Yeni Araştırmalar Işığında Teos*, in *Türk Eskiçağ Bilimleri Enstitüsü Haberler* 40, 4-16.
- KADIOĞLU M., ÖZBİL C., KERSCHNER M., MOMMSEN H. 2015a = *Teos im Licht der neuen Forschungen*, in Ü.YALÇIN, H.-D. BIENERT (eds.), *Anatolien - Brücke der Kulturen. Aktuelle Forschungen und Perspektiven in den deutsch-türkischen Altertumswissenschaften. Tagungsband des internationalen Symposiums "Anatolien - Brücke der Kulturen" (Bonn, 7.-9. Juli 2014) (Zeitschrift für Kunst und Kultur im Bergbau, Beiheft 27)*, Bonn, 345-366.

- KADIOĞLU M., VON RUMMEL PH. 2003 = *Frühbyzantinische Funde aus dem Theater von Nysa am Mäander*, in *Anadolu* 24, 103-119.
- KADIOĞLU M., YALÇIN D.Ö., ADAK M., ÖZBİL C., TAMSÜ POLAT R., POLAT Y., TUGÇU İ. 2015b = *2012-2013 Teos Kazı Çalışmaları (3.-4. Sezon)*, in *KST* 36, 3 (Gaziantep, 2-4 Haziran 2014), Ankara, 437-471.
- KADIOĞLU S., KADIOĞLU M., KADIOĞLU Y.K. 2013 = *Identifying of buried archaeological remains with ground penetrating radar, polarized microscope and confocal Raman spectroscopy methods in ancient city of Nysa, Aydin-Turkey*, in *JASc* 40, 10, 3569-3583.
- KADIOĞLU S., KADIOĞLU Y.K. 2014 = *Identifying buried archaeological remains with ground penetrating radar, polarized microscope and confocal Raman spectroscopy methods in ancient Nysa on the Maeander*, in *KADIOĞLU 2014*, 186-189.
- KAKOULLI I., SCHILLING M., MAZUREK J. 2012 = *The mural of Panagia Phorbiotissa. A technical examination*, in WEYL CARR, NICOLAÏDÈS 2012, 313-360.
- KAPPELMAN J., ALÇİÇEK M.C., KAZANCI N., SCHULTZ M., ÖZKUL M., ŞEN Ş. 2008 = *Brief communication: first Homo Erectus from Turkey and implications for migrations into temperate Eurasia*, in *American Journal of Physical Anthropology* 135, 110-116.
- KARAKUS H., ŞİMŞEK S. 2013 = *Tracing deep thermal water circulation systems in the E-W trending Büyük Menderes Graben, western Turkey*, in *Journal of Volcanology and Geothermal Research* 252, 38-52.
- KARAMANDERESİ I.H., ÖLÇENOĞLU K. 2005 = *Geology of the Denizli Sarayköy (Gerali) Geothermal Field, Western Anatolia, Turkey*, in *Proceedings World Geothermal Congress 2005* (Antalya, 24-29 April 2005), 1-10, CD-ROM.
- KARLSSON L. 2013 = *Combining architectural orders at Labraunda: a political statement, in 4th Century Karia. Defining a Karian Identity under the Hekatomnids* (Varia Anatolica 28), Paris, 65-80.
- KARWIESE S. 1985 = *Koressos. Ein fast vergessener Stadtteil von Ephesos*, in *Pro Arte Antiqua. Festschrift Hedwig Kenner II* (SDAIK 18), Wien, 241-224.
- KARWIESE S. 2005 = *Die Hafenthermen von Ephesos: ihr ursprünglicher Name und ihr erster (?) Gymnasiarch*, in H. THÜR (ed.), "...und verschönerte die Stadt...". Ein ephesischer Priester des Kaiserkultes in seinem Umfeld (SDAIK 27), Wien, 141-146.
- KAUTZSCH R. 1936 = *Kapitellstudien. Beiträge zu einer Geschichte des spätantiken Kapitells im Osten vom vierten bis ins siebente Jahrhundert* (Studien zur spätantiken Kunstgeschichte 9), Berlin-Leipzig.
- KAYMAKÇI N. 2006 = *Kinematic development and paleostress analysis of the Denizli Basin (Western Turkey): implications of spatial variation of relative paleostress magnitudes and orientations*, in *Journal of Asian Earth Sciences* 27, 207-222.
- KAYMAKÇI N., ÖZÇELİK Y., WHITE S.H., VAN DIJK P.M. 2009 = *Tectono-stratigraphy of the Çankiri Basin: late Cretaceous to early Miocene evolution of the Neotethyan suture zone in Turkey*, in D.J.J. VAN HINSBERGEN, M.A. EDWARDS, R. GOVERS (eds.), *Collision and Collapse at the Africa-Arabia-Eurasia Subduction Zone* (Geological Society London Special Publications 311), London, 67-106.
- KEIL J. 1915 = *Ephesische Funde und Beobachtungen*, in *ÖJh* 18, Beibl., 279-286.
- KEIL J. 1926 = *12. Vorläufiger Bericht über die Grabungen in Ephesos*, in *ÖJh* 23, Beibl., 265-271.
- KEIL J. 1930 = *XV Vorläufiger Bericht über die Ausgrabungen in Ephesos*, in *ÖJh* 26, Beibl., 17-62.
- KEIL J. 1964 = *Ephesos. Ein Führer durch die Ruinenstätte und ihre Geschichte*, Wien, 102-105.
- KELE S., ÖZKUL M., GÖKGÖZ A., FÖRİZS I., BAYKARA M.O., ALÇİÇEK M.C., NÉMETH T. 2011 = *Stable isotope geochemical and facies study of Pamukkale travertines: new evidences of low-temperature non-equilibrium calcite-water fractionation*, in *Sedimentary Geology* 238, 191-212.
- KELP U. 2014 = *Pergamon Nekropolleri / The Necropoleis of Pergamon*, in PIRSON, SCHOLL 2014, 354-375.
- KENNEDY R.E., TOWNSEND P.A., GROSS J.E., COHEN W.B., BOLSTAD P., WANG Y.Q., ADAMS P. 2009 = *Remote sensing change detection tools for natural resource managers. Understanding concepts and tradeoffs in the design of landscape monitoring projects*, in

- Remote Sensing of Environment* 113, 1382-1396.
- KERDILES H., GRONDONA M., RODRIGUEZ R., SEGUIN B. 1996 = *Frost mapping using NOAA-AVHRR data in the Pampean region, Argentina*, in *Agricultural and Forest Meteorology* 79, 157-182.
- KERSCHNER M., PROCHASKA W. 2011 = *Die Tempel und Altäre der Artemis in Ephesos und ihre Baumaterialien. Naturwissenschaftliche Untersuchungen zur Herkunft der Marmore und ihr archäologischer Kontext*, in *ÖJh* 80, 73-153.
- KESKİN M. 2003 = *Magma generation by slab steepening and breakoff beneath a subduction-accretion complex: an alternative model for collision-related volcanism in Eastern Anatolia, Turkey*, in *Geophysical Research Letters* 30, 24, 1-4.
- KETİN İ. 1968 = *Relation between general tectonic features and the main earthquake regions of Turkey*, in *Bulletin of the Mineral Research and Exploration* 71, 63-67.
- KIERNAN P. 2011 = *Preliminary Report on the Excavations of a Cryptoporticus and Market Building at Alexandria Troas*, in E. SCHWERTHEIM (ed.), *Studien zum antiken Kleinasien VII* (ASM 66), Bonn, 199-216.
- KIILLERICH B. 2006 = *The Aesthetics of Marble and Coloured Stone*, in E. JEFFREYS (ed.), *Proceedings of the 21st International Congress of Byzantine Studies Vol. II* (London, 21-26 August 2006), Aldershot, 238-239.
- KIILLERICH B. 2012 = *Monochromy, Dichromy and Polychromy in Byzantine Art*, in D. SEARBY, E. BALICKA-WITAKOWSKA, J. HELDT (eds.), *Doron Rhodopoikilon. Studies in Honour of Jan Olof Rosenqvist* (Studia Byzantina Upsaliensia 12), Uppsala, 169-183.
- KLAR L.S. 2006 = *The Origins of the Roman Scaenae Frons and the Architecture of Triumphal Games in the Second Century BC*, in S. DILLON, K.E. WELCH (eds.), *Representations of War in Ancient Rome*, Cambridge, 162-183.
- KLEMM R., KLEMM D. 1993 = *Steine und Steinbrüchen im Alten Ägypten*, Berlin.
- KLOPPMANN W., LEROUX L., BROMBLET P., COOPER A.H., NESTLER A., GUERROT C., MONTECH A.T., WORLEY N. 2015 = *Isotope characterisation of historical alabaster quarries in Western Europe*, in *Geophysical Research Abstracts*, Vol. 17, EGU2015-5888-1.
- KNACKFUSS H. 1924 = *Der Südmarkt und die benachbarten Bauanlagen, Milet I*, 7, Berlin.
- KNIBBE D., ENGELMANN H., İPLİKÇİOĞLU B. 1993 = *Neue Inschriften aus Ephesos XII*, in *ÖJh* 62, 113-150.
- KNIBBE D., İPLİKÇİOĞLU B. 1984 = *Neue Inschriften aus Ephesos IX*, in *ÖJh* 55, 107-135.
- KNOLL K., VOSTER CH., WOELK M. 2011 (eds.) = *Katalog der antiken Bildwerke II. Idealskulptur der römischen Kaiserzeit*, München.
- KOCH G. 1993 = *Sarkophage der römischen Kaiserzeit*, Darmstadt.
- KOCH G. 2010a = *Sarkophage der römischen Kaiserzeit in der Türkei*, in *Adalya* 13, 111-182.
- KOCH G. 2010b = *Türkiye'deki Roma İmparatorluk Dönemi Lahitleri. Genel Bir Bakış (Kaynakça Eki İle). Sarkophage der römischen Kaiserzeit in der Türkei. Ein Überblick (mit einer Bibliographie)*, Antalya.
- KOCH G. 2011 = *Sarcophagi di età romana in Asia Minore: una sintesi*, in D'ANDRIA, ROMEO 2011, 9-29.
- KOCH G., SICHTERMANN H. 1982 = *Römische Sarkophage*, München.
- KOÇMAN A. 1993a = *Türkiye İklimi*, in *Ege Üniversitesi Edebiyat Fakültesi Yayınları* 72, 7-58.
- KOÇMAN A. 1993b = *Ege Ovalarının İklimi*, in *Ege Üniversitesi Edebiyat Fakültesi Yayınları* 73, 44-115.
- KOÇYİĞİT A. 2003 = *General neotectonic characteristics and seismicity of central Anatolia*, in *Turkish Association of Petroleum Geologists Bulletin* 5, 1-24.
- KOÇYİĞİT A. 2005 = *The Denizli graben-horst system and the eastern limit of western Anatolian continental extension: basin fill, structure, deformational mode, throw amount and episodic evolutionary history, SW Turkey*, in *Geodinamica Acta*, 18, 3-4, 167-208.
- KOÇYİĞİT A., BEYHAN A. 1998 = *A New Intracontinental Transcurrent Structure: the Central Anatolian Fault Zone, Turkey*, in *Tectonophysics* 284, 317-336.
- KOÇYİĞİT A., CİHAN M., ÖZACAR A. 2001 = *Seismicity of Dombayova and Sandikli (Afyon)*

- Grabens and Kinematic Analysis of their Margin-bounding Faults*, in *Scientific and Technologic Research Council of Turkey*, Scientific Project Report, No. YDABÇAG-199Y007, 60.
- KOÇYİĞİT A., YUSUFOĞLU H., BOZKURT E. 1999 = *Evidence from the Gediz graben for episodic two stage extension in western Turkey*, in *Journal of the Geological Society of London* 156, 605-616.
- KOENIGS W. 2015 = *Der Athenatempel von Priene, Priene III (AF 33)*, Wiesbaden.
- KOENIGS W., RADT W. 1979 = *Ein kaiserzeitlicher Rundbau (Monopteros) in Pergamon*, in *IstMitt* 29, 317-354.
- KOHL M. 2011 = *Liberté individuelle et organisation du travail de lapicides en équipe dans un atelier de construction du haut empire à Pergame. Le cas de la «salle des empereurs» au gymnase des neoi*, in J-P. MOREL (ed.), *Les travailleurs dans l'antiquité: statuts et conditions. 127^e Congrès national des sociétés historiques et scientifiques* (Nancy 2002), Paris, 77-98.
- KOHTÉ J. 1904 = *Die Bauwerke*, in C. HUMANN (ed.), *Magnesia am Maeander. Bericht über die Ergebnisse der Ausgrabungen der Jahre 1891-1893*, Berlin.
- KOKKINIA C. 2003 = *Letters of Roman Authorities on Local Dignitaries. The Case of Vedius Antoninus*, in *ZPE* 142, 197-213.
- KOLB F. 2002² = *Rom. Die Geschichte der Stadt in der Antike*, München.
- KOLLER K. 2005 = *Marmorausstattungen*, in H. THÜR (ed.), *Das Hanghaus 2 in Ephesos. Die Wohneinheit 4, FiE VIII, 6*, Wien, 144-51.
- KOMAREK J., ANAGNOSTIDIS K. 1988 = *Cyanoprokaryota. Teil Chroococcales*, in H. ETTL, G. GÄRTNER, H. HEYNIG, D. MOLLENHAUER (eds.), *Süßwasser-flora von Mitteleuropa*, Stuttgart-Jena, 1-548.
- KOMAREK J., ANAGNOSTIDIS K. 2005 = *Cyanoprokaryota. Teil Oscillatoriales*, in B. BÜDEL, G. GÄRTNER, L. KRIENITZ, M. SCHAGERI (eds.), *Süßwasser-flora von Mitteleuropa*, München, 1-759.
- KONAK N., AKDENİZ N., ÖZTÜRK E.M. 1987 = *Geology of the south of Menderes Massif*, in *Guide Book for the Field Excursion along Western Anatolia, Turkey*, Ankara, 42-53.
- KONAKÇI E. 2014 = *Laodikeia'nın İlk Yerleşimi: Asopos Tepesi*, in ŞİMŞEK 2014a, 87-122.
- KORALAY O.E., DORA O.Ö., CHEN F., SATIR M., CANDAN O. 2004 = *Geochemistry and geochronology of orthogneisses in the Derbent area, eastern part of the Ödemiş-Kiraz sub-massif, Menderes Massif. Pan-African magmatic activity*, in *Turkish Journal of Earth Sciences* 13, 37-61.
- KORALAY T. forthcoming = *Minerologic, petrographic and geochemical properties of traverten building stones in Tripolis antique city (Yenice/Buldan-Denizli)*, in *Proceedings of Travertine and Tufa Workshop* (Denizli, 5-8 December 2015).
- KORALAY T., DUMAN B., DENİZ K., KADIOĞLU Y.K. 2017 = *The provenance of banded travertine from the ancient city of Tripolis (Yenice/Buldan-Denizli) based on the minerologic-petrographic and geochemical characterization*, in C. ŞİMŞEK, F. D'ANDRIA (eds.), *Landscape and History in the Lykos Valley: Laodikeia and Hierapolis in Phrygia*, Newcastle upon Tyne, 143-164.
- KORALAY T., KILINÇARSLAN S. 2015 = *Minerologic-petrographic and isotopic characterization of two antique marble quarries in the Denizli region (western Anatolia, Turkey)*, in *Periodico di Mineralogia* 84, 2, 263-288.
- KORALAY T., KILINÇARSLAN S. 2016 = *A Multi-Analytical Approach for Determining the Origin of the Marbles in Temple-A from Laodicea ad Lycum (Denizli-Western Anatolia, Turkey)*, in *Journal of Cultural Heritage* 17, 42-52.
- KORRES M. 2000 = *Υπόγεια λατομεία της Πάρου*, in D. SCHILARDI, S. KATSAROU, D. KATSANOPOULOU, C. BRENNER (eds.), *Paria Lithos. Parian Quarries, Marble and Workshops of Sculpture. Proceedings of the First International Conference of the Archaeology of Paros and the Cyclades* (Paros, 2-5 October 1997), Athens, 61-82.
- KOUROUNIOTIS K. 1921-1922 = *Ελληνικά Ανασκαφαί εν Μικρά Ασία. Ανασκαφαίεν Νύση τῆ ἐπὶ Μαϊάνδρῳ*, in *ADelt* 7, 1-88; 227-246.
- KOZELJ T., WURCH-KOZELJ M. 2002 = *The wood-work of the north-west stoa of Thassos. Analysis of blocks cavities, from the achitrave to the ridge tile, which allow the restitution of each piece of wood-work*, in LAZZARINI 2002a, 47-50.

- KÖSTER R. 1989 = *Ein Kleinkunstmotiv an ungewöhnlichem Ort*, in *IstMitt* 39, 297-306.
- KÖSTER R. 2004 = *Die Bauornamentik von Milet, Die Bauornamentik der frühen und mittleren Kaiserzeit, Milet VII, 1*, Berlin.
- KRAMER J. 1983 = *Zu einigen Architekturteilen des Grabtempels westlich von Side*, in *BJb* 183, 145-166.
- KRAUSS F. 1973 = *Das Theater von Milet. Das hellenistische Theater und der römische Zuschauerbau, Milet IV, 1*, Berlin.
- KREIKENBOM D., MAHLER K.-U., WEBER TH.-M. 2005 = *Urbanistik und städtische Kultur in Westasien und Nordafrika unter den Severern, Beiträge zur Table Ronde in Mainz 2004*, Worms.
- KRINZINGER F. 2010 = *Hanghaus 2 in Ephesos. Die Wohneinheit 1 und 2. Baubefund, Ausstattung, Funde, FiE VIII, 8*, Wien.
- KRÖNER A., ŞENGÖR A.M.C. 1990 = *Archean and Proterozoic ancestry in late Precambrian to early Paleozoic crustal elements of southern Turkey as revealed by single-zircon dating*, in *Geology* 18, 1186-1190.
- KUBIŃSKA J. 1968 = *Les monuments funéraires dans les inscriptions grecques de l'Asie Mineure (EtTrav 5)*, Warszawa.
- KUMSAR H., AYDAN Ö., ŞİMŞEK C., D'ANDRIA F. 2015 = *Historical earthquakes that damaged Hierapolis and Laodikeia antique cities and their implications for earthquake potential of Denizli basin in western Turkey*, in *Bulletin of Engineering Geology and the Environment* 75, 2, 519-536.
- LADSTÄTTER S. 2012 = *Das Hanghaus 2 in Ephesos*, Istanbul.
- LADSTÄTTER S., İLHAN S. 2011 = *The Marble Hall of Terrace House 2*, <http://www.oeai.at/index.php/terrace-house-2-marble-hall.htm>.
- LANCASTER L. 1999 = *Building Trajan's Column*, in *AJA* 103, 419-439.
- LANDWEHR C., ATTANASIO D., BRUNO M., SOBOTT R. 2012-2013 = *The sculptural marbles of Caesarea Mauretaniae (Cherchel, Algeria)*, in *Jdl* 127-128, 227-260.
- LAPALUS É. 1939 = *L'Agora des Italiens, Délos 19*, Paris.
- LAPUENTE M.P., BLANC P. 2002 = *Marbles from Hispania: scientific approach based on cathodoluminescence*, in HERRMANN, HERZ, NEWMAN 2002, 143-151.
- LAPUENTE M.P., LEÓN P., NOGALES-BASARRATE T., ROYO H., PREITE-MARTINEZ M., BLANC P. 2012 = *White sculptural materials from Villa Adriana. Study of provenance*, in GUTIÉRREZ GARCIA, LAPUENTE, RODÀ 2012, 364-375.
- LAPUENTE M.P., NOGALES T., LEÓN P., ROYO H., PREITE-MARTINEZ M. 2009 = *Black sculptural materials from Villa Adriana: study of provenance*, in GUTIÉRREZ GARCIA, LAPUENTE, RODÀ 2012, 376-483.
- LAPUENTE M.P., TURI B., BLANC P. 2000 = *Marbles from Roman Hispania. Stable isotope and cathodoluminescence characterization*, in *Applied Geochemistry* 15, 1469-1493.
- LA ROCCA E. 1994 = "Memore di Castore": *principi come Dioscuri*, in NISTA L. (ed.), *Castores. L'immagine dei Dioscuri a Roma*, Roma, 73-90.
- LASAPONARA R., LEUCCI G., MASINI N., PERSICO R., SCARDOZZI G. 2016 = *Towards an operative use of remote sensing for exploring the past using satellite data. The case study of Hierapolis (Turkey)*, in *Remote Sensing of Environment* 174, 148-164.
- LASAPONARA R., LEUCCI G., MASINI N., PERSICO R., SCARDOZZI G. forthcoming = *Integration of archaeological surveys, remote sensing data and geophysical prospecting for the study of rural settlements in the territory of Hierapolis in Phrygia (Turkey)*, in *Remote Sensing of Environment*.
- LASAPONARA R., MASINI N. 2012 (eds.) = *Satellite Remote Sensing. A New Tool for Archaeology*, Heidelberg-London-New York.
- LASAPONARA R., MASINI N., SCARDOZZI G. 2007 = *Immagini satellitari ad alta risoluzione e ricerca archeologica*, in *ACalc* 18, 187-227.
- LASAPONARA R., MASINI N., SCARDOZZI G. 2008a = *New perspectives for satellite-based archaeological research in the ancient territory of Hierapolis (Turkey)*, in *Advances in Geosciences* 19, 87-96.
- LASAPONARA R., MASINI N., SCARDOZZI G. 2008b = *Satellite-based archaeological research in the ancient territory of Hierapolis (Turkey)*, in R. LASAPONARA, N. MASINI (eds.),

- Advances on Remote Sensing for Archaeology and Cultural Heritage Management. Proceedings of the 1st International EARSeL Workshop* CNR (Roma, September 30-October 4, 2008), Roma, 11-16.
- LASAPONARA R., MASINI N., SCARDOZZI G. 2010 = *Elaborazione di immagini satellitari ad alta risoluzione e ricognizione archeologica per la conoscenza degli insediamenti rurali del territorio di Hierapolis di Frigia (Turchia)*, in D'ANDRIA, MALFITANA, MASINI, SCARDOZZI 2010, 479-494.
- LASAPONARA R., MASINI N., SCARDOZZI G. forthcoming = *Potenzialità dei dati satellitari SAR Cosmo-SkyMed per l'archeologia: primi risultati a Hierapolis di Frigia (Turchia)*, in *Archeologia Aerea* 10.
- LAUFFER S. 1971 = *Diokletians Preisedikt*, Berlin.
- LAUTER H. 1999 = *L'architettura dell'Ellenismo* (Biblioteca di archeologia 27), Milano.
- LAZZARINI L. (ed.) 2002a = *Interdisciplinary Studies on Ancient Stone, ASMOSIA VI. Proceedings of the Sixth International Conference* (Venezia, 15-18 June 2000), Padova.
- LAZZARINI L. 2002b = *La determinazione della provenienza delle pietre decorative usate dai romani*, in DE NUCCIO, UNGARO 2002, 223-265.
- LAZZARINI L. 2005 = *Lama 1994-2004. 10 anni di attività*, Venezia.
- LAZZARINI L. 2007 = *Poikiloi lithoi, versicolores maculae: i marmi colorati della Grecia antica*, Pisa.
- LAZZARINI L., ANTONELLI F. 2003 = *Petrographic and Isotopic Characterization of the Marble of the Island of Tinos (Greece)*, in *Archaeometry* 45, 4, 541-552.
- LAZZARINI L., MOSCHINI G., WAELKENS M., XUSHENG H. 1985 = *New Light on Same Phrygian Marble Quarries Through a Petrological Study and the Evolution of Ca/Sr Ratio*, in P. PENSABENE (ed.), *Marmi Antichi, problemi d'impiego, di restauro e d'identificazione*, Roma, 47-55.
- LAZZARINI L., MOSCHINI G., STIEVANO B.M. 1980 = *A contribution to the identification of Italian, Greek and Anatolian marbles through a petrological study and the evaluation of Ca/Sr ratio*, in *Archaeometry* 22, 2, 173-182.
- LAZZARINI L., PENSABENE P., TURI B. 1999 = *Isotopic and petrographic characterization of Marmor Lesbium, Island of Lesbos, Greece*, in SCHVOERER 1999, 125-129.
- LAZZARINI L., PONTI G., PREITE MARTINEZ M., ROCKWELL P., TURI B. 2002 = *Historical, technical, petrographic, and isotopic features of Aphrodisian marble*, in HERRMANN, HERZ, NEWMAN 2002, 163-168.
- LAZZARINI L., VISONÀ D., GIAMELLO M., VILLA I. 2012 = *Archaeometric characterisation of one Tunisian and two Italian calcareous alabasters used in antiquity*, in GUTIÉRREZ GARCIA, LAPUENTE, RODÀ 2012, 436-444.
- LE CORBUSIER 1954 = *Le Modulor*, Paris (trad. it. E. SAURWEIN, *Il Modulor*, Milano 1974).
- LE PICHON X., ANGELIER J., SIBUET J.-C. 1982 = *Plate boundaries and extensional tectonics*, in *Tectonophysics* 81, 239-256.
- LEBATARD A.E., ALÇIÇEK M.C., ROCHETTE P., KHATIB S., VIALET A., BOULBES N., BOURLES D.L., DEMORY F., GUIPERT G., MAYDA S., TITOV V.V., VIDAL L., DE LUMLEY H. 2014 = *Dating the Homo Erectus bearing travertine from Kocabaş (Denizli, Turkey) at at least 1.1 Ma*, in *Earth and Planetary Science Letters* 390, 8-18.
- LEE Z., CARDER K.L., HAWES S.K., STEWARD R.G., PEACOCK T.G., DAVIS C.O. 1994 = *Model for the interpretation of hyperspectral remote sensing reflectance*, in *Applied Optics* 33, 24, 5721-5732.
- LEHMANN J. 2014 = *Die Gleichzeitigkeit des Ungleichzeitigen. Konstanten und Dynamiken antiker Bauornamentik am Beispiel hispanischer Fundgruppen*, in LIPPS, MASCHKE 2014b, 139-153.
- LEON CH.F. 1971 = *Die Bauornamentik des Trajansforums und ihre Stellung in der früh- und mittelkaiserzeitlichen Architekturdekoration Roms* (Publikationen des Historisches Instituts beim Österreichischen Kulturinstitut in Rom. I. Abteilung Abhandlungen 4), Wien.
- LEPELLEY C. 1979 = *Les cités de l'Afrique romaine au Bas-Empire Vol. I*, Paris.
- LEPELLEY C. 1999 = *Témoignages épigraphiques sur le contrôle des finances municipales par les gouverneurs à partir du règne de Dioclétien*, in *Il capitolio delle entrate nelle finanze municipali in Occidente ed in Oriente* (CEFR 256), Rome, 235-247.

- LEUCCI G. 2015 = *Geofisica applicata all'archeologia e ai beni monumentali*, Palermo.
- LEUCCI G., GRECO F., DE GIORGI L., MAUCERI R. 2007 = *3D seismic refraction tomography and electrical resistivity tomography survey in the castle of Occhiola (Sicily, Italy)*, in *JASc* 34, 233-242.
- LILJENSTOLPE P., VON SCHMALENSEE P. 1996 = *The Roman Stoa of Poleites at Labraynda*, in *OpAth* 21, 8, 125-148.
- LIMONCELLI M. 2009 = *Virtual Archaeology a Hierapolis di Frigia. Restauro virtuale e restituzione 3D degli edifici di ordine dorico*, in ISMAELLI 2009a, 493-503.
- LIMONCELLI M. 2012 = *Il restauro Virtuale in Archeologia*, Roma.
- LIMONCELLI M. 2013 = *Il progetto "Hierapolis Virtuale". Esperienze di restauro virtuale e restituzione in 3D*, in R. D'ANDRIA, K. MANNINO (eds.), *Gli allievi raccontano*, Galatina, 247-253.
- LIMONCELLI M. 2016a = *Hierapolis virtuale: metodologie informatiche integrate per lo studio della trasformazione urbana di una città dell'Asia Minore tra età romana e protobizantina*, Tesi di Dottorato, Università Cattolica del Sacro Cuore, Milano.
- LIMONCELLI M. 2016b = *Il progetto 'Hierapolis Virtuale': analisi integrate per lo studio dell'architettura terapolitana. L'esempio del teatro extraurbano*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 77-89.
- LIMONCELLI M. 2017 = *Il contributo dell'Archeologia Virtuale per lo studio dell'architettura nell'area del Santuario di Apollo: la simulazione dello spazio e della percezione visiva*, in ISMAELLI 2017a, 524-532.
- LIMONCELLI M., SCARDOZZI G. 2013 = *Dalla cartografia archeologica digitale al restauro virtuale: recenti casi di studio a Hierapolis di Frigia*, in *ACalc* 24, 75-99.
- LIPPS J., MASCHEK D. 2014a = *Antike Bauornamentik. Bemerkungen zum Forschungsstand und zu den Absichten des vorliegenden Bandes*, in LIPPS, MASCHEK 2014b, 9-24.
- LIPPS J., MASCHEK D. (eds.) 2014b = *Antike Bauornamentik. Grenzen und Möglichkeiten ihrer Erforschung* (Studien zur antiken Stadt 12), Wiesbaden.
- LISTER G., BANGA G., FEENSTRA A. 1984 = *Metamorphic core complexes of Cordilleran type in the Cyclades. Aegean Sea, Greece*, in *Geology* 12, 221-225.
- LIVERANI P. 1989 = *L'Antiquarium di Villa Barberini a Castel Gandolfo*, Città del Vaticano.
- LIVERANI P. 2014 = *Per una storia del colore. La scultura policroma romana, un bilancio e qualche prospettiva*, in P. LIVERANI, U. SANTAMARIA (eds.), *Diversamente bianco. La policromia della scultura romana*, Roma, 9-32.
- LLUVERAS A., BONADUCE I., ANDREOTTI A., COLOMBINI M.P. 2010 = *A GC/MS analytical procedure for the characterization of glycerolipids, natural waxes, terpenoid resins, proteinaceous and polysaccharide materials in the same paint micro sample avoiding interferences from inorganic media*, in *Analytical Chemistry* 81, 376-386.
- LO CASCIO E. 1993 = *Dinamiche economiche e politiche fiscali fra i Severi e Aureliano*, in A. CARANDINI (ed.), *Storia di Roma III, 1. L'Età Tardo Antica. Crisi e trasformazioni*, Torino, 247-282.
- LOISEAU CH. 2012 = *Les métaux dans les constructions publiques romaines: applications architecturales et structures de production (1^{er}-III^e siècle ap. J.C.)*, in CAMPOREALE, DESALES, PIZZO 2012, 117-129.
- LOKE M.H. 2001 = *Tutorial: 2-D and 3-D electrical imaging surveys*, www.geoelectrical.com.
- LOLOS Y. 2015 = *L'architecture à Sycione pendant la haut époque hellénistique*, in DES COURTILS J. (ed.), *L'architecture monumentale grecque au III^e siècle a.C.* (Ausonius Mémoires 40), Bordeaux, 51-82.
- LONG L.E. 2012a = *The Regional Marble Quarries*, in RATTÉ, DE STAEBLER 2012, 165-201.
- LONG L.E. 2012b = *Urbanism, Art, and Economy. The Marble Quarrying Industries of Aphrodisias and Roman Asia Minor*, Dissertation University of Michigan, Ann Arbor <https://deepblue.lib.umich.edu/handle/2027.42/93911>.
- LONG L.E. 2017 = *Extracting Economics from Roman Marble Quarries*, in *Economic History Review* 70.1, 52-78.
- LUSUARDI SIENA S., PERASSI C., SACCHI F., SANNAZZARO M. (eds.) 2016 = *Archeologia clas-*

- sica e post-classica tra Italia e Mediterraneo. Scritti in ricordo di Maria Pia Rossignani (Contributi di archeologia 8), Milano.
- MACHEL H.G. 1985 = *Cathodoluminescence in calcite and dolomite and its chemical interpretation*, in *Geoscience Canada* 12, 139-147.
- MACHEL H.G. 2000 = *Application of cathodoluminescence to carbonate diagenesis*, in M. PAGEL, V. BARBIN, P. BLANC, D. OHNENSTETTER (eds.), *Cathodoluminescence in Geosciences*, Berlin, 271-301.
- MACHEL H.G., MASON R.A., MARIANO A.N., MUCCI A. 1991 = *Causes and emission of luminescence in calcite and dolomite*, in C.E. BAKER, O.C. KOPP (eds.), *Luminescence microscopy and spectroscopy: qualitative and quantitative applications* (Society for Sedimentary Geology. Short Course 25), Dallas, 9-25.
- MAGIE D. 1950 = *Roman Rule in Asia Minor to the End of the Third Century After Christ*, Princeton.
- MAGIE D. 2001 = *Anadoluda Romalılar I. Attalos'un Vasiyeti* (transl. by N. Başgelen, Ö. Çapar), Istanbul.
- MAGNESS J. 2005 = *The Date of the Sardis Synagogue in Light of the Numismatic Evidence*, in *AJA* 109, 3, 443-475.
- MAGUIRE H. 2012 = *Nectar and Illusion. Nature in Byzantine Art and Literature*, Oxford.
- MAIRANI A., MATTEINI M., RIZZI M. 2000 = *L' "Eterno Padre" di Baccio Bandinelli: fondamenti e tecniche del trattamento di protezione ad ossalato di calcio artificiale di una scultura marmorea*, in *OPD Restauro* 12, Firenze, 146-150.
- MAISCHBERGER M. 1997 = *Marmor in Rom. Anlieferung, Lager- und Werkplätze in der Kaiserzeit* (Palilia 1), Wiesbaden.
- MAISCHBERGER M. 2009a = *Das Nymphäum*, in O. DALLY, M. MAISCHBERGER, P.I. SCHNEIDER, A. SCHOLL (eds.), *Zeit Räume. Milet in Kaiserzeit und Spätantike*, Regensburg, 97-107.
- MAISCHBERGER M. 2009b = *Das Nordtor des Südmaktes, sog. Markttor*, in O. DALLY, M. MAISCHBERGER, P.I. SCHNEIDER, A. SCHOLL (eds.), *Zeit Räume. Milet in Kaiserzeit und Spätantike*, Regensburg, 109-119.
- MALDONADO T. 1993 = *Reale e Virtuale*, Milano.
- MAMA IV = BUCKLER W.H., CALDER W.M., GUTHRIE M.K.C. (eds.), *Monumenta Asiae Minoris Antiqua IV. Monuments and documents from eastern Asia and western Galatia*, Manchester 1933.
- MAMA IX = COX C.W.M., CAMERON A., CULLEN J., LEVICK B., NASH D. (eds.), *Monumenta Asiae Minoris Antiqua IX. Monuments from the Aezanitis*, London 1988.
- MANGO C.A. 1972 = *The Art of the Byzantine Empire 312-1453. Sources and Documents* (Sources and documents in the history of art series), Engewood Cliff.
- MANFRA L., MASI U., TURI B. 1975 = *Carbon and oxygen isotope ratios of marbles from some ancient quarries of western Anatolia and their archaeological significance*, in *Archaeometry* 17, 2, 215-221.
- MANIA U. 2011 = *Die rote Halle in Pergamon. Ausstattung und Funktion* (PF 15), Mainz.
- MANIATIS Y., TAMBAKOPOULOS D., DOTSIKA E. 2010 = *Marble provenance investigation of Roman sarcophagi from Thessaloniki*, in *Archaeometry* 52, 1, 45-58.
- MANIERI ELIA G. 2010 = *Metodo e Tecniche del Restauro Architettonico*, Roma.
- MANNONI T., BOATO A. 2005 = *Archeologia e storia del cantiere di costruzione*, in *Archeologia de la Arquitectura* 4, 39-53.
- MANSEL A.M. 1949 = *Excavations and researches in the necropolis of Perge*, in A.M. MANSEL, A. AKARCA, *Excavations and researches at Perge (TTKY 5, 8)*, 44-61.
- MANSEL A.M. 1975 = *Die Nymphaeen von Perge*, in *IstMitt* 25, 367-372.
- MARABINI S. 2015 = *Note illustrative della carta geologica di Hierapolis*, in *ATLANTE* 2015, 7-11.
- MARABINI S., SCARDOZZI G. 2015 = *La ricerca geo-archeologica a Hierapolis*, in *ATLANTE* 2015, 227-268.
- MARANO Y.A. 2014 = *Le cave di marmo nella tarda antichità: aspetti organizzativi e produttivi*, in BONETTO, CAMPORALE, PIZZO 2014, 413-427.
- MAROCCHI M., DELLISANTI F., BARGOSSO G.M., GASPAROTTO G., GRILLINI G.C., ROSSI P.L.

- 2009 = *Mineralogical petrographic characterisation and provenance of "Porta Nuova" stones: a XVI century gate in Ravenna (Italy)*, in *Periodico di Mineralogia* 78, 2, 13-28.
- MARSHALL D.J. 1988 = *Cathodoluminescence of geological materials*, London.
- MARTIN A. 1990 = *Review to RITTI 1985 e D'ANDRIA, RITTI 1985*, in *Latomus* 49, 237-239.
- MARTIN R. 1965 = *Manuel d'architecture grecque 1. Matériaux et techniques*, Paris.
- MASCHEK D. 2013 = *Die "Nicchioni" von Todi. Ein Monument der legio XXXXI nach der Schlacht von Naulochus*, in *RM* 119, 139-168.
- MASCLE J., HUGUEN C., BENKHELIL J., CHOMOT-ROOKE N., CHAUMILLON E., FOUCHER J.P., GRIBOULARD R., KOPF A., LAMARCHE G., VOLKONSKAIA A., WOODSIDE J., ZITTER T. 1999 = *Images may show start of European-African plate collision*, in *Eos* 80, 37, 421-428.
- MASINO F. 2012 = *Projects for presentation and use of the theatre in Hierapolis*, in MASINO, MIGHETTO, SOBRÀ 2012, 163-182.
- MASINO F. 2015 = *The introduction of marble in the cavea of the Theatre of Hierapolis: building process and patronage*, in PENSABENE, GASPERINI 2015, 225-232.
- MASINO F. 2016 = *Alabastro e marmi per la cavea del Teatro di Hierapolis*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 141-154.
- MASINO F., MIGHETTO P., SOBRÀ G. (eds.) 2012 = *Restoration and management of ancient theatres in Turkey. Methods, research, results* (Archeologia e storia 11), Galatina.
- MASINO F., SOBRÀ G. 2011 = *A monumental altar of Hadrianic age at Hierapolis in Phrygia*, in T. NOGARES BASARRATE, I. RODÀ DE LLANZA (eds.), *Roma y las Provincias. Modelo y Difusión I*, Roma, 169-181.
- MASINO F., SOBRÀ G. 2012a = *L'Altare del Dodektheon di Hierapolis*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 259-291.
- MASINO F., SOBRÀ G. 2012b = *Ricerche e interventi nel Teatro*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 207-233.
- MASINO F., SOBRÀ G. 2016 = *Il paesaggio monumentale della Necropoli Nord: un gruppo di edifici funerari e le sue trasformazioni tra I e IV secolo d.C.*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 435-448.
- MATTEINI M. 2003 = *The mineral approach to the conservation of mural paintings: Barium hydroxide and artificial oxalates*, in R. GOWING, A. HERITAGE, *Conserving the Painted Past. Developing Approaches to Wall Painting Conservation. Postprints of an International Conference Organized by English Heritage* (London, 2-4 December 1999), London, 110-115.
- MATTEINI M., BOTTICELLI G. 2010 = *Metodi di consolidamento dei dipinti murali e dei manufatti lapidei tra tradizione e innovazione*, in *Salone dell'Arte e del Restauro di Firenze* (Firenze, 12 novembre 2010), oral communication.
- MATTEINI M., FRATINI F., RESCIC S. 2007 = *Carbonate lithotypes passivated with the ammonium oxalate treatment. Colorimetric and morphological study of treated surfaces*, in *Science and Technology for Cultural Heritage* 16, 1-2, 129-141.
- MATTEINI M., MOLES A., GIOVANNONI S. 1994 = *Calcium oxalate as a protective mineral system for wall paintings. Methodology and analyses*, in V. FASSINA, H. OTT, F. ZEZZA (eds.), *Proceedings of the 3rd International Symposium on the Conservation of Monuments in the Mediterranean Basin. Stone and monuments. Methodologies for the Analyses of Weathering and Conservation*, Venice, 155-162.
- MATTEINI M., MOLES A. 1986 = *Le patine di ossalato di calcio sui manufatti in marmo*, in A. GIUSTI (ed.), *Restauro del marmo, Opere e Problemi (OPD Restauro)*, Firenze, 65-73.
- MATTEINI M., MOLES A., LANTERNA G., NEPOTI M.R. 1996 = *Preliminary monitoring on painted plasters and marble surfaces of a mineral protective treatment based on artificially formed calcium oxalate*, in M. REALINI, L. TONIOLO (eds.), *Il International Symposium "The Oxalate Films in the Conservation of Works of Art". Proceedings Centro CNR "Gino Bozza". Per lo studio delle cause di deperimento e dei metodi di conservazione delle opere d'arte* (Milan, 25-27 March 1996), Castello d'Argine, 425-440.
- MATTEINI M., RESCIC S., BOTTICELLI G., FRATINI F. 2011 = *Ammonium phosphates as consolidating agents for carbonatic stone materials used in architecture and cultural he-*

- ritage: preliminary research, in *International Journal of Architectural Heritage* 5, 6, 717-736.
- MATTERN T. 2001 = *Gesims und Ornament. Zur stadtrömischen Architektur von der Republik bis Septimius Severus*, Münster.
- MATTHEWS H. 2014 = *Greco-Roman Cities of Aegean Turkey. History, Archaeology, Architecture*, Istanbul.
- MATTHEWS K.J., LEESE M.N., HUGHES M.J., HERZ N., BOWMAN S.G.E. 1995 = *Establishing the provenance of marble using statistical combinations of stable isotope and neutron activation analysis data*, in Y. MANIATIS, N. HERZ, Y. BASIAKOS (eds.), *The Study of Marble and Other Stones Used in Antiquity. Proceedings of the ASMOSIA III International Conference* (Paraskevi, 17-19 May 1993), London, 181-186.
- MATTHEWS K.J., MOENS L., WALKER S., WAELKENS M., DE PAEPE P. 1992 = *The re-evaluation of stable isotope data for Pentelic marble*, in WAELKENS, HERZ, MOENS 1992, 203-212.
- MAZZOCCHIN G.A., ZACCARIA RUGGIU A. 2012 = *Analisi di frammenti di intonaco dalla Casa dell'Iscrizione Dipinta*, appendice a ZACCARIA RUGGIU A., *Un quartiere residenziale: l'insula 104*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 419-442.
- MCALPINE L.J. 2016 = *Luxury in Fantasy and Reality. Exotic Marble*, in E.K. GAZDA, J.R. CLARKE (eds.), *Leisure and Luxury in the Age of Nero. The Villas of Oplontis Near Pompeii* (Kelsey Museum publication 14), Ann Arbor, 111-118.
- MCCORMICK M. 1986 = *Eternal Victory. Triumphal Rulership in Late Antiquity, Byzantium and the Early Eedieval West*, Cambridge.
- McKENZIE D.P. 1972 = *Active tectonic of the Mediterranean region*, in *Royal Astronomical Society Geophysical Journal* 30, 109-185.
- MEGAW A.H.S. 1974 = *Byzantine Architecture and Decoration in Cyprus. Metropolitan or Provincial?*, in *DOP* 28, 60-62.
- MEGAW A.H.S. 2007 = *Kourion. Excavations in the Episcopal Precinct* (Dumbarton Oaks Studies 38), Washington.
- MEIGGS R. 1973² = *Roman Ostia*, Oxford.
- MELEZHNIK V.A., BINGEN B., FALLICK A.F., GOROKHOV I.M., KUZNETSOV A.B., SANDSTAD J.S., SOLLI A., BJERKGARD T., HENDERSON I., BOYD R., JAMAL D., MONIZ A. 2008 = *Isotope chemostratigraphy of marbles in northeastern Mozambique apparent depositional ages and regional implications*, in *Precambrian Research* 162, 540-558.
- MELFOS V. 2004 = *Mineralogical and Stable Isotopic Study of Ancient White Marble Quarries in Larisa, Thessaly, Greece*, in *Bulletin of the Geological Society of Greece* 36, 3, 1164-1172.
- MELLO E., MELONI S., MONNA D., ODDONE M. 1988 = *A Computer-Based Pattern Recognition Approach to the Provenance Study of Mediterranean Marbles Through Trace Elements Analysis*, in HERZ, WAELKENS 1988, 283-291.
- MELUCCO VACCARO A. 1989 = *Archeologia e restauro. Tradizione e attualità*, Milano.
- MELUCCO VACCARO A. 2000 = *Archeologia e restauro: storia e metodologia del problema*, Roma.
- MERKELBACH R., STAUBER J. 2002 = *Steinepigramme aus dem griechischen Osten 4. Die Südküste Kleinasiens, Syrien und Palaestina*, München.
- MERT İ.H. 2008 = *Untersuchungen zur hellenistischen und kaiserzeitlichen Bauornamentik von Stratonikeia* (IstForsch 50), Tübingen.
- MEULENKAMP J.E., WORTEL M.J.R., VAN WAMEL W.A., SPAKMAN W., HOGERDUYN STRATING E. 1988 = *On the Hellenic subduction zone and the geodynamical evolution of Crete since the late Middle Miocene*, in *Tectonophysics* 146, 203-215.
- MESCI B.L., TATAR O., PIPER J.D.A., GÜRISOY H., ALTUNEL E., CROWLEY S. 2013 = *The efficacy of travertine as a palaeoenvironmental indicator: palaeomagnetic study of neotectonic examples from Denizli, Turkey*, in *Turkish Journal of Earth Sciences* 22, 191-203.
- MIELSCH H. 1985 = *Buntmarmore aus Rom im Antikenmuseum Berlin*, Berlin.
- MIFSUD T., CASSAR J. 2006 = *The treatment of weathered Globigerina Limestone: the surface conversion of calcium carbonate to calcium oxalate*, in A. DE BUERGO, G. HERAS, V. CALVO (eds.), *Heritage, Weathering and Conservation-Fort*, London, 727-734.

- MIGEOTTE L. 2014 = *Les finances des cités grecques*, Paris.
- MIGHETTO P. 2012a = *Il cantiere del nuovo palcoscenico del Teatro*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 235-247.
- MIGHETTO P. 2012b = *The restoration of the stage in the theatre of Hierapolis. Project and site work*, in MASINO, MIGHETTO, SOBRÀ 2012, 205-216.
- MILANOVIC B. 2006 = *An Estimate of Average Income and Inequality in Byzantium around Year 1000*, in *Review of Income and Wealth* 52, 449-470.
- Milet I.5 = HÜLSEN J., *Das Nymphaeum, Milet I*, 5, Berlin 1919.
- Milet I.9 = VON GERKAN A., KRISCHEN F., *Thermen und Palaestren, Milet I*, 9, Berlin 1928.
- Milet VI.1 = REHM A., HERRMANN P., *Inschriften von Milet I, Milet VI*, 1, Berlin 1906.
- MILLAR F. 1977 = *The Emperor in the Roman World*, London-Toronto.
- MILLAR F. 1984 = *Condemnation to Hard Labour in the Roman Empire, from the Julio-Claudians to Constantine*, in *BSR* 52, 137-143.
- MIRANDA E. 1999 = *La comunità giudaica di Hierapolis di Frigia*, in *EpigrAnat* 31, 109-156.
- MIRANDA DE MARTINO E. 2014 = *Architrave con dedica a Diocleziano dal territorio di Hierapolis*, in *ScAnt* 20, 2, 71-81.
- MIRANDA DE MARTINO E., RITTI T., SCARDOZZI G. 2012 = *L'area sacra dei Motaleis e il santuario di Apollo Karios nel territorio di Hierapolis*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 687-738.
- MITCHELL S. 1987 = *Imperial Building in the Eastern Roman Provinces*, in *HarvStClPhil* 91, 333-365.
- MITCHELL S. 1993 = *Anatolia. Land, Men and Gods*, Oxford.
- MITCHELL S. 1995 = *Cremna in Pisidia. An Ancient City in Peace and in War*, Swansea.
- MITCHELL S, WAEKENS M. 1998 = *Pisidian Antioch. The Site and its Monuments*, London.
- MITZANI A. 1996-1997 = *To παλαιοχριστιανικό κιβώριο της Κατοπολιανής Πάρου*, in *DeltChrA* 19, 319-334.
- MODUGNO F., RIBECHINI E. 2009 = *GC/MS in the Characterization of Resinous Material*, in M.P. COLOMBINI, F. MODUGNO (eds.), *Organic Mass Spectrometry in Art and Archaeology*, 215-235; <http://onlinelibrary.wiley.com/doi/10.1002/9780470741917.ch1/summary>.
- MOENS L., DE PAEPE P., WAEKENS M. 1992 = *Multidisciplinary research and cooperation: keys to a successful provenance determination of white marble*, in WAEKENS, HERZ, MOENS 1992, 247-254.
- MOENS L., ROOS P., DE RUDDER J., DE PAEPE P., VAN HENDE J., WAEKENS M. 1988 = *A multimethod approach to the identification of white marbles used in antique artefacts*, in HERZ, WAEKENS 1988, 243-250.
- MONNA D., PENSABENE P. 1977 = *Marmi dell'Asia Minore*, Roma.
- MONNA D., PENSABENE P., SODINI J.P. 1985 = *L'identification des marbres: sa nécessité, ses méthodes, ses limites*, in P. PENSABENE (ed.), *Marmi Antichi, problemi d'impiego, di restauro e d'identificazione*, Roma, 15-34.
- MONTEGROSSI G., TASSI F., VASELLI O., BIDINI E., MINISSALE A. 2006 = *A new, rapid and reliable method for the determination of reduced sulphur (ΣS²⁻) species in natural discharges*, in *Applied Geochemistry* 21, 849-857.
- MORETTI G. 1923-1924 = *Sculture in Adalia*, in *ASAtene* 6-7, 479-507.
- MORETTI J.C. 1992 = *Architecture des théâtres en Asie Mineure (1980-1989)*, in *Topoi* 2, 9-32.
- MORETTI J.C. 2001 = *Théâtre et société en Grèce antique*, Paris.
- MORETTI J.C. 2009 = *Les lieux de culte dans les théâtres grecs*, in J.C. MORETTI (ed.), *Fronts de scène et lieux de culte dans le théâtre antique* (Travaux de la Maison de l'Orient et de la Méditerranée 52), Lyon, 23-52.
- MORETTI J.C. 2014 = *Le temple d'Apollon et le fonctionnement de l'oracle*, in J.C. MORETTI (ed.), *Le sanctuaire de Claros et son oracle*, Actes du Colloque International (Lyon, 13-14 Janvier 2012) (Travaux de la Maison de l'Orient et de la Méditerranée 65), Lyon, 33-49.

- MORGENSTERN J. (ed.) 1993 = *The Fort at Deregazi, and other material remains in its vicinity* (IstForsch 40), Tübingen.
- MOSCH S., NIKOLAYEW D., EWIAK O., SIEGESMUND S. 2011 = *Optimized Extraction of Dimension Stone Blocks*, in *Environmental Earth Sciences* 63, 7, 1911-1924.
- MOSCHINI D. 1999 = *Oltre il visibile: restauro "fisico" per conservare e restauro "virtuale" per valorizzare*, Viterbo.
- MROZEK S. 1981 = *Munificentia privata und die private Bautätigkeit in den Städten Italiens während des Prinzipates*, in *Acta Antiqua* 29, 369-377.
- MROZEK S. 1989 = *Lohnarbeit im klassischen Altertum. Ein Beitrag zur Sozial- und Wirtschaftsgeschichte*, Bonn.
- MUDELSEE M., SCHULZ M. 1997 = *The Mid-Pleistocene climate transition: onset of 100 ka cycle lags ice volume build-up by 280 ka*, in *Earth PlanetScience Letters* 151, 117-123.
- MÜLLER H. 2009 = *Hadrian an die Pergamener. Eine Fallstudie*, in R. HAENSCH (ed.), *Selbstdarstellung und Kommunikation. Die Veröffentlichung staatlicher Urkunden auf Stein und Bronze in der römischen Welt*, München, 367-406.
- MULLER W., VOGEL G. 2000 = *Atlante di Architettura*, Milano.
- MUTLU H., GÜLEÇ N. 1998 = *Hydrogeochemical outline of thermal waters and geothermometry applications in Anatolia, Turkey*, in *Journal of Volcanology and Geothermal Research* 85, 495-515.
- MYLONPOULOS J. 2006 = *Greek Sanctuaries as Places of Communication through Rituals: an Archaeological Perspective*, in E. STAVRIANOPOULOU (ed.), *Ritual and communication in the Graeco-Roman World* (Kernos Suppl. 11), Liège, 69-110.
- NAUMANN R. 1979 = *Der Zeustempel zu Aizanoi*, Berlin.
- NAUMANN R., KANTAR S. 1950 = *Die Agora von Smirna*, in *Kleinasien und Byzanz* (IstForsch 17), Berlin, 69-114.
- NAUMANN R., NAUMANN F. 1973 = *Der Rundbau in Aezani* (IstMitt Beiheft 10), Tübingen.
- NECDET A., MUTLUER M., İŞİK Ş. 1993 = *Bölgesel Türkiye Coğrafyası (Regional Geography of Turkey)*, Izmir, 94-97.
- NEGRI G. 1985 = *Diritto minerario romano. Studi esegetici sul regime delle cave private nel pensiero dei giuristi classici I*, Milano.
- NEGRI S., LEUCCI G. 2006 = *Geophysical investigation of the temple of Apollo (Hierapolis, Turkey)*, in *JASc* 33, 1505-1513.
- NERI E. 2016 = *I mosaici parietali della Hierapolis bizantina: una prima segnalazione*, in LUSUARDI SIENA, PERASSI, SACCHI, SANNAZARO 2016, 503-513.
- NERI E., CAGGIA P. 2016 = *Fragments de la décoration pariétale de l'église de St. Philippe à Hiéropolis (Phrygie): matériaux, techniques, motifs. Approches archéologiques et archéométriques*, in L.N. JIMENEZ (ed.), *Estudios sobre mosaicos antiguos y medievales. Actes du XIII colloque de l'AIEMA* (Madrid, 14-18 de Septiembre 2015), Roma, 285-294.
- NG D.Y. 2015 = *Commemoration and Élite Benefaction of Buildings and Spectacles in the Roman World*, in *JRS* 105, 101-123.
- NICCOLUCCI F. (ed.) 2002 = *Virtual Archaeology*, in *Proceedings of the VAST Euroconference* (Arezzo, 24-25 Novembre 2000), Oxford.
- NICCOLUCCI F., HERMON S. (eds.) 2010 = *Beyond the Artifact. Digital Interpretation of the Past. Proceedings of CAA 2004* (Prato, 13-17 April 2004), Oxford.
- NIELSEN I. 2002 = *Cultic Theatres and Ritual Drama. A Study in Regional Development and Religious Interchange between East and West in Antiquity* (Aarhus Studies in Mediterranean Antiquity 4), Aarhus.
- NIELSEN I. 2008 = *Das kultische Theater: ein Beispiel architektonischer Innovation im Orient*, in F. PIRSON, U. WULF-RHEIDT (eds.), *Austausch und Inspiration. Kulturkontakt als Impuls architektonischer Innovation*, Mainz, 152-159.
- NIEMANN G., WILBERG W. 1923 = *Der südliche Torbau*, in E. REISCH (ed.), *FiE III*, Wien.
- NIEWÖHNER P. 2007 = *Aizanoi, Dokimion und Anatolien. Stadt und Land, Siedlungs- und Steinmetzwesen vom späteren 4. bis ins 6. Jh. n. Chr., Aizanoi I* (AF 23), Wiesbaden.
- NIEWÖHNER P. 2013 = *Phrygian Marble and stonemasonry as markers of regional distin-*

- ctiveness in Late Antiquity*, in P. THONEMANN (ed.), *Roman Phrygia. Culture and Society*, Cambridge, 215-248.
- NIEWÖHNER P. (ed.) 2016 = *Die byzantinischen Basiliken von Milet* (Bauwerke in Milet 11), Berlin-Boston.
- NIEWÖHNER P., AUDLEY-MILLER L., PROCHASKA W. 2013 = *Marbles, quarries and workshops on the highlands of Northern Macedonia*, in *AA* 1, 95-145.
- NIMIS P.L., PINNA D., SALVADORI O. 1992 = *Licheni e conservazione dei monumenti*, Bologna.
- NOHLEN K. 2011 = *Ein Tempel für den Kaiserkult. Das Trajaneum von Pergamon*, in R. GRÜSSINGER, V. KÄSTNER, A. SCHOLL (eds.), *Pergamon. Panorama der antiken Metropole. Begleitbuch zur Ausstellung*, Berlin, 159-166.
- NOHLEN K., RADT W. 1978 = *Kapıkaya. Ein Felsheiligtum bei Pergamon*, *AvP XII*, Berlin.
- NOLLÉ J. 2007 = *Kleinasiatische Losorakel. Astragal- und Alphabetchresmologien der hochkaiserzeitlichen Orakelreinsance* (Vestigia 57), München.
- NORMA UNI 10924 2001 = *Malte per elementi costruttivi e decorativi: classificazione e terminologia*, Milano.
- NYLANDER C. 1970 = *Ionians in Pasargadae*, Uppsala.
- OBERLEITNER W. 2009 = *Das Partherdenkmal von Ephesos. Ein Siegesmonument für Lucius Verus und Marcus Aurelius* (Schriften des Kunsthistorischen Museums 11), Wien.
- OĞUZHANOĞLU U. 2014 = *Laodikeia'dan Batı Anadolu Erken Tunç Çağı'na Yeni Katkılar*, in ŞİMŞEK 2014a, 71-86.
- OKAY A.I. 2001 = *Stratigraphic and metamorphic inversions in the central Menderes Massif: a new structural model*, in *International Journal of Earth Sciences* 89, 709-727.
- OKAY A.I. 2008 = *Geology of Turkey. A Synopsis*, in *Anschnitt* 21, 19-42.
- OKAY A.I., BOZKURT E., SATIR M., YİĞİTBAŞ E., CROWLEY Q.G., SHANG C.K. 2008 = *Defining the southern margin of Avalonia in the Pontides: geochronological data from the Late Proterozoic and Ordovician granitoids from NW Turkey*, in *Tectonophysics* 461, 252-264.
- OKAY A.I., SATIR M., MALUSKI H., SIYAKO M., MONIE P., METZGER R., AKYÜZ S. 1996 = *Paleo- and Neo-Tethyan events in northwest Turkey: geological and geochronological constraints*, in A. YIN, M. HARRISON (eds.), *Tectonics of Asia*, Cambridge, 420-441.
- OKAY A.I., SATIR M., SHANG C.K. 2008 = *Ordovician metagranitoid from the Anatolide-Tauride Block, northwest Turkey: geodynamic implications*, in *Terra Nova* 20, 280-288.
- OKAY A.I., TÜYSÜZ O. 1999 = *Tethyan sutures of northern Turkey*, in B. DURAND, L. JOLLIVET, F. HORVÁTH, M. SÉRANNE (eds.), *The Mediterranean Basins: Tertiary extension within the Alpine orogeny* (Geological Society London Special Publications 156), London, 475-515.
- ONIANS J. 1980 = *Abstraction and Imagination in Late Antiquity*, in *Art History* 3, 1-23.
- ORLANDOS A. 1952 = *Η ξυλόστεγος παλαιοχριστιανική βασιλική της μεσογειακής λεκάνης*, Athinai.
- ORLANDOS A. 1968 = *Les matériaux de construction et la technique architecturale des anciens grecs I-II*, Paris.
- ORTOLANI G. 1989 = *Lavorazione di pietre e marmi nel mondo antico*, in BORGHINI 1989, 19-42.
- OUTSCHAR U. 1990 = *Zum Monument des C. Memmius*, in *ÖJh* 60, 57-85.
- OUTSCHAR U. 1996 = *Zur Baudekoration und typologischen Stellung des Tetrapylons*, in ROUECHÉ, SMITH 1996, 215-224.
- ÖĞÜŞ E. 2014 = *Columnar Sarcophagi from Aphrodisias. Elite Emulation in the Greek East*, in *AJA* 118, 1, 113-136.
- ÖĞÜŞ E. 2016 = *Two sarcophagi made by travelling sculptors?*, in R.R.R. SMITH, J. LENAGHAN, A. SOKOLICEK, K. WELCH (eds.), *Aphrodisias Papers 5. Excavation and research at Aphrodisias, 2006-2012*, Portsmouth, 325-331.
- ÖKSE TUBA A. 2007 = *Ancient mountain routes connecting Central Anatolia to the Upper Euphrates region*, in *AnSt* 57, 2007, 35-45.
- ÖZGAN R. 2003 = *Die kaiserzeitlichen Sarkophage in Konya und Umgebung*, Bonn.

- ÖZKUL M. 2005 = *Travertine deposits of Denizli Extensional Basin in Western Turkey: a general review*, in *Proceedings of 1st International Symposium on Travertine* (Denizli, 21-25 September 2005), Denizli, 18-24.
- ÖZKUL M., ENGIN B., ALÇİÇEK M.C., KORALAY T., DEMİRTAŞLI H. 2004 = *Thermoluminescence dating of Quaternary hot spring travertines and some implications on graben evolution, Denizli, Western Turkey*, in W.B.F. RYAN, A. MALINVERNO (eds.), *The Mediterranean Tethys and the development of new concepts of top-down tectonics. 32nd International Geological Congress* (Florence, 20-28 August 2004), electronic version, 335-339.
- ÖZKUL M., GÖKGÖZ A., HORVATINČIĆ N. 2010 = *Depositional properties and geochemistry of Holocene perched springline tufa deposits and associated spring waters: a case study from the Denizli province, Western Turkey*, in H.M. PEDLEY (ed.), *Tufas and Speleothems. Unravelling the Microbial and Physical Controls* (Geological Society London Special Publications 336), London, 245-262.
- ÖZKUL M., KELE S., GÖKGÖZ A., SHEN C.C., JONES B., BAYKARA M.O., FÖRİZS I., NÉMETH T., CHANG Y.W., ALÇİÇEK M.C. 2013 = *Comparison of the Quaternary travertine sites in the Denizli extensional basin based on their depositional and geochemical data*, in *Sedimentary Geology* 294, 179-204.
- ÖZKUL M., KUMSAR H., GÖKGÖZ A. 2000 = *Caratteri geologici, geografici ed idrogeologici del bacino del Fiume Çürüksu*, in D'ANDRIA, SILVESTRELLI 2000, 327-339.
- ÖZKUL M., VAROL B., ALÇİÇEK M.C. 2002 = *Depositional environments and petrography of the Denizli travertines*, in *Bulletin of the Mineral Research and Exploration* 125, 13-29.
- ÖZLER H.M. 2000 = *Hydrogeology and geochemistry in the Çürüksu (Denizli) hydrothermal field, western Turkey*, in *Environmental Geology* 39, 1169-1180.
- ÖZTANER S. H., AKDOĞU ARCA E.N., GÖKALP ÖZDİL N. 2014 = *Nysa ad Maeandrum'daki Yeni Bulgular Üzerine Bir Değerlendirme*, in Ç. AŞKIT, S. KALAYCIOĞLU, R. KAYAPINAR, C. ÜSTÜNEL KEYINCI, R. ÖZTÜRK (eds.), *In Memoriam Filiz Öktem*, Ankara, 225-245.
- ÖZTANER S.H. 2016 = *La Basilique Civile de Nysa du Méandre*, in *Anatolia Antiqua* 24, 311-320.
- ÖZTÜRK A. 2009 = *Die Architektur der "Scaenae frons" des Theaters in Perge*, Berlin-New York.
- PAMİR H.N., ERENTÖZ C. 1974 = *Explanatory text for the Denizli sheet of the Geological Map of Turkey, 1:500,000 scale*, General Directorate of Mineral Research and Exploration, Ankara.
- PANARELLI P. 2015 = *Il Ploutonion a Hierapolis di Frigia. Lo scavo e i materiali*, Università Cattolica del Sacro Cuore di Milano. PhD Thesis.
- PANARELLI P. 2016 = *Il cosiddetto "Santuario delle Sorgenti" (Ploutonion): le attività di scavo 2008-2011*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 293-320.
- PANARELLI P. forthcoming = *The Ploutonion of Hierapolis in Phrygia in the Late Ancient and Proto-Byzantine Period*, in *Proceedings of the 2nd International Symposium on Archaeological Practices. The Lykos Valley and Neighbourhood in Late Antiquity* (Laudikeia-Denizli, 22-23 May 2015).
- PANZRAM S. 2002 = *Stadtbild und Elite. Tarraco, Corduba und Augusta Emerita zwischen Republik und Spätantike* (Historia Einzelschriften 161), Stuttgart.
- PARASNIS D.S. 1997 = *Principles of Applied Geophysics*, London.
- PARIBENI A. 1989 = *L'uso e il gusto del marmo in età bizantina attraverso le descrizioni e le rappresentazioni antiche*, in E. DOLCI (ed.), *Il marmo nella civiltà romana. La produzione e il commercio*, Carrara, 163-175.
- PARMAN E. 2002 = *Ortaçağda Bizans döneminde Frigya (Phrygia) ve Bölge Müzelerindeki Bizans taş eserleri*, Eskişehir.
- PATARAKIS B. 2012 = *New Evidenze on Lead Flaks and Dovotional Patterns. From Crusader Jerusalem to Byzantium*, in D. SULLIVAN, E. FISHER, S. PAPAIOANNOU (eds.), *Byzantine Religious Culture. Studies in Honor of Alice-Mary Talbot* (The Medieval Mediterranean. Peoples, economies and Cultures 42), Leiden, 239-266.
- PATON J.M., STEVENS G.P. 1927 = *The Erechtheum*, Cambridge.

- PAUL G. 1996 = *Die Anastylose des Tetracyklons in Aphrodisias*, in ROUECHÉ, SMITH 1996, 201-214.
- PAVOLINI C. 2006 = *Ostia* (Guide Archeologiche Laterza 11), Roma.
- PECCHIONI E., FRATINI F., CANTISANI C. 2008 = *Le malte antiche e moderne tra tradizione e innovazione*, Bologna.
- PECCHIONI E., FRATINI F., CANTISANI E. 2014 = *Atlas of the ancient mortars in thin section under the microscope*, Firenze.
- PEDERSEN P. 2013 = *The 4th Century BC "Ionian Renaissance" and Karian Identity*, in O. HENRY (ed.), *4th Century Karia. Defining a Karian Identity under the Hekatomnids* (Varia Anatolica 28), Paris, 33-64.
- PEDONE S. 2006 = *La scultura a champlévé negli edifici medio-bizantini: gli esempi di Hosios Loukas e di Dafni*, in *RolSA* 5, 17-49.
- PEDONE S. 2012 = *Il colore scolpito. Raffinatezze cromatiche nella scultura ad incrostazione del Medioevo Mediterraneo*, in A. ACCONCIA LONGO, G. CAVALLO, A. GUIGLIA, A. IACOBINI (eds.), *Sapienza Bizantina. Un secolo di ricerche sulla civiltà di Bisanzio all'Università di Roma* (Sapienza Università di Roma, 10 ottobre 2008), Roma, 179-199.
- PEDONE S. 2016 = *Bisanzio (ri)colorata: tecniche, effetti e problemi aperti*, in P.A. ANDREUCCETTI, D. BINDANI (eds.), *Il Colore nel Medioevo. Arte, Simbolo, Tecnica. Tra materiali costruttivi e colori aggiunti: mosaici, intarsi e plastica lapidea. Atti delle Giornate di Studio* (Lucca, 24-26 ottobre 2013), Lucca, 87-101.
- PEGORETTI G. 1843 = *Manuale pratico per l'estimazione dei lavori architettonici, stradali, idraulici e di fortificazione*, 2 vols., Milano.
- PEIRANO D. 2008 = *La cattedrale. La storia, il museo*, Torino.
- PEIRANO D., GARBEROGLIO E. 2010-2011 = *Amboni iasii: una rilettura di due inediti* (Atti dell'Accademia delle Scienze di Ferrara 88), Ferrara, 339-357.
- PELLINO G. 2005 = *Considerazioni sull'assetto decorativo di alcuni teatri d'età imperiale in Asia Minore*, in *Orizzonti* 6, 49-78.
- PELLINO G. 2011 = *Una statua di provincia orientale dall'agorà di Hierapolis di Phrygia*, in D'ANDRIA, ROMEO 2011, 251-268.
- PENNACCHIETTI F.A. 1967 = *Nuove iscrizioni di Hierapolis di Frigia*, in *Accademia delle Scienze di Torino - Atti* 101, 287-328.
- PENSABENE P. 1976 = *Sull'impiego del marmo di Cap de Garde*, in L. GUERRINI (ed.), *Scritti in memoria di Giovanni Becatti* (Studi Miscellanei 22), Roma, 179-190.
- PENSABENE P. 1986 = *La decorazione architettonica, l'impiego del marmo e l'importazione di manufatti orientali a Roma, Italia e in Africa (II-VI d.C.)*, in A. GIARDINA (ed.), *Società Romana e Impero tardoantico III. Le merci, gli insediamenti*, Roma, 285-429.
- PENSABENE P. 1995 = *Le vie del marmo. I blocchi di cava di Roma e di Ostia. Il fenomeno del marmo nella Roma Antica*, Roma.
- PENSABENE P. 1997 = *Marmi d'importazione, pietre locali e committenza nella decorazione architettonica di età severiana in alcuni centri delle province Syria et Palestina e Arabia*, in *ArchCl* 49, 275-422.
- PENSABENE P. (ed.) 1998a = *Marmi antichi II. Cave e tecnica di lavorazione, provenienze e distribuzione* (Studi Miscellanei 31), Roma.
- PENSABENE P. 1998b = *Il fenomeno del marmo nella Roma tardo-repubblicana e imperiale*, in PENSABENE 1998a, 333-362.
- PENSABENE P. 1998c = *Le colonne sbazzate di cipollino nei distretti di Myloi e di Aetos (Karystos)*, in PENSABENE 1998a, 311-326.
- PENSABENE P. 2001 = *Pentelico e proconnesio in Tripolitania: coordinamento e concorrenza nella distribuzione?*, in *ArchCl* 52, 63-127.
- PENSABENE P. 2002a = *Le principali cave di marmo bianco*, in DE NUCCIO, UNGARO 2002, 203-222.
- PENSABENE P. 2002b = *Il fenomeno del marmo nel mondo romano*, in DE NUCCIO, UNGARO 2002, 3-67.
- PENSABENE P. 2006 = *Le scuole di Nicomedia e Afrodizia e i pilastri della basilica severiana di Leptis Magna*, in *Marmora* 2, 41-58.

- PENSABENE P. 2007 = *Gli elementi marmorei della scena: classificazione tipologica e inquadramento nella storia degli studi della decorazione architettonica in Asia Minore*, in DE BERNARDI FERRERO, CIOTTA, PENSABENE 2007, 229-388.
- PENSABENE P. 2010 = *Cave di marmo bianco e pavonazzetto in Frigia. Sulla produzione e sui dati epigrafici*, in *Marmora* 6, 71-134.
- PENSABENE P. 2011 = *Su alcuni aspetti produttivi delle "scuole" di scultura di Docimio, Afrodisia e Nicomedia*, in D'ANDRIA, ROMEO 2011, 37-61.
- PENSABENE P. 2013 = *I marmi nella Roma antica*, Roma.
- PENSABENE P. 2014 = *Sigle di cava, amministrazione imperiale, appalti e commercio*, in BONETTO, CAMPOREALE, PIZZO 2014, 41-57.
- PENSABENE P. 2015 = *Marmi pubblici e marmi privati. Note in margine ad un recente volume di Ben Russell*, in *ArchCl* 66, 575-593.
- PENSABENE P., GASPARINI E. 2008 = *Ordini architettonici e prestigio*, in P. PENSABENE, P. DI VITA (eds.), *Marmi colorati e marmi ritrovati nella villa romana del Casale. Catalogo della mostra archeologica*, Piazza Armerina, 35-50.
- PENSABENE P., GASPARINI E. (eds.) 2015 = *Asmosia X. Proceedings of the Tenth International Conference. Interdisciplinary Studies on Ancient Stone* (Rome, 21-26 May 2012), Roma.
- PENSABENE P., LAZZARINI L. 1998 = *Il problema del bigio antico e del bigio morato: contributo allo studio delle cave di Teos e Chios*, in PENSABENE 1998a, 141-173.
- PENTECOST A., BAYARI S., YESERTENER C. 1997 = *Phototrophic microorganisms of the Pamukkale travertine, Turkey. Their distribution and influence on travertine deposition*, in *Geomicrobiology Journal* 14, 269-283.
- PERGOLI CAMPANELLI A. 2011 = *Il restauro una storia antica*, in *Palladio* 48, 89-112.
- PERGOLI CAMPANELLI A. 2015 = *La nascita del restauro. Dall'Antichità all'Alto Medioevo*, Milano.
- PERUSINI G. 1989 = *Il restauro dei dipinti e delle sculture lignee. Storia, teorie e tecniche*, Udine.
- PESCHLOW U. 2006 = *Dividing interior space in early Byzantine churches: the barriers between the nave and aisles*, in S.E.F. GERSTEL (ed.), *Thresholds of the Sacred*, Washington, 53-71.
- PESCHLOW U. 2008 = *Das Südtor von Perge*, in İ. DELEMEN (ed.), *Euergetes. Prof. Dr. Haluk Abbasoğlu'na 65. Yaş Armaganı* (Armağan kitaplar dizisi 1), Antalya, 971-987.
- PESCHLOW-BINDOCAT A. 1994 = *Steinbruch und Tempel. Die cave di Cusa von Selimunt und die Marmorbrücke von Milet*, in *AW* 25, 122-139.
- PESCHLOW-BINDOCAT A., GERMANN K. 1981 = *Die Steinbrüche von Milet und Herakleia am Latmos*, in *Jdl* 96, 157-235.
- PETERS J.M., HUSON W.J. 1985 = *The Pliny and Strabo trenches (Eastern Mediterranean): integration of seismic reflection data and Sea Beam bathymetry maps*, in *Marine Geology* 64, 1-17.
- PETZL G. 1990 = *Epigraphische Funde aus Lydien*, in *EpigrAnat* 15, 49-72.
- PETZL G. 1996 = *Neue Inschriften aus Lydien I*, in *EpigrAnat* 26, 1-29.
- PETZL G., SCHWERTHEIM E. 2006 = *Hadrian und die dionysischen Künstler. Drei in Alexandria Troas neugefundene Briefe des Kaisers an die Künstler-Vereinigung* (AMS 58), Bonn.
- PFANNER M. 1983 = *Der Titusbogen* (Beiträge zur Erschließung hellenistischer und kaiserzeitlicher Skulptur und Architektur 2), Mainz.
- PIAZZESI G. 1989 = *Gli edifici: ipotesi ricostruttive*, in *ArchCl* 41, 125-198.
- PIESKER K., GANZERT J. 2012 = *Das Theater von Patara. Ergebnisse der Untersuchungen 2004 bis 2008, Patara II, 2*, Istanbul.
- PIKE S. 1999 = *Preliminary results of a systematic characterization study of Mount Pentelicon, Attica, Greece*, in SCHVOERER 1999, 165-170.
- PIKE S. 2000 = *Archaeological geology and geochemistry of Pentelic marble, Mount Pentelikon, Attica, Greece*, University of Georgia, PhD Thesis.
- PIPER J.D.A., GÜRSOY H., TATAR O., ISSEVEN T., KOÇYİĞİT A. 2002 = *Palaeo-magnetic evidence for the Gondwanic origin of the Taurides and rotation of the Isparta Angle, southern Turkey*, in *Geological Journal* 37, 317-336.

- PIR² = GROAG G., STEIN A., *Prosopographia Imperii Romani, saec. I. II. III.*, Berlin 1933-2015.
- PIRSON F. 2014a = *Kent ve Çevresi. Gelenek ve Yenilik Arasında Pergamon Araştırmaları / The City and its Landscape. Tradition and Innovation in the Investigation of Pergamon*, in PIRSON, SCHOLL 2014, 50-63.
- PIRSON F. 2014b = *Pergamon - Bericht über die Arbeiten in der Kampagne 2013*, in AA, 101-176.
- PIRSON F., SCHOLL A. (eds.) 2014 = *Pergamon. Anadolu'da Hellenistik Bir Başkent / Pergamon. A Hellenistic capital in Anatolia* (Yapı Kredi Yayınları 4282; Anadolu uygarlıkları serisi 4), Istanbul.
- PLATTNER G.A. 2002 = *Ein stadtrömisches Kapitell aus Ephesos*, in *ÖJh* 71, 237-248.
- PLATTNER G.A. 2003 = *Korinthische Kapitelle der frühen und mittleren Kaiserzeit in Ephesos*, in B. ASAMER, W. WOHLMAYR (eds.), *Akten des 9. Österreichischen Archäologentages am Institut für Klassische Archäologie der Paris Lodron-Universität Salzburg*, Wien, 157-160.
- PLATTNER G.A. 2004 = *Transfer von Architekturkonzepten und Ornamentformen zwischen Kleinasien und Rom in der Kaiserzeit*, in *Römische historische Mitteilungen* 46, 17-35.
- PLATTNER G.A. 2007 = *Elemente stadtrömischer Bautypen und Ornamentformen in der kleinasiatischen Architektur*, in M. MEYER (ed.), *Neue Zeiten, neue Sitten. Zu Rezeption und Integration römischen und italischen Kulturguts in Kleinasien* (Wiener Forschungen zur Archäologie 12), Wien, 125-132.
- PLATTNER G.A. 2008 = *Werkstatt und Muster. Überlegungen zu Steinmetzbetrieben in Rom und Kleinasien*, in G. GRABHERR, B. KAINRATH (eds.), *Akten des 11. Österreichischen Archäologentages* (Innsbruck, 23.-25. März 2006), Innsbruck, 225-229.
- PLATTNER G.A. 2009a = *Zum Baubetrieb Kleasiens in der römischen Kaiserzeit*, in BACHMANN 2009, 393-407.
- PLATTNER G.A. 2009b = *Zur Bauornamentik des Oktogons von Ephesos*, in S. LADSTÄTTER (ed.), *Neue Forschungen zur Kuretenstraße von Ephesos* (AF 15), Wien, 101-110.
- PLATTNER G.A. 2014 = *Werkstatt und Muster. Zur Methode der Scheidung von Arbeitsprozessen und Stilelementen*, in LIPPS, MASCHKE 2014b, 53-68.
- PLATTNER G.A. 2017 = *Die augusteische Globalisierung als 'Katalysator' kleinasiatischer Architektur? Traditionen und Innovationen eines Epochenwandels*, in L. CAVALIER, M.-C. FERRIÈS, F. DELRIEUX (eds.), *Auguste e l'Asie mineure. Actes du colloque à Bordeaux* (20-22 Novembre 2014), Bordeaux, 291-308.
- PLATTNER G.A., SCHMIDT-COLINET A. 2005 = *Beobachtungen zu drei kaiserzeitlichen Bauten in Ephesos*, in B. BRANDT, V. GASSNER, S. LADSTÄTTER (eds.), *Synergia. Festschrift Friedrich Krinzing* 1, Wien, 243-255.
- PLEKET H.W. 2003 = *Economy and urbanization. Was there an impact of empire in Asia Minor?*, in E. SCHWERTHEIM, E. WINTER (eds.), *Stadt und Stadtentwicklung in Kleinasien* (ASM 50), Bonn, 85-95.
- POISSON A. 1977 = *Recherches géologiques dans les Taurides Occidentales (Turquie)*, Thèse d'état, Université de Paris-Sud, Orsay.
- POLIKRETI K., MANIATIS Y. 2002 = *A New Methodology for The Provenance of Marble Based on EPR Spectroscopy*, in *Archaeometry* 44, 1, 1-21.
- POLITO C. 2012 = *Saggi di scavo nell'area del Teatro*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 177-205.
- POLLARD D., AYDIN A. 1988 = *Progress in Understanding Joints over the Past Century*, in *Bulletin of the Geological Society of America* 100, 1181-1204.
- POMA G. 2015 = *Aspetti giuridici e legislativi della gestione delle cave in età romana*, in C. GUARNIERI (ed.), *Il vetro di pietra. Il lapis specularis nel mondo romano dall'estrazione all'uso*, Faenza, 31-44.
- PONT A.-V. 2007 = *L'empereur 'fondateur': enquête sur les motifs de la reconnaissance civique*, in *REG* 120, 526-552.
- PONT A.-V. 2008 = *L'évergétisme impérial en Asie mineure d'après les sources byzantines: le cas du temple d'Hadrien à Cyzique*, in *BAntFr*, 165-172.
- PONT A.-V. 2009 = *Valeurs culturelles et politiques du beau paysage urbain à Smyrne et*

- à Nicomédie, in P. FLEURY, O. DESBORDES (eds.), *Roma illustrata. Images et représentations de la Ville*, Caen, 341-364.
- PONT A.-V. 2010a = *Septime Sévère à Byzance: l'invention d'un fondateur*, in *AntTard* 18, 191-198.
- PONT A.-V. 2010b = "Orner la cité". *Enjeux culturels et politiques du paysage urbain dans l'Asie gréco-romaine* (Scripta Antiqua 24), Paris.
- PONT A.-V. 2011 = *La place du culte impérial dans l'espace urbain d'Éphèse: initiative, contrôle, interprétation*, in N. BELAYCHE, J.-D. DUBOIS (eds.), *L'oiseau et le poisson. Cohabitations religieuses dans les mondes grec et romain* (Religions dans l'histoire 6), Paris, 127-147.
- PONTI G. 1996 = *Ancient Quarrying at Aphrodisias in Light of the Geological Configuration*, in ROUECHÉ, SMITH 1996, 105-110.
- POULSEN B. 1991 = *The Dioscuri and Ruler Ideology*, in *SymbOslo* 66, 119-146.
- PRALONG A. 1980 = *Trouvailles dans une carrière phrygienne inconnue: une inscription rupestre et un sarcophage 'in situ'*, in *RA*, 251-262.
- PRELL M. 1997 = *Sozialökonomische Untersuchungen zur Armut im antiken Rom. Von den Gracchen bis Kaiser Diokletian* (Beiträge zur Wirtschafts- und Sozialgeschichte 77), Stuttgart.
- PRICE S. 1984 = *Rituals and Power. The Roman Imperial Cult in Asia Minor*, Cambridge.
- PRICE S. 2005 = *Local Mythology in the Greek East*, in C.J. HOWGEGO, V. HEUCHERT, A.M. BURNETT (eds.), *Coinage and Identity in the Roman Provinces*, Oxford, 115-124.
- PROCHASKA W. 2014 = *Ephesos. Marmorsurvey*, in *Wissenschaftlicher Jahresbericht des Österreichischen Archäologischen Instituts* 37, <http://www.oelai.at/index.php/jahresberichte.html>.
- PROCHASKA W., GRILLO S.M. 2010 = *A new method for the determination of the provenance of white marbles by chemical analysis of inclusion fluids: the marbles of the mausoleum of Belevi/Turkey*, in *Archaeometry* 52, 1, 59-82.
- PROCHASKA W., GRILLO S.M. 2012 = *The marble quarries of the metropolis of Ephesos and some examples of the use for marbles in Ephesian architecture and sculpturing*, in GUTIÉRREZ GARCIA, LAPUENTE, RODÀ 2012, 584-591.
- PUGLIESE CARRATELLI G. 1963-1964 = *Χρησμοί di Apollo Kareios e di Apollo Klarios a Hierapolis in Frigia*, in *ASAtene* 25-26, 351-370.
- PÜLZ A. 2010 = *Zum Stadtbild von Ephesos in byzantinischer Zeit*, in F. DAIM, J. DRAUSCHKE (eds.), *Byzanz. Das Römerreich im Mittelalter* (Monographien des Römisch-Germanischen Zentralmuseums 84, 2, 2), Mainz, 541-571.
- PÜLZ S. 1989a = *Untersuchungen zur kaiserzeitlichen Bauornamentik von Didyma (IstMitt Beiheft 35)*, Tübingen.
- PÜLZ S. 1989b = *Zur Bauornamentik des Zeustempels von Euromos*, in *IstMitt* 39, 451-453.
- QUATEMBER U. 2010a = *The "Temple of Hadrian" on Curetes Street in Ephesus. New Research into its Building History*, in *JRA* 23, 376-394.
- QUATEMBER U. 2010b = *Das Nymphaeum Traiani in Ephesos*, *FiE* XI, 2, Wien.
- QUATEMBER U. 2011 = *Architectural decoration*, in L. BIER, *The Bouleuterion at Ephesos*, *FiE* IX, 5, Wien, 65-74.
- QUATEMBER U. 2014 = *Ornament im Kontext. Der Beitrag der Bauforschung zur Untersuchung von Architekturdekoration*, in LIPPS, MASCHEK 2014b, 99-116.
- RADT W. 1999 = *Pergamon. Geschichte und Bauten einer antiken Metropole*, Darmstadt.
- RAGGHIANI C.L. 1978 = *Capire l'arte col computer*, in *Critica d'arte* 18, fasc. 160-162, 3-13.
- RAMAGE N.H., RAMAGE A. 1991 = *Römische Kunst, von Romulus zu Konstantin*, Köln.
- RAMALLO ASENSIO S.F., RÖRING N. (eds.) 2010 = *La Scaenae Frons en la arquitectura teatral romana, Proceedings of the International Symposium* (Cartagena, 12-14 March 2009), Murcia.
- RAMSAY W.M. 1895 = *The Cities and Bishoprics of Phrygia I, 1. The Lykos Valley and South-Western Phrygia*, Oxford.
- RAMSAY W.M. 1897 = *The Cities and Bishoprics of Phrygia I, 2. West and West-Central Phrygia*, Oxford.

- RAMSAY W.M. 1928 = *Asiatic Elements in Greek Civilisation*, London.
- RAMSAY W.M. 1960 = *Anadolu'nun Tarihi Coğrafyası* (translated by M. Pektaş), Istanbul.
- RATHMAYR E. 2006 = *Götter und Kaiserkult in privaten Wohnbereich anhand von Skulpturen aus dem Hanghaus 2 in Ephesos*, in *Römische Historische Mitteilungen* 48, 103-133.
- RATHMAYR E. 2009 = *Das Haus des Ritters C. Flavius Aptus. Beobachtungen zur Einflussnahme von Hausbesitzern an Architektur und Ausstattung in der Wohneinheit 6 des Hanghauses 2 in Ephesos*, in *IstMitt* 59, 306-337.
- RATTÉ C. 2002 = *The Urban Development of Aphrodisias in the Late Hellenistic and Early Imperial Periods*, in BERNIS *ET ALII* 2002, 5-32.
- RATTÉ C., DE STAEBLER P. (eds.) 2012 = *The Aphrodisias Regional Survey, Aphrodisias V*, Darmstadt.
- RATTÉ C., SMITH R.R.R. 2008 = *Archaeological Research at Aphrodisias in Caria, 2002-2005*, in *AJA* 112, 4, 713-751.
- RATTÉ C., SMITH R.R.R. (eds.) 2008 = *Aphrodisias Papers 4. New research on the city and its monuments (JRA Supplementary Series 70)*, Portsmouth.
- REALINI M., MATTEINI M., COLOMBO C. C., BIRROZZI C., FERRIANI B. 2004 = *Monitoraggio di superfici policrome trattate con ossalato di ammonio*, in *Lo stato dell'arte 2: conservazione e restauro, confronto di esperienze. Il congresso nazionale IGIIC* (Genova, 27-29 settembre 2004), Padova, 330-338.
- REEDER R.J. 1991 = *An overview of zoning in carbonate minerals*, in *Luminescence Microscopy and Spectroscopy. Qualitative and Quantitative Applications*, in *Society for sedimentary geology* 25, 77-82.
- REMONDINO F., CAMPANA S. 2014 = *3D Recording and Modelling in Archaeology and Cultural Heritage*, Oxford.
- REMONDINO F., HAKIM S. 2006 = *Image based 3d Modelling. A review*, in *The Photogrammetric Record* 21, 269-291.
- RESTLE M. 1995 = *Maltechnik*, in *RBK* 5, 1237-1274.
- REYNOLDS J. 1991 = *Epigraphic Evidence for the Construction of the Theatre: 1st c. B.C. to mid 3rd c. A.D.*, in SMITH, ERİM 1991, 15-28.
- REYNOLDS J. 2000 = *New Letters from Hadrian to Aphrodisias. Trials, Taxes, Gladiators and an Aqueduct*, in *JRA* 13, 5-20.
- REYNOLDS J. M., WARD-PERKINS J.B. 1952 = *The Inscriptions of Roman Tripolitania*, Rome.
- RICHTER D.K., GÖTTE TH., GÖTZE J., NEUSER R.D. 2003 = *Progress in application of cathodoluminescence (CL) in sedimentary petrology*, in *Mineral Petrology* 79, 127-166.
- RICHTER R. 1994 = *Derivation of temperature and emittance from airborne multispectral thermal infrared scanner data*, in *Infrared Physics and Technology* 35, 6, 817-826.
- RIGGS S., CIOLLI G., KROSLING H., BARTOLINI G. 2015 = *PostgreSQL 9 Administration Cookbook*, Birmingham-Mumbai.
- RIMMELÉ G., PARRA T., GOFFÉ B., OBERHÄNSLI R., JOLIVET L., CANDAN O. 2005 = *Exhumation paths of high-pressure-low-temperature metamorphic rocks from the Lycian Nappes and the Menderes Massif (SW Turkey): a multi-equilibrium approach*, in *Journal of Petrology* 46, 641-669.
- RING U., COLLINS A.S. 2005 = *U-Pb SIMS dating of synkinematic granites: timing of core complex formation in the northern Anatolide belt of western Turkey*, in *Journal of the Geological Society of London* 162, 1-10.
- RING U., GESSNER K., GÜNGÖR T., PASSCHIER C.W. 1999 = *The Menderes Massif of western Turkey and the Cycladic Massif in the Aegean. Do they really correlate?*, in *Journal of the Geological Society of London* 156, 3-6.
- RING U., GLODNY J. 2010 = *No need for lithospheric extension for exhuming (U)HP rocks by normal faulting*, in *Journal of the Geological Society of London* 167, 225-228.
- RING U., GLODNY J., WILL T., THOMSON S.N. 2007 = *An Oligocene extrusion wedge of blueschist-facies nappes on Evia, Aegean Sea, Greece: implications for the early exhumation of high-pressure rocks*, in *Journal of the Geological Society of London* 164, 637-652.
- RING U., GLODNY J., WILL T., THOMSON S.N. 2010 = *The Hellenic subduction system: high-*

- pressure metamorphism, exhumation, normal faulting, and large-scale extension, in *Annual Review of Earth and Planetary Sciences* 38, 45-76.
- RING U., KUMERIC S. 2008 = *Vertical ductile thinning and its contribution to the exhumation of high-pressure rocks: the Cycladic blueschist unit in the Aegean*, in *Journal of the Geological Society of London* 165, 1019-1030.
- RING U., WILL T., GLODNY J., KUMERIC S., GESSNER K., THOMSON S.N., GÜNGÖR T., MO-NIÉ P., OKRUSCH M., DRÜPPEL K. 2007 = *Early exhumation of high-pressure rocks in extrusion wedges: the Cycladic blueschist unit in the eastern Aegean, Greece and Turkey*, in *Tectonics* 26 (TC2001).
- RITTI 1979 = *Due iscrizioni di età augustea da Hierapolis*, in *Epigraphica* 41, 183-187.
- RITTI T. 1983a = *Epigrafi dedicatorie imperiali di Hierapolis di Frigia*, in *RendLincei* 8, 38, 171-182.
- RITTI T. 1983b = *Ipyxia della gerusia a Hierapolis di Frigia*, in *RendLincei* 8, 38, 221-230.
- RITTI T. 1985 = *Fonti letterarie ed epigrafiche, Hierapolis. Scavi e Ricerche I* (Archaeologica 53), Roma.
- RITTI T. 1988 = *Il sofista Antipatros di Hierapolis*, in *Miscellanea greca e romana* 13, 71-128.
- RITTI T. 1989-1990 = *Hierapolis di Frigia: santuari e dediche votive*, in *ScAnt* 3-4, 861-874.
- RITTI T. 2002 = *Documenti epigrafici dalla regione di Hierapolis*, in *EpigrAnat* 34, 41-70.
- RITTI T. 2003 = *La neocoria di Hierapolis di Frigia*, in *Epigraphica. Atti delle giornate di studio di Roma e di Atene in memoria di Margherita Guarducci (1902-1999)* (Opuscula epigraphica 10), Roma, 177-215.
- RITTI T. 2004 = *Iura sepulcrorum a Hierapolis di Frigia nel quadro dell'epigrafia sepolcrale microasiatica: iscrizioni edite e inedite*, in *Libitina e dintorni. Libitina e i luci sepolcrali, le leges libitinariae campane, Iura sepulcrorum: vecchie e nuove iscrizioni* (Atti dell'XI Rencontre franco-italienne sur l'épigraphie, Libitina 3), Roma, 455-625.
- RITTI T. 2005 = *I Dodici dèi di Hierapolis*, in D. RONCHETTA (ed.), *Paolo Verzone. 1902-1986. Tra Storia dell'Architettura Restauro e Archeologia*, Torino, 158-168.
- RITTI T. 2006 = *Guida epigrafica a Hierapolis di Frigia (Pamukkale) /Phrygia Hierapolis'i (Pamukkale) eski yazitlar rehberi*, Istanbul.
- RITTI T. 2007a = *Iscrizioni pertinenti all'edificio teatrale*, in DE BERNARDI FERRERO, CIOTTA, PENSABENE 2007, 389-439.
- RITTI T. 2007b = *Schema di una sega idraulica su un sarcofago di Hierapolis*, in D'ANDRIA, CAGGIA 2007, 619-626.
- RITTI T. 2011 = *Andriantes kai eikones...met'epigraphes oikeias. Contributi dell'epigrafia ierapolitana di età imperiale alla conoscenza delle opere figurative*, in D'ANDRIA, ROMEO 2011, 173-192.
- RITTI T. 2011-2012 = *Alcune iscrizioni rinvenute nella chiesa di S. Filippo*, in D'ANDRIA 2011-2012, 53-61.
- RITTI T. 2016 = *Per la storia sociale ed economica di Hierapolis di Frigia. Le fondazioni sociali e funerarie*, in *MemLinc* 36, 421-657.
- RITTI T. 2017 = *Storia e istituzioni di Hierapolis, Hierapolis di Frigia IX*, Istanbul.
- RITTI T., GREWE K., KESSENER P. 2007 = *A relief of a water-powered stone saw mill on a sarcophagus at Hierapolis and its implications*, in *JRA* 20, 138-163.
- RITTI T., MIRANDA E., GUIZZI F. 2007 = *La ricerca epigrafica: risultati dell'ultimo quadriennio e prospettive future*, in D'ANDRIA, CAGGIA 2007, 583-618.
- RITTI T., MIRANDA E., GUIZZI F. 2008, *Museo Archeologico di Denizli-Hierapolis. Catalogo delle iscrizioni greche e latine. Distretto di Denizli*, Napoli.
- RITTI T., YILMAZ S. 1998 = *Gladiatori e venationes a Hierapolis di Frigia*, in *MemAccLinc* 10, 4, 445-542.
- ROBERT J., ROBERT L. 1971 = *Bulletin épigraphique*, in *REG* 84, 397-540.
- ROBERT L. 1940 = *Les gladiateurs dans l'Orient grec*, Paris.
- ROBERT L. 1950 = *Hellenica IX. Inscriptions et reliefs d'Asie Mineure*, Paris.
- ROBERT L. 1962 = *Villes d'Asie Mineure: études de géographie ancienne*, Paris.
- ROBERT L. 1978 = *Documents d'Asie Mineure*, in *BCH* 102, 395-543.

- ROBERT L. 1989 = *Les fouilles de Claros. Conférence donnée à l'Université d'Ankara à la fin de quatre campagnes de fouilles, Limoges 1954*, in *Opera Minora Selecta VI*, Amsterdam, 523-549.
- ROBINSON D.M. 1924 = *A Preliminary Report on the Excavations at Pisidian Antioch and at Sizma*, in *AJA* 28, 435-444.
- ROCCO G. 2013 = *Monumenti di Kos I, La stoà meridionale dell'agorà (Thiasos Monografie 3)*, Roma, 143-156.
- ROCKWELL P. 1993 = *The Art of Stoneworking*, Cambridge.
- ROCKWELL P. 1996 = *The Marble Quarries: a preliminary survey*, in ROUECHÉ, SMITH 1996, 81-104.
- RÖDER J. 1971 = *Marmor Phrygium. Die antiken Marmorbrüche von Ischhisar in Westanatolien*, in *Jdl* 86, 254-312.
- ROHMANN J. 1995 = *Einige Bemerkungen zum Ursprung des feingezahnten Akanthus*, in *IstMitt* 45, 109-121.
- ROHMANN J. 1998a = *Die Kapitellproduktion der römischen Kaiserzeit in Pergamon (PF 10)*, Berlin.
- ROHMANN J. 1998b = *Die Kapitelle des Trajanstempels von Pergamon*, in U. PESCHLOW, S. MÖLLERS (eds.), *Spätantike und byzantinische Bauskulptur, Beiträge des Symposiums* (Mainz, Februar 1994), Stuttgart, 25-35.
- ROHN C. 2010 = *Die Scaenae Frons von Aizanoi: eine Fassade innerhalb der Gesamtanlage Theater-Stadion*, in RAMALLO ASENSIO, RÖRING 2010, 343-354.
- ROMEO I. 2011 = *The Beautiful Tomb and civic identity in Julio-Claudian Hierapolis*, in D'ANDRIA, ROMEO 2011, 193-210.
- ROMEO I. 2014 = *Stile e officina*, in ROMEO, PANARITI, UNGARO 2014, 247-258.
- ROMEO I., PANARITI D., UNGARO R. 2014 = *La Tomba Bella: un heroon giulio-claudio e il suo sarcofago, Hierapolis di Frigia VI*, Istanbul.
- RONCHETTA D. 2012 = *Necropoli Nord. Indagini nell'area della Porta di Frontino*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 495-511.
- RONCHETTA D., MIGHETTO P. 2007 = *La Necropoli Nord. Verso il progetto di conoscenza: nuovi dati dalle campagne 2000-2003*, in D'ANDRIA, CAGGIA 2007, 433-455.
- ROSSIGNANI M.P. 2008 = "Dadi brunelleschiani" nell'architettura romana dell'Asia Minore, in C. DE CARLI, F. TEDESCHI (eds.), *Il presente si fa storia. Scritti in onore di Luciano Caramel*, Milano, 635-641.
- ROSSIGNANI M.P., BARATTO C. 2012 = *Ricerche sulla Stoà-basilica dell'Agorà Nord*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 515-532.
- ROSSIGNANI M.P., SACCHI F. 2007 = *La Stoà-basilica dall'Agorà settentrionale (Regio I)*, in D'ANDRIA, CAGGIA 2007, 359-411.
- ROSSIGNANI M.P., SACCHI F. 2011 = *Progetto architettonico e cicli figurativi nella Stoà-basilica di Hierapolis di Frigia*, in D'ANDRIA, ROMEO 2011, 234-247.
- ROSTOVZEV M.I. 1973 = *Storia economica e sociale dell'Impero romano*, Firenze.
- ROYO-PLUMED H. 2016 = *Mármoles de la Cordillera Pirenaica: afloramientos norpirenaicos y asociados al "Nappe des Marbres". Caracterización y uso en época romana*, University of Zaragoza, PhD Thesis.
- ROUECHÉ C., SMITH R.R.R. (eds.) 1996 = *Aphrodisias Papers 3. The setting and quarries, mythological and other sculptural decoration, architectural development, Portico of Tiberius, and Tetrápylon (JRA Supplementary Series 20)*, Ann Arbor.
- ROWAN C. 2012 = *Under Divine Auspices. Divine Ideology and the Visualisation of Imperial Power in the Severan Period*, New York.
- RPC Consolidated Supplement* = RIPOLLÈS P.P., BURNETT A., AMANDRY M., CARRADICE I., SPOERRI BUTCHER M. (eds.), *Roman Provincial Coinage, Consolidated Supplement I-III (1992-2015)*, http://rpc.ashmus.ox.ac.uk/supp/rpc_cons_supp_1-3.pdf.
- RUBIN B. 2011 = *Ruler Cult and Colonial Identity. The Imperial Sanctuary at Pisidian Antioch*, in GAZDA, NG 2011, 33-60.
- RUFFING K. 2008 = *Die berufliche Spezialisierung in Handel und Handwerk. Untersuchungen zu ihrer Entwicklung und zu ihren Bedingungen in der römischen Kaiserzeit*

- im östlichen Mittelmeerraum auf der Grundlage griechischer Inschriften und Papyri* (Pharos 24), Rahden-Leidorf.
- RUGE W. 1924 = *Laodikeia*, in *RE* XII, 1, 722-724.
- RUMSCHEID F. 1994 = *Untersuchungen zur Kleinasiatischen Bauornamentik des Hellenismus* (Beiträge zur Erschließung hellenistischer und kaiserzeitlicher Skulptur und Architektur 14), Mainz.
- RUMSCHEID F. 1999 = *Review to VANDEPUT 1997*, in *GGA* 251, 38-48.
- RUMSCHEID F. 2012 = *Arbeitsrationalisierung im Bauwesen: von der Bosse zum Relieforament*, in B. SÖĞÜT (ed.), *Stratonikeia 'dan Lagina 'ya. Ahmet Adil Tirpan Armağani 65. Yaş Armağani*, Istanbul, 529-534.
- RUSSELL B. 2010 = *The Roman sarcophagus 'industry': a reconsideration*, in J. ELSNER, J. HUSKINSON (eds.), *Life, Death and Representation. Some New Work on Roman Sarcophagi* (Millennium Studies 29), Berlin-New York, 119-147.
- RUSSELL B. 2013a = *The Economics of the Roman Stone Trade*, Oxford.
- RUSSELL B. 2013b = *Gazetteer of Stone Quarries in the Roman World*, http://oxrep.classics.ox.ac.uk/docs/Stone_Quarries_Database.pdf.
- RUSSELL B. 2016 = *Mapping the Marble Quarries*, in R.R.R. SMITH, J. LENAGHAN, A. SOKOLICEK, K. WELCH (eds.), *Aphrodisias Papers 5* (JRA Supplementary Series 103), Portsmouth, RI, 255-268.
- RUSO E. 1999 = *La scultura a Efeso in età paleocristiana e bizantina. Primi lineamenti*, in R. PILLINGER, O. KRESTEN, F. KRINZINGER, E. RUSSO (ed.), *Efeso paleocristiana e bizantina / Frühchristliches und byzantinisches Ephesos. Atti del convegno internazionale* (Roma, 22-24 febbraio 1996), Wien, 26-53.
- RUSO E. 2008 = *Sculture architettoniche e decorative paleocristiane e bizantine nel Kazım Yaman Parkı di Kuşadası*, in *Bizantinistica* 2, 9, 41-60.
- Sardis* = BUCKLER W.H., ROBINSON D.M., *Sardis VII, 1, Greek and Latin Inscriptions* (Publications of the American Society for the Excavation of Sardis 7, 1), Leyden 1932.
- SARRE F. 1896 = *Reise in Kleinasien*, Berlin.
- SACCHI F., BONZANO F. 2012 = *L'ordine del Tempio di Apollo a Hierapolis: prime acquisizioni*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 325-357.
- SANDMEIER K.J. 2011 = *ReflexW version 6.0. User Manual*, Sandmeier Software, Karlsruhe.
- SCAPPIN L. 2007 = *L'impiego del metallo nell'architettura antica*, in C.G. MALACRINO, E. SORBO (eds.), *Architetti, architettura e città nel Mediterraneo antico*, Milano, 291-305.
- SCARDOZZI G. 2007a = *L'urbanistica di Hierapolis di Frigia: ricerche topografiche, immagini satellitari e fotografie aeree*, in *Archeologia Aerea* 2, 83-134.
- SCARDOZZI G. 2007b = *Remote sensing and archaeological survey in the Hierapolis of Phrygia territory, Turkey*, in *Remote Sensing for Environmental Monitoring, GIS Applications, and Geology. Conference 6749 "Remote Sensing and Archaeology"* (Florence, 17-20 September 2007) (Proceedings of SPIE Europe Remote Sensing, vol. 6749/04), 1-12.
- SCARDOZZI G. 2008a = *Hierapolis of Phrygia Project: integration of archaeological survey and remote sensing data*, in R. LASAPONARA, N. MASINI (eds.), *Remote sensing for Archaeology and Cultural Heritage Management. Proceedings of the 1st International Workshop* (Roma, 30 September - 4 October 2008), Rome, 425-428.
- SCARDOZZI G. 2008b = *Old high resolution satellite images for landscape archaeology: case studies from Turkey and Iraq*, in *Remote Sensing for Environmental Monitoring, GIS Applications, and Geology. Proceedings of SPIE Europe Remote Sensing, Conference 7110 "Remote Sensing and Archaeology"* (Cardiff, 15-18 September 2008), vol. 7110/03, 1-14.
- SCARDOZZI G. 2008c = *Le fasi di trasformazione dell'impianto urbano*, in *ATLANTE* 2008, 31-47.
- SCARDOZZI G. 2010 = *Hierapolis di Frigia, dalle cave ai cantieri di demolizione. L'approvvigionamento di materiali lapidei nella città di età imperiale e proto-bizantina*, in CAMPOREALE, DESSALES, PIZZO 2010, 351-374.
- SCARDOZZI G. 2010-2011 = *Il contributo delle immagini satellitari "storiche" e recenti alle ricerche di topografia antica*, in *Archeologia Aerea* 4-5, 281-288.

- SCARDOZZI G. 2012a = *Ricognizioni archeologiche nel territorio di Hierapolis (campagne 2005-2006): gli acquedotti, le cave di materiali lapidei, gli insediamenti rurali, i tumuli funerari*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 109-143.
- SCARDOZZI G. 2012b = *Ancient marble and alabaster quarries near Hierapolis in Phrygia (Turkey): new data from archaeological surveys*, in GUTIÉRREZ GARCIA, LAPUENTE, RODÀ 2012, 573-583.
- SCARDOZZI G. 2012c = *Un nuovo miliario dal territorio di Hierapolis di Frigia. Contributo alla ricostruzione della viabilità antica nella valle del Lykos*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 739-766.
- SCARDOZZI G. 2012d = *Integrated methodologies for the archaeological map of an ancient city and its territory: the case of Hierapolis in Phrygia*, in LASAPONARA, MASINI 2012, 129-156.
- SCARDOZZI G. 2012e = *New data on the North Theatre of Hierapolis in Phrygia: archaeological, topographical and geophysical surveys*, in MASINO, MIGHETTO, SOBRA 2012, 217-235.
- SCARDOZZI G. 2012f = *Indagini multidisciplinari per la ricostruzione del paesaggio urbano: ricerche sulla topografia antica di Hierapolis di Frigia*, in G.J. BURGERS, C. CORSI, S. KEAY, F. VERMEULEN (eds.), *The contribution of urban landscape survey in Italy and the Mediterranean*, Oxford, 72-83.
- SCARDOZZI G. 2013a = *Contributo alla conoscenza della topografia antica di Tripolis sul Meandro*, in *JAT* 23, 31-70.
- SCARDOZZI G. 2013b = *Antiche divisioni agrarie in Asia Minore: problematiche e strumenti di ricerca*, in *Archeologia Aerea* 7, 124-148.
- SCARDOZZI G. 2015a = *Metodologie di acquisizione dei dati archeologici*, in *ATLANTE* 2015, 18-27.
- SCARDOZZI G. 2015b = *Caratteristiche e trasformazioni dell'impianto urbano tra l'età ellenistica e l'epoca ottomana*, in *ATLANTE* 2015, 35-57.
- SCARDOZZI G. 2015c = *Le necropoli: inquadramento topografico generale e sviluppo storico*, in *ATLANTE* 2015, 69-77.
- SCARDOZZI G. 2015d = *Indagini di scavo presso la Stoà delle Sorgenti e il cd. "edificio retangolare": risultati preliminari*, in *ATLANTE* 2015, 269-286.
- SCARDOZZI G. forthcoming = *Marmora Phrygiae. Un progetto per lo studio delle antiche cave di marmo e di alabastro di Hierapolis di Frigia e delle strategie di approvvigionamento dei materiali lapidei: approcci metodologici e prospettive di ricerca*, in *Atti del Convegno DECOR - Decorazione e architettura nel mondo romano* (Roma, 21-23 maggio 2014).
- SCARDOZZI G., GIESE S., HÜBNER C. 2013 = *Integrated Geophysical Investigations in Hierapolis of Phrygia (Turkey)*, in *Near Surface Geophysics* 11, 101-113.
- SCHEIDEL W. 2010 = *Real Wages in Early Economies. Evidence for Living Standards from 1800 BCE to 1300 CE*, in *Journal of the Economic and Social History of the Orient* 53, 425-462.
- SCHEIDEL W., FRIESEN ST. J. 2009 = *The Size of the Economy and the Distribution of Income in the Roman Empire*, in *JRS* 99, 61-91.
- SCHERRER P. 1997 = *Das Ehrenggrab des Kaiserpriesters am Embolos. Eine Personensuche*, in H. THÜR (ed.), "...und verschönerte die Stadt...". *Ein ephesischer Priester des Kaiserkultes in seinem Umfeld* (SDAIK 27), Wien, 113-139.
- SCHERRER P. 1999 = *Am Olympieion vorbei ...? Pausanias' Wegbeschreibung in Ephesos und der hadrianische Neokorietempel*, in P. SCHERRER, H. TAEUBER, H. THÜR (eds.), *Steine und Wege. Festschrift für Dieter Knibbe zum 65. Geburtstag* (SDAIK 32), Wien, 137-144.
- SCHERRER P. 2005 = *Das sogenannte Serapeion in Ephesos: ein Mouseion?* in A. HOFFMANN (ed.), *Ägyptische Kulte und ihre Heiligtümer im Osten des römischen Reiches* (Byzas 1), 109-138.
- SCHERRER P. 2007 = *Von Apasa nach Hagios Theologos*, in *ÖJh* 76, 321-351.
- SCHINDLER H. 1998 = *Beitrag zur Flechtenflora von Westanatolien, Türkei*, in *Herzogia* 13, 234-237.

- SCHJØLER T. 2007 = *A unique sarcophagus: cranks and connecting rods in the ancient world*, in *International Molinology*, 74, 12-14.
- SCHMIDT A. 2013 = *Earth Resistance for Archaeologists*, New York.
- SCHMIDT A., TSETSKHLADZE G. 2013 = *Raster was Yesterday: Using Vector Engines to Process Geophysical Data*, in *Archaeological Prospection* 20, 1, 59-65.
- SCHMIDT-COLINET A. 1991 = *Eine severische Priesterin aus Syrien in Perge*, in *IstMitt* 41, 439-445.
- SCHMIDT-COLINET A. 1992 = *Das Tempelgrab Nr. 36 in Palmyra. Studien zur palmyrenischen Grabarchitektur und ihrer Ausstattung* (Damaszener Forschungen 4), Mainz.
- SCHÖRNER G. 1995 = *Römische Rankenfriese. Untersuchungen zur Baudekoration der späten Republik und der frühen und mittleren Kaiserzeit im Westen des Imperium Romanum* (Beiträge zur Erschließung hellenistischer und kaiserzeitlicher Skulptur und Architektur 15), Mainz.
- SCHÖRNER G. 1997 = *Entwurf und arbeitsteilige Fertigung in der Gallia Narbonensis. Die Rankenfriese des Quellheiligtums und der Maison Carrée in Nîmes*, in *KölnJb* 30, 145-157.
- SCHÖRNER G. 1999 = *Rankenornamentik der römischen Kaiserzeit in Ephesos. Einheimische Traditionen, stadtrömische Modelle*, in *FRIESINGER, KRINZINGER* 1999, 565-568.
- SCHNEIDER EQUINI E. 1971-1973 = *La necropoli di Hierapolis di Frigia. Contributi allo studio dell'architettura funeraria di età romana in Asia Minore*, in *MonAnt* 48, Serie miscellanea 1, 2, 95-138.
- SCHNEIDER R.M. 1986 = *Bunte Barbaren. Orientalenstatuen aus farbigem Marmor in der römischen Repräsentationskunst*, Worms.
- SCHNEIDER U. 1981 = *Zwei mittelalterliche Chorschranken im Dom San Ciriaco von Ancona. Beiträge zur Geschichte der Inkrustationskunst in Byzanz und Italien*, in *Acta Historiae Artium Academiae Scientiarum Hungaricae* 27, 129-186.
- SCHULTE C. 1994 = *Die "Grammateis" in Ephesos. Schreiberamt und Sozialstruktur in einer Provinzhauptstadt*, Stuttgart.
- SCHULZ TH. 2009 = *Baukonstruktion und Bautechnik des Zeustempels von Aizanoi im Vergleich zu anderen Pseudodipteroi*, in *BACHMANN* 2009, 509-525.
- SCHULZ TH. 2011 = *Gebälk- und Dachkonstruktion der Pseudodipteroi - Der Tempel des Apollon Smintheios in der Troas im Vergleich mit dem Zeustempel von Aizanoi*, in A. VON KIENLIN (ed.), *Holztragwerke in der Antike. Internationale Konferenz* (München, 30. März.-01. April 2007) (Byzas 11), Istanbul, 203-216.
- SCHVOERER M. (ed.) 1999 = *Archéomatériaux. Marbres et Autres Roches. ASMOSIA IV. Actes de la IV^{ème} Conférence Internationale de l'Association pour l'Étude des Marbres et Autres Roches Utilisés dans le Passé* (Bordeaux-Talence, 9-13 octobre 1995), Bordeaux.
- SEAGER A., KRAABEL A.T. 1983 = *The Synagogue and the Jewish Community*, in G.M.A. HANGMAN (ed.), *Sardis from Prehistoric to Roman Times. Results of the Archaeological Exploration of Sardis 1958-1975*, Cambridge-London, 169-190.
- SEAL J. 2012 = *Meander. East to West along a Turkish River*, London.
- SECCARONI C., MOIOLI P. 2002 = *Fluorescenza X. Prontuario per l'analisi XRF portatile applicata a superfici policrome*, Firenze.
- SEG = *Supplementum Epigraphicum Graecum*, Amsterdam 1923-.
- SEIPEL W. 2006 = *Das Partherdenkmal von Ephesos. Akten des colloquiums* (Wien, 27.-28. April 2003) (Schriften des Kunsthistorischen Museums 10), Wien.
- SEMERARO G. 2007 = *Ricerche archeologiche nel Santuario di Apollo (Regio VII) 2001-2003*, in D'ANDRIA, CAGGIA 2007, 169-209.
- SEMERARO G. 2008 = *The sanctuary of Apollo in Hierapolis: a stratigraphical approach to a cult context*, in *I. Uluslararası Antik Dönemede Kehanet Apollon'un Anadolu Kültürleri Sempozyum Bildirileri = 1st International Symposium on Oracle in Antiquity and the Cult of Apollo in Asia Minor* (Izmir, Ege University 17-20th of August 2005) (*ADerg* 12, 2), 179-190.
- SEMERARO G. 2012 = *Ricerche nel Santuario di Apollo*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 293-324.

- SEMERARO G. 2014 = *Archaeology of the cult in the Sanctuary of Apollo in Hierapolis*, in *ScAnt* 20, 2, 11-29.
- SEMERARO G. 2016 = *Ricerche nel Santuario di Apollo (2007-2011)*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 191-222.
- SEMERARO G., NOTARSTEFANO F. 2013 = *Integrated methodologies for the study of cultural contexts. Case studies from the Mediterranean area: Malta and Hierapolis*, in L. GIARDINO, G. TAGLIAMONTE (eds.), *Archeologia dei luoghi e delle pratiche di culto. Atti del Convegno* (Cavallino, 26-27 gennaio 2012), Bari, 57-68.
- SEMPER G. 1851 = *On the Study of Polychromy and its Revival*, in E. FALKENER (ed.), *The Museum of Classical Antiquities*, London, 228-246.
- ŞAHİN S. 2008 = *Der neronische Leuchtturm und die vespasianischen Thermen von Patara*, in *Gephyra* 5, 1-32.
- ŞAHİN S. 2009 = *Patara deniz feneri: eleştiriyeye eleştirisi*, in O. TEKİN, A. EROL (eds.), *Ancient history, numismatics and epigraphy in the Mediterranean world. Studies in memory of Clemens E. Bosch and Sabahat Atlan and in honour of Nezahat Baydur*, Istanbul, 331-344.
- ŞENEL M. 1997 = *Geological Map of Turkey, 1: 100,000 scale, Denizli-J9 Quadrangle, and accompanying 18 page explanatory booklet*, General Directorate of Mineral Research and Exploration, Ankara.
- ŞENGÖR A.M.C., GÖRÜR N., ŞAROĞLU F. 1985 = *Strike-Slip faulting and related basin formation in zones of tectonic escape: Turkey as a case study*, in K.T. BIDDLE, N. CHRISTIE-BLICK (eds.), *Strike-Slip Deformation, Basin Formation and Sedimentation* (Society of Economic Paleontologists and Mineralogists, Special Publication 37), Tulsa, 227-264.
- ŞENGÖR A.M.C., SATIR M., AKKÖK R. 1984 = *Timing of tectonic events in the Menderes Massif, Western Turkey: implications for tectonic evolution and evidence for Pan-African basement in Turkey*, in *Tectonics* 3, 7, 697-707.
- ŞENGÖR A.M.C., TÜYSÜZ O., İMREN C., SAKINÇ M., EYİDOĞAN H., GÖRÜR N., LE PICHON X., RANGIN C. 2005 = *The North Anatolian Fault: a new look*, in *Annual Reviews in Earth and Planetary Sciences* 33, 37-112.
- ŞENGÖR A.M.C., YILMAZ Y. 1981 = *Tethyan evolution of Turkey: a plate tectonic approach*, in *Tectonophysics* 75, 181-241.
- SERIN U. 2004 = *Early Christian and Byzantine churches at Iasos in Caria. An architectural survey*, Città del Vaticano.
- SERRÃO S., BRACCI S., TIANO P., MATTEINI M. 2005 = *Studio dell'efficacia e della compatibilità di un trattamento protettivo a base di ossalato di ammonio su affresco*, in G. BISCONTIN, G. DRIUSSI (eds.), *Sulle Pitture Murali. Riflessioni, conoscenza, interventi. Atti del Convegno di Studi* (Bressanone, 12-15 luglio 2005) (Scienza e Beni Culturali 21), Marghera, 187-196.
- SEYER M. 2014 = *Limyra. Geophysik*, in *Wissenschaftlicher Jahresbericht des Österreichischen Archäologischen Instituts*, 62-64.
- SEYİTOĞLU G., BENDA L., SCOTT B.C. 1994 = *Neogene palynological and isotopic age data from Gördes Basin, West Turkey*, in *Newsletter on Stratigraphy* 31, 133-142.
- SEYİTOĞLU G., İSİK V., ÇEMEN I. 2004 = *Complete Tertiary exhumation history of the Menderes Massif, western Turkey: an alternative working hypothesis*, in *Terra Nova* 16, 358-363.
- SEYİTOĞLU G., SCOTT B. 1992 = *The age of the Büyük Menderes graben (west Turkey) and its tectonic implications*, in *Geological Magazine* 129, 239-242.
- SHEPPARD C.D. 1969 = *Byzantine carved marble slabs*, in *ArtB* 51, 1, 65-71.
- SHOE L.T. 1949 = *Dark Stone in Greek Architecture*, in *Commemorative Studies in Honor of Theodore Leslie* (Hesperia Supplements 8), 341-352, 481-482.
- SHOE MERITT L. 1969 = *The geographical distribution of Greek and Roman Ionic bases*, in *Hesperia* 38, 186-204.
- SILVESTRELLI F. 2007 = *Il Ninfeo dei Tritoni (Regio II): le fasi età bizantina e postbizantina. Relazione preliminare delle campagne di scavo 1994-2001*, in D'ANDRIA, CAGGIA 2007, 333-357.

- SINN F. 2011a = n. 79 *Kopf einer Göttin mit Diadem*, in KNOLL, VOSTER, WOELK 2011, 414-416.
- SINN F. 2011b = n. 80 *Kopf einer Göttin mit Diadem*, in KNOLL, VOSTER, WOELK 2011, 417-419.
- ŞİMŞEK C. 1997 = *Hierapolis Güney Nekropolü*, Selçuk Üniversitesi, Sosyal Bilimler Enstitüsü, Arkeoloji-Sanat Tarihi Anabilim Dalı, Klasik Arkeoloji Bilim Dalı, Doktora Tezi, Konya.
- ŞİMŞEK C. 1998 = *Laodikya ana küme girlandı lahidleri*, in *Arkeoloji ve Sanat* 85, 2-28.
- ŞİMŞEK C. 2000 = *Nuovi scavi nelle Terme-Ginnasio di epoca romana di Hierapolis*, in D'ANDRIA, SILVESTRELLI 2000, 167-196.
- ŞİMŞEK C. 2002 = *Kolossai*, in *Arkeoloji ve Sanat* 107, 3-16.
- ŞİMŞEK C. 2006 = *A Menorah with a Cross Carved on a Column of Nymphaeum A at Laodicea ad Lycum*, in *JRA* 19, 343-346.
- ŞİMŞEK C. 2007 = *Laodikeia (Laodikeia ad Lycum)*, İstanbul.
- ŞİMŞEK C. 2011 = *Tarihin İçinden: Laodikeia'dan Ladik'e Denizli*, in *Denizli Tanrıların Kutsadığı Vadi*, İstanbul, 85-122.
- ŞİMŞEK C. 2013 = *Laodikeia (Laodikeia ad Lycum). Laodikeia çalışmaları 2*, İstanbul.
- ŞİMŞEK C. (ed.) 2014a = *10. Yılında Laodikeia (2003-2013 Yılları)*, *Laodikeia Çalışmaları 3*, İstanbul.
- ŞİMŞEK C. 2014b = *Lykos Vadisi İçinde Yer Alan Laodikeia*, in ŞİMŞEK 2014a, 33-69.
- ŞİMŞEK C. 2015a = *1900 Yıllık Su Yasası Bulundu*, in *Bilim ve Teknik*, 576, 66-67.
- ŞİMŞEK C. 2015b = *Church of Laodikeia, Christianity in the Lykos Valley*, Denizli.
- ŞİMŞEK C. 2017 = *Urban Planning of Laodikeia on the Lykos in the Light of New Evidence*, in C. ŞİMŞEK, F. D'ANDRIA (eds.), *Landscape and History in the Lykos Valley. Laodikeia and Hierapolis in Phrygia*, Cambridge, 1-51.
- ŞİMŞEK C., BİLGİN M., OKUNAK M. 2011 = *Laodikeia Nekropolü (2004-2010 Yılları)*, İstanbul.
- ŞİMŞEK C., BİLGİN M., OKUNAK M. 2015 = *Laodikeia Nekropoller ve Mezar Tipleri*, in *Arkeoloji Dergisi* 20, 111-157.
- ŞİMŞEK C., CEYLAN A. 2003 = *Laodikeia'da Tespit Edilen Bir Deprem ve Diocletianus'a İthaf Edilen Bir Yazıt (Lykos Laodikeia'sı)*, in *Archivum Anatolicum/Anadolu Arşivleri* 6, 1, 147-163.
- ŞİMŞEK Ş. 1984 = *Denizli-Kızıldere-Tekkehamam-Tosunlar-Buldan-Yenice Alanının Jeolojisi ve Jeotermal Enerji Olanakları*, in *Bulletin of Mineral Research and Exploration Institute of Turkey (MTA)*, Scientific Report No. 7846 (unpublished).
- ŞİMŞEK Ş., GÜNAY G., ELHATİP E., EKMEKÇİ M. 2000 = *Environmental protection of geothermal waters and travertines at Pamukkale, Turkey*, in *Geothermics* 29, 557-572.
- SKYDSGAARD J. E. 1983 = *Public Building and Society in Ancient Rome*, in K. DE FINE LICHT (ed.), *Città e architettura nella Roma imperiale. Atti del seminario nel 25° anniversario dell'Accademia di Danimarca* (Roma, 27 ottobre 1981) (*AnalRom Supplement* 10), Odense, 223-227.
- SMITH D.K., EDGAR A. 2006 = *Building information models BIM*, <http://www.wbdg.org/design/bim.php>.
- SMITH R.R.R., ERİM K.T. (eds.) 1991 = *Aphrodisias Papers 2. The theatre, a sculptor's workshop, philosophers, and coin types (JRA Supplementary Series 2)*, Ann Arbor.
- SMITH R.R.R. 1993 = *The Monument of C. Julius Zoilos, Aphrodisias I*, Mainz.
- SMITH R.R.R. 2008 = *Sarcophagi and Roman citizenship*, in RATTÉ, SMITH 2008, 347-394.
- SMITH R.R.R. 2011 = *Marble Workshops at Aphrodisias*, in D'ANDRIA, ROMEO 2011, 62-76.
- SMITH R.R.R. 2013 = *The Marble Reliefs from the Julio-Claudian Sebasteion, Aphrodisias VI*, Mainz.
- SMITH R.R.R. 2015 = *Citizens and the kings in the Tomba Bella at Hierapolis*, in *JRA* 28, 803-810.
- SMITH R.R.R., ERTUĞ A. 2015 = *Ancient Theaters of Anatolia*, İstanbul.
- SMITH R.R.R., RATTÉ C. 1997 = *Archaeological Research at Aphrodisias in Caria, 1995*, in *AJA* 101, 1, 1-22.

- SMITH R.R.R., RATTÉ C. 1998 = *Archaeological Research at Aphrodisias in Caria, 1996*, in *AJA* 102, 2, 225-250.
- SOBRÀ G. 2012 = *The analysis of the fragments from the scaenae frons of the Theatre in Hierapolis*, in MASINO, MIGHETTO, SOBRÀ 2012, 183-204.
- SOBRÀ G. 2015 = *Architectural language and diffusion of decorative models: a group of unpublished figured capitals from Hierapolis in Phrygia*, in PENSABENE, GASPARINI 2015, 1050-1055.
- SOBRÀ G. 2016 = *Nuovi elementi per la conoscenza degli ordini superiori della frontescena del Teatro di Hierapolis*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 155-170.
- SOBRÀ G., MASINO F. 2010 = *La frontescena severiana del teatro di Hierapolis di Frigia. Architettura, decorazione e maestranze*, in RAMALLO ASENSIO, RÖRING 2010, 373-412.
- SOBRÀ G., MASINO F. 2014 = *Theatre Buildings of the Early Imperial Age in Asia Minor. Some Dating Elements*, in I. KONCANI UHAÇ (ed.), *The Dating of Stone Monuments and Criteria for Determination of Chronology. Proceedings of the 12th International Colloquium on Roman Provincial Art* (Pula, 23-28 May 2011), Pula, 173-176.
- SOBRINO J.A., JIMÉNEZ-MUÑOZ J.C., ZARCO-TEJADA P.J., SEPULCRE-CANTÒ G., DE MIGUEL E. 2006 = *Land surface temperature derived from airborne hyperspectral scanner thermal infrared data*, in *Remote Sensing of Environment* 102, 99-115.
- SODINI J.P. 1989 = *Le commerce des marbres à l'époque protobyzantine*, in V. KRAVARI, J. LEFORT, C. MORRISSON (eds.), *Hommes et richesses dans l'Empire byzantine, I: IV^e-VII^e siècle* (Réalités byzantine 1), Paris, 161-186.
- SODINI J.P. 2000 = *Le commerce des marbres en Méditerranée. V Reunión d'Arqueologia Cristiana Hispànica* (Cartagena, 16-19 abril 1998), Barcelona, 423-448.
- SODINI J.P. 2002 = *Atria et cours dans les sites de pèlerinage du monde byzantin*, in *Avant-nefs et espaces d'accueil dans l'église entre le IV^e et le XII^e siècle*, Paris, 37-49.
- SODINI J.P. 2002 = *Marble and stoneworking in Byzantium, seventh-fifteenth centuries*, in A.E. LAIOU (ed.), *The economic history of Byzantium. From the seventh through the fifteenth century I* (Dumbarton Oaks Studies 39), Washington, 129-146.
- SOUSA L., OLIVEIRA A., ALVES I. 2016 = *Influence of Fracture System on the Exploitation of Building Stones. The Case of the Mondim de Basto Granite (North Portugal)*, in *Environmental Earth Sciences* 75, 1, 1-16.
- SÖZBİLİR H. 2002 = *Revised stratigraphy and facies analysis of the Palaeocene-Eocene supra-allochthonous sediments and their tectonic significance (Denizli, SW Turkey)*, in *Turkish Journal of Earth Science* 11, 1-27.
- SPAKMAN W., WORTEL M.J.R., VLAAR N.J. 1988 = *The Hellenic subduction zone: a tomographic image and its geodynamic implications*, in *Geophysical Research Letters* 15, 1, 60-63.
- SPANU M. 2011 = *The theatre of Diokaisareia, Diokaisareia in Kilikien II*, Berlin.
- SPIERS W.L. 1918-1919 = *The note-book and account book of Nicholas Stone* (The Walpole Society 7), Oxford.
- SQUARCIAPINO M. 1943 = *La scuola di Afrodisia* (Studi e materiali del Museo dell'Impero Romano), Roma.
- STAMPER J.W. 2005 = *The Architecture of Roman Temples. The Republic to the Middle Empire*, Cambridge.
- STAMPFLI G.M., BOREL G.D. 2004 = *The TRANSMED transects in space and time: constraints on the paleotectonic evolution of the Mediterranean domain*, in W. CAVAZZA, F. ROURE, W. SPAKMAN, G.M. STAMPFLI, P. ZIEGLER (eds.), *The TRANSMED Atlas: the Mediterranean Region from Crust to Mantle*, Berlin, 53-76.
- STAVRIANOPOULOU E. 2006 = *Introduction* in E. STAVRIANOPOULOU (ed.), *Ritual and communication in the Graeco-Roman World* (Kernos Suppl. 11), Liège, 7-22.
- ŠŤASTNÁ A., PŘIKRYL R., JEHLÍČKA J. 2009 = *Methodology of analytical study for provenance determination of calcitic, calcite-dolomitic and impure marbles from historical quarries in the Czech Republic*, in *Journal of Cultural Heritage* 10, 82-93.
- STEARNS C. 2012 = *Geoarchaeological Investigations*, RATTÉ, DE STAEBLER 2012, 135-164.
- STILLER H. 1895 = *Das Traianeum, AvP V, 2*, Berlin.
- STILLWELL R. 1941 = *Antioch-on-the-Orontes 3. The Excavations, 1937-1939*, Princeton.

- STINSON P. 2016 = *The Civil Basilica, Aphrodisias VII*, Wiesbaden.
- STOLL M., PHULPIN T., SCHMUGGE T. 1993 = *Intercalibration of two airborne thermal infrared radiometers: TIMS and PRT5. Application to land surface temperature retrieval*, in *International Journal of Remote Sensing* 14, 13, 2463-2481.
- STRASSER J.-Y. 2010 = *Qu'on fouette les concurrents... À propos des lettres d'Hadrien retrouvées à Alexandrie de Troade*, in *REG* 123, 585-622.
- STROCKA V.M. 1971 = *Kleinasiatische Klinensarkophag-Deckel*, in *AA*, 62-86.
- STROCKA V.M. 1981 = *Das Markttor von Milet* (Winckelmannsprogramm der Archäologischen Gesellschaft zu Berlin 128), Berlin.
- STROCKA V.M. 1984 = *Sepulkral-Allegorien auf dokimeischen Sarkophagen*, in B. ANDREAE (ed.), *Symposium über die antiken Sarkophage* (Pisa, 5. bis 12. September 1982), Marburg, 197-241.
- STROCKA V.M. 1988 = *Wechselwirkungen der stadtrömischen und kleinasiatischen Architektur unter Trajan und Hadrian*, in *IstMitt* 38, 291-307.
- STROCKA V.M., HOFFMANN S., HIESEL G. 2012 = *Die Bibliothek von Nysa am Mäander. Forschungen in Nysa am Mäander 2*, Darmstadt.
- STRONG D.E. 1953 = *Late Hadrianic Architectural Ornament in Rome*, in *BSR* 21, 118-151.
- STRONG D.E. 1961 = *Roman Imperial Sculpture*, London.
- STRONG D., CLARIDGE A. = *Marble Sculpture*, in D. STRONG, D. BROWN (eds.), *Roman crafts*, London, 195-207.
- SUN S. 1990 = *Denizli-Uşak Arasının Jeolojisi ve Linyit Olanakları*, in *Bulletin of Mineral Research and Exploration Institute of Turkey (MTA)*, Scientific Report No. 9985 (unpublished).
- TALMAN D., ELBURG M., SMET I., DE PAEPE P., LOPES L., VANHAECKE F., VERMEULEN F. 2013 = *Roman Marble from Lusitania - Petrographic and Geochemical Characterisation*, in *JASc* 40, 2227-2236.
- TAFT R.F. 2006 = *The Decline of Communion in Byzantium and the Distancing of the Congregation from the Liturgical Action. Cause, Effect, or Neither?*, in S.E.F. GERSTEL (ed.), *Thresholds of the Sacred*, Washington, 27-50.
- TAFT R.F., PARENTI S. 2014 = *Il Grande Ingresso. Storia della liturgia di S. Giovanni Crisostomo* (Ανάλεκτα Κρυπτοφέρρης 10), Grottaferrata.
- TAIT A., ZHENG X. 2003 = *Mapping frost occurrence using satellite data*, in *Journal of Applied Meteorology* 42, 2, 193-203.
- TAM V, 1 = HERRMANN P., *Tituli Asiae Minoris V. Tituli Lydiae linguis Graeca et Latina conscripti 1. Regio septentrionalis ad orientem vergens*, Vindobonae 1981.
- TAM V, 2 = HERRMANN P., KEIL J., *Tituli Asiae Minoris V. Tituli Lydiae linguis Graeca et Latina conscripti 2. Regio septentrionalis ad occidentem vergens*, Vindobonae 1989.
- TANCKE K. 1989 = *Figuralkassetten griechischer und römischer Steindecken* (Europäische Hochschulschriften. Reihe 38, Archäologie 20), Frankfurt am Main.
- TASSI F., VASELLI O., LUCHETTI G., MONTEGROSSI G., MINISSALE A. 2008 = *Metodo per la determinazione dei gas disciolti in acque naturali*, Internal Report CNR-IGG, Florence, n° 10450-11, 1-12.
- TAYMAZ T., TAN O. 2001 = *Source parameters of June 6, 2000. Orta-Çankiri (Mw = 6.0) and December 15, 2000 Sultandag-Aksehir (Mw = 6.0) earthquakes obtained from inversion of teleseismic P- and SH-body-waveforms*, in *Symposia on Seismotectonics of the Northwestern Anatolia-Aegean and Recent Turkish Earthquakes* (Istanbul, 8 May 2001), Extended Abstract, Istanbul, 96-107.
- TEMİN P. 2006 = *The Economy of the Early Roman Empire*, in *Journal of Economic Perspectives* 20, 133-151.
- TEXIER CH. 2002 = *Küçük Asya, Coğrafyası, Tarihi ve Arkeolojisi II* (Translated by A. Suat), Ankara.
- TESTA G., LILYQUIST CH. 2011 = *Strontium isotopes as a promising tool to determine calcite-alabaster provenance*, in ΠΕΙΡΑΓΜΕΝΑ. Ι' ΔΙΕΘΝΟΥΣ ΚΡΗΤΟΛΟΓΙΚΟΥ ΣΥΝΕΔΡΙΟΥ (XANIA, 1-8 ΟΚΤΩΒΡΙΟΥ 2006), Xania, 323-336.
- THEODORESCU D. 1996 = *La frons scaenae du théâtre: innovations et particularités à l'époque de Zoilos*, in SMITH, ROUECHÉ 1996, 127-148.

- THIERRY N. 1975 = *Une iconographie inédite de la Céne dans un réfectoire rupestre de Capadoce*, in *REByz* 33, 177-185.
- THIERRY N. 1977 = *Peintures d'Asie mineure et de Transcaucasie aux X^e et XI^e s.*, Paris.
- THOMAS E. 2014 = *The Severan Period*, in R. ULRICH, C. QUENEMOEN (eds.), *A Companion to Roman Architecture*, Chichester.
- THOMASSON B.E. 1984 = *Laterculi praesidium 1*, Göteborg.
- THOMSON S.N., STÖCKHERT B., BRIX M.R. 1999 = *Miocene high-pressure metamorphic rocks of Crete, Greece: rapid exhumation by buoyant escape*, in U. RING, M.T. BRANDON, G.S. LISTER, S.D. WILLET (eds.), *Exhumation Processes. Normal Faulting. Ductile Flow and Erosion* (Geological Society London Special Publications 154), London, 87-107.
- THONEMANN P. 2011 = *The Maeander Valley. A Historical Geography from Antiquity to Byzantium*, Cambridge.
- THONEMANN P. 2012 = *Abercius of Hierapolis. Christianization and Social Memory in Late Antique Asia Minor*, in B. DIGNAS, R.R.R. SMITH (eds.), *Historical and Religious Memory in the Ancient World*, Oxford.
- THÜR H. 1985 = *Ephesische Bauhütten in der Zeit der Flavier und der Adoptivkaiser*, in M. KANDLER (ed.), *Lebendige Altertumswissenschaft, Festgabe zur Vollendung des 70. Lebensjahres von Hermann Vetters*, Wien, 181-187.
- THÜR H. 1989 = *Das Hadrianstor in Ephesos*, *FiE XI*, 1, Wien.
- THÜR H. 1990 = *Arsinoe IV, eine Schwester Kleopatras VII, Grabinhaberin des Oktogons von Ephesos? Ein Vorschlag*, in *ÖJh* 60, 43-56.
- THÜR H. 2005 = *Das Hanghaus 2 in Ephesos. Die Wohneinheit 4. Baubefund, Ausstattung, Funde*, *FiE VIII*, 6, Wien.
- TIREL C., GAUTIER P., VAN HINSBERGEN D.J.J., WORTEL M.J.R. 2009 = *Sequential development of metamorphic core complexes: numerical simulations and comparison to the Cyclades, Greece*, in D.J.J. VAN HINSBERGEN, M.A. EDWARDS, R. GOVERS (eds.), *Collision and Collapse at the Africa-Arabia-Eurasia Subduction Zone* (Geological Society London Special Publications 311), London, 257-292.
- TOBIN F. 2014 = *The exedra of Demetrios, son of Python, at Labraunda*, in *Opuscula* 7, 32-37.
- TODOROVIĆ U.T. 2014 = *Transcendental Byzantine Body. Reading Dionysius the Pseudo-Areopagite, Gregory of Nyssa and Plotinus in the Unfolded Marble Panels of Hagia Sophia*, in *The Athens Dialogues*, e-journal, <http://athensdialogues.chs.harvard.edu/cgi-bin/WebObjects/athensdialogues.woa/1/wo/NjPdtmviuxtKuxirmOUjW0/8.0.59.15.0.3.13.5.1.0.1>.
- TOMA N. 2014 = *Von Marmorblock über Halbfabrikat zu korinthischem Kapitell. Zur Kapitellproduktion in der Kaiserzeit*, in LIPPS, MASCHKE 2014b, 83-98.
- TOMA N. 2015a = *Marmor und die Monumentalisierung der urbanen Landschaften römischer Städte. Der Handel mit vorgefertigten Marmorbauteilen und seine Auswirkungen auf das römische Bauwesen und auf das Erscheinungsbild römischer Städte in der Kaiserzeit (1.-3. Jh. n. Chr.)*, unveröffentlichte Dissertation an der Philosophischen Fakultät der Christian-Albrechts-Universität zu Kiel.
- TOMA N. 2015b = *Carving a Corinthian capital. New technical aspects regarding the carving process*, in PENSABENE, GASPARINI 2015, 811-821.
- TOPRAK S., TAŞKIN F., KOÇ A.C. 2009 = *Prediction of earthquake damage to urban water distribution system: a case study for Denizli, Turkey*, in *Bulletin of Engineering Geology and the Environment* 68, 499-510.
- TOPUZ G., ALTHERR R., SCHWARZ W.H., DOKUZ A., MEYER H.-P. 2007 = *Variscan amphibolite-facies rocks from the Kurtoğlu metamorphic complex (Gümüşhane area, Eastern Pontides, Turkey)*, in *International Journal of Earth Sciences* 96, 861-873.
- TORSVIK T.H., COCKS L.R.M. 2009 = *The Lower Palaeozoic palaeogeographical evolution of the northeastern and eastern peri-Gondwanan margin from Turkey to New Zealand* (Geological Society London Special Publications 325), London, 3-21.
- TORSVIK T.H., MÜLLER R.D., VAN DER VOO R., STEINBERGER B., GAINA C. 2008 = *Global plate motion frames: toward a unified model*, in *Reviews of Geophysics* 41, RG3004.
- TOSCANO RAFFA A., SULFARO N., TERRANOVA C. 2012 = *Hierapolis di Frigia: il Ninfeo del*

- Santuario di Apollo*, in S. BUSÀ, P. POMPELANO, A. STERRANTINO, A. TOSCANO RAFFA, A. VENTO (eds.), *Uno sguardo extra moenia. Riflessioni su identità culturale e circolazione di idee tra Oriente e Occidente*, Marina di Patti, 211-230.
- TRAVERSARI G. 1960 = *Gli spettacoli in acqua nel teatro tardo antico*, Roma.
- TRAVLOS J. 1971 = *Pictorial dictionary of Ancient Athens*, New York.
- TREGGIARI S. 1980 = *Urban Labour in Rome: mercennarii and tabernarii*, in P. GARNSEY (ed.), *Non-slave Labour in the Greco-Roman World*, Cambridge, 48-64.
- TRÉMAUX P. 1858 = *Exploration archéologique en Asie Mineure*, Paris.
- TRILLING J. 1998 = *The Image Not Made by Hands and the Byzantine Way of Seeing*, in H. KESSLER, G. WOLF (eds.), *The Holy Face and the Paradox of Representation*, Bologna, 109-128.
- TRILLMICH W. 1990 = *Colonia Augusta Emerita, Die Hauptstadt von Lusitanien*, in TRILLMICH, ZANKER 1990, 299-318.
- TRILLMICH W. 1994 = *Aspekte der 'Augustus-Nachfolge' des Kaisers Claudius*, in V.M. STROCKA (ed.), *Die Regierungszeit des Kaisers Claudius (41-54 n. Chr.). Umbruch oder Episode?* International Symposium (Freiburg, 16.-18. Februar 1991), Mainz, 69-89.
- TRILLMICH W., HAUSCHILD TH., BLECH M., NIEMEYER H.G., NÜNNERICH-ASMUS A., KREILINGER U. 1993 = *Denkmäler der Römerzeit (Hispania 2)*, Mainz.
- TRILLMICH W., ZANKER P. (eds.) 1990 = *Stadt und Ideologie. Die Monumentalisierung hispanischer Städte zwischen Republik und Kaiserzeit* (Madrid, 19-23 Oktober 1987) (AbhMünchen 103), München.
- TUCHELT K. 1983 = *Bemerkungen zum Tempelbezirk von Antiochia ad Pisidiaum*, in B. KURT, R.M. BOEHMER, H. HAUPTMANN (eds.), *Beiträge zur Altertumskunde Kleinasien, Festschrift für Kurt Bittel*, Mainz, 501-522.
- TURNBOW H.N. 2011 = *Sarcophagi and Funerary Display in Roman Aphrodisias*, Dissertation New York University.
- TÜRKTÜZÜN M. 1993 = *Zwei Säulensarkophage aus der Südwestnekropole in Aizanoi*, in *AA*, 517-526.
- TZESHKLADZE G. forthcoming = *The Phrygian Lands over Time (from Prehistory to the Middle of the 1st Millennium AD). Proceedings of the International Conference* (Eskişehir, 2-8 November 2015).
- TZESHKLADZE G., ADAMS J., AVRAM A., AVRAM S., DANDROW E., MADDEN A., MARANZANA P., NASERDIN L., SCHMIDT A. 2012 = *Pessinus in Phrygia: brief preliminary report of the 2011 field season*, in G. TZESHKLADZE (ed.), *The Black Sea, Paphlagonia, Pontus and Phrygia in Antiquity. Aspects of archaeology and ancient history* (BARIntSer 2432), Oxford, 329-356.
- TZESHKLADZE G., AVRAM A., AVRAM S., DANDROW E., GOODMAN A., HYSI L., MADDEN A., MARANZANA P., MASSÉGLIA P., MONDIN C., SCHMIDT A., STEWART S., WILLIAMS L., YOUNG S. 2015 = *Pessinus, 2013*, in *KST* 36, 1 (Gaziantep, 2-4 Haziran 2014), Ankara, 73-122.
- ULBERT T. 1969-1970 = *Byzantinische Reliefplatten des 6. bis 8. Jahrhunderts*, in *IstMitt* 19-20, 339-357.
- UNDERWOOD P.A. 1967 = *The Kariye Djami*, 1, New York, 300-309.
- UNI 11432:2011 = *Beni culturali - Materiali lapidei naturali ed artificiali - Misura della capacità di assorbimento di acqua mediante spugna di contatto*.
- UNI EN 15886:2010 (English/Italian) = *Conservation of cultural property - Test methods - Colour measurement of surfaces*.
- UNGARO R. 2016 = *Nota su alcuni elementi architettonici di età romana dall'area del Santuario di San Filippo a Hierapolis*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 775-797.
- USAMENTIAGA R., VENEGAS P., GUEREDIAGA J., VEGA L., MOLLEDA J., BULNES F.G. 2014 = *Infrared Thermography for Temperature Measurement and Non-Destructive Testing*, in *Sensors* 14, 7, 12305-12348.
- UYSAL I.T., FENG Y., ZHAO J., ALTUNEL E., WEATHERLEY D., KARABACAK V., CENGİZ O., GOLDING S.D., LAWRENCE M.G., COLLERSON K.D. 2007 = *U-series dating and geochemical tracing of late Quaternary travertine in co-seismic fissures*, in *Earth and Planetary Science Letters* 257, 450-462.

- UYSAL I.T., FENG Y., ZHAO J., IŞIK V., NURIEL P., GOLDING S.D. 2009a = *Hydrothermal CO₂ degassing in seismically active zones during the late Quaternary*, in *Chemical Geology* 265, 442-454.
- UYSAL I.T., ZHAO J., FENG Y., GOLDING S.D. 2009b = *CO₂-driven hydrothermal eruptions in geothermal systems of Turkey*, in *Proceedings of the Thirty-Fourth Workshop on Geothermal Reservoir Engineering* (Stanford, California, February 9-11, 2009), Stanford, 1-4.
- UZ D.M. 1986 = *Teos Dionysos Tapınağı Temenos Alanı*, in *AST 3* (Ankara, 20-24 Mayıs 1985), Ankara, 227-242.
- UZ D.M. 1990 = *The temple of Dionysos in Teos*, in W. HOEPFNER, E.-L. SCHWANDENR (eds.), *Hermogenes und die hochhellenistische Architektur, Internationales Kolloquium* (Berlin, 28.-29. Juli 1988), Mainz, 51-61.
- UZ D.M. 2013 = *Teos taki Dionysos Tapınağı*, Ankara.
- UZUNOĞLU H. 2015 = *Das Verkehrsnetz von Nord-Ionien (Teos-Lebedos-Klazomenai) anhand alter und neuer Meilensteine*, in *Philia* 1, 166-177.
- VAN BREMEN R. 1996 = *The Limits of Participation. Women and the Civic Life in the Greek East in the Hellenistic and Roman Periods*, Amsterdam.
- VAN HEESCH 2007 = *Some Aspects of Wage Payments and Coinage in Ancient Rome, First to Third Centuries CE*, in J. LUCASSEN (ed.), *Wages and Currency. Global Comparisons from Antiquity to the Twentieth Century*, New York, 77-96.
- VAN HINSBERGEN D.J.J. 2010 = *A key extensional metamorphic complex reviewed and restored. The Menderes Massif of western Turkey*, in *Earth Science Reviews* 102, 60-76.
- VAN HINSBERGEN D.J.J., DEKKERS M.J., KOÇ A. 2010 = *Testing Miocene remagnetization of Bey Dağları. Timing and amount of Neogene rotations in SW Turkey*, in *Turkish Journal of Earth Sciences* 19, 123-156.
- VAN HINSBERGEN D.J.J., HAFKENSCHIED E., SPAKMAN W., MEULENKAMP J.E., WORTEL M.J.R. 2005 = *Nappe stacking resulting from subduction of oceanic and continental lithosphere below Greece*, in *Geology* 33, 4, 325-328.
- VAN HINSBERGEN D.J.J., KRIJGSMAN W., LANGEREIS C.G., CORNÉE J.J., DUERMEIJER C.E., VAN VUGT N. 2007 = *Discrete Plio-Pleistocene phases of tilting and counter clockwise rotation in the southeastern Aegean arc (Rhodos, Greece): early Pliocene formation of the south Aegean left-lateral strike-slip system*, in *Journal of the Geological Society of London* 164, 1133-1144.
- VAN NOTEN K., CLAES H., SOETE J., FOUBERT A., ÖZKUL M., SWENNEN R. 2013 = *Fracture networks and strike-slip deformation along reactivated normal faults in Quaternary travertine deposits, Denizli Basin, western Turkey*, in *Tectonophysics* 588, 154-170.
- VANDEPUT L. 1995 = *Dating by means of architectural decoration. Possibilities and limits*, in M. WAELKENS, J. POBLOME (eds.), *Sagalassos III, Report on the fourth excavation campaign of 1993* (ActaALovMono 7), Leuven, 129-136.
- VANDEPUT L. 1997 = *The architectural decoration in Roman AsiaMinor. Sagalassos: a case study* (SEMA 1), Turnhout.
- VANDEPUT L., BÜYÜKKOLANCI M. 1999 = *Das Große Propylon in Kremna in Pisidien*, in *IstMitt* 49, 213-248.
- VANHAVERBEKE H., WAELKENS M. 2002 = *The Northwestern necropolis of Hierapolis (Phrygia). The chronological and topographical distribution of the travertine sarcophagi and their way of production*, in DE BERNARDI FERRERO 2002a, 119-145.
- VANHAVERBEKE H., WAELKENS M., RITTI T. 1999 = *Is plump later? The Possibilities of dating sarcophagi by means of their proportions checked by PCA-Analysis on the North-Western Necropolis sarcophagi of Hierapolis (Phrygia, Turkey)*, in J.A. BARCELÓ, I. BRIZ, A. VILA (eds.), *New Techniques for Old Times. CAA98. Computer Applications and Quantitative Methods in Archaeology. Proceedings of the 26th Conference* (Barcelona, March 1998) (BARIntSer 757), Oxford, 201-208.
- VEMI V. 1989 = *Les chapiteaux ioniques à imposte de Grèce à l'époque paléochrétienne* (BCH Supplément 17), Athènes-Paris.
- VERLINDE A. 2015 = *The Roman sanctuary site at Pessinus: from Phrygian to Byzantine times*, (Monographs on Antiquity 7), Leuven.
- VERRI G. 2009 = *The spatial resolved characterization of Egyptian Blue, Han Blue and Han*

- Purple by photo-induced luminescence digital imaging*, in *Analytical and Bioanalytical Chemistry* 394, 4, 1011-1021.
- VERRI G., CLEMENTI C., COMELLI D., CATHER S., PIQUÉ F. 2008 = *Post-capture data analyses as an aid to the interpretation of ultraviolet-induced fluorescence images*, in D.G. STORK, J. CODDINGTON (eds.), *Computer Image Analyses in the Study of Art*, Bellingham, 681001-681012.
- VERZONE P. 1960 = *Il Martirium ottagonale a Hierapolis di Frigia*, in *Palladio* 1-2, 1-20.
- VERZONE P. 1961-1962 = *Le campagne 1960 e 1961 a Hierapolis di Frigia*, in *ASAtene* 39-40, 633-647.
- VERZONE P. 1965 = *Hierapolis christiana*, in G. BOVINI (ed.), *Corsi di cultura sull'arte ravennate e bizantina XII*, Ravenna, 613-627.
- VERZONE P. 1971 = s.v. "Hierapolis", in *RBK* 2, 1208-1212.
- VERZONE P. 1978 = *Hierapolis di Frigia nei lavori della Missione archeologica italiana*, in *Un decennio di ricerche archeologiche I* (Quaderni de 'La ricerca scientifica', CNR, 100), Roma, 391-475.
- VERZONE P. 2003 = *Il ninfeo di Side in Pamfilia*, in *Palladio* 31, 5-22.
- VETTORI S., BRACCI S., CAGGIA P., CANTISANI E., CUZMAN O.A., ISMAELLI T., RIMINESI C., SACCHI B., SCARDOZZI G., D'ANDRIA F. 2016a = *Decay phenomena of marbles in the archaeological site of Hierapolis of Phrygiae (Denizli, Turkey)*, in J. HUGHES, T. HOWIND (eds.), *Science and Art. A Future for Stone. Proceedings of the 13th International Congress on the Deterioration and Conservation of Stone* (Paisley, 6th-10th September 2016), Paisley, 165-172.
- VETTORI S., BRACCI S., CANTISANI E., RIMINESI C., SACCHI B., D'ANDRIA F. 2016b = *A multi-analytical approach to investigate the state of conservation of the wall paintings of Insula 104 in Hierapolis (Turkey)*, in *Microchemical Journal* 128, 279-287.
- VETTORI S., D'ANDRIA F., BRACCI S., CAGGIA P., CANTISANI E., ISMAELLI T., RIMINESI C., SACCHI B., SCARDOZZI G. 2014 = *Preliminary conservation issues study of unearthened marble ruins in the Ploutonion of Hierapolis (Denizli, Turkey)*, ISA 2014, 40th International Symposium on Archaeometry (Los Angeles, 19-23 May 2014), Program and Abstract Book, 177-178.
- VEYNE P. 1976 = *Le pain et le cirque*, Paris.
- VIALET A., GUIPERT G., ALÇIÇEK M.C. 2012 = *Homo Erectus found still further west. Reconstruction of the Kocabaş cranium (Denizli, Turkey)*, in *Comptes Rendus Palevol* 11, 89-95.
- VIOLLET LE DUC E. 1869 = *Dictionnaire Raisoné de l'Architecture Française*, Paris (trad. it. M.A. CRIPPA, *L'architettura ragionata. Estratti dal dizionario*, Milano 1982).
- VLAD BORRELLI L. 2010 = *Conservazione e restauro delle antichità. Profilo storico*, Roma.
- VOGEL-WEIDEMANN U. 1982 = *Die Statthalter von Africa und Asia in den Jahren 14-68 n. Chr.: eine Untersuchung zum Verhältnis Princeps und Senat* (Antiquitas, Reihe 1, Abhandlungen zur alten Geschichte 31), Bonn.
- VOLPE R. 2002 = *Un antico giornale di cantiere delle Terme di Traiano*, in *RM* 109, 377-394.
- VOLPE R. 2010 = *Organizzazione e tempi di lavoro nel cantiere delle terme di Traiano sul colle Oppio*, in *CAMPOREALE, DESSALES, PIZZO* 2010, 81-91.
- VOLPE R., ROSSI F.M. 2012 = *Nuovi dati sull'edera sud-ovest delle Terme di Traiano sul Colle Oppio. Percorsi, iscrizioni dipinte e tempi di costruzione*, in *CAMPOREALE, DESSALES, PIZZO* 2012, 69-81.
- VON DIEST W. 1913 = *Nysa ad Maeandrum, nach Forschungen und Aufnahmen in den Jahren 1907 und 1909* (*JdI* Ergänzungsheft 10), Berlin.
- VON HEAD B. 1906 = *Catalogue of the Greek Coins of Phrygia*, London.
- VON HEAD B. 1977 = *Historia Nummorum. A Manual of Greek Numismatics*, London.
- VON HESBERG H. 1978-1980 = *Zur Datierung des Theaters in der Domitiansvilla von Castel Gandolfo*, in *RendPontAc* 51-52, 305-324.
- VON HESBERG H. 1990a = *Bauornament als kulturelle Leitform*, in *TRILLMICH, ZANKER* 1990, 341-366.
- VON HESBERG H. 1990b = *Platzanlagen und Hallenbauten in der Zeit des frühen Helle-*

- nismus, in *Akten des XIII. Internationalen Kongresses für Klassische Archäologie* (Berlin, 24.-30. Juli 1988), Mainz, 231-241.
- VON HESBERG H. 1994a = *Die Architekturteile*, in G. HELLENKEMPER-SALIES (ed.), *Das Wrack*, Cologne, 175-194.
- VON HESBERG H. 1994b = *Formen privater Repräsentation in der Baukunst des 2. und 1. Jahrhunderts v. Chr.* (Arbeiten zur Archäologie), Köln.
- VON HESBERG H. 2005 = *Römische Baukunst*, München.
- VON KIENLIN A. 1998-1999 = *Zur baulichen Entwicklung der Agora von Priene*, in *Boreas* 21-22, 241-259.
- VON MERCKLIN E. 1962 = *Antike Figuralkapitelle*, Berlin.
- WADDINGTON W.H. 1872 = *Fastes des provinces asiatiques de l'Empire romain depuis leur origine jusqu'au règne de Dioclétien*, Paris.
- WAEKENS M. 1982 = *Dokimeion. Die Werkstatt der repräsentativen kleinasiatischen Sarkophage. Chronologie und Typologie ihrer Produktion* (AF 11), Berlin.
- WAEKENS M. (ed.) 1986 = *Marmi e sarcofagi frigi*, in *AnnPisa* 16, 661-678.
- WAEKENS M. 1986 = *The Imperial Sanctuary at Pessinus. Archaeological, Epigraphical and Numismatic Evidence for its Date and Identification*, in *EpigrAnat* 7, 37-73.
- WAEKENS M. 1988 = *Production patterns of sarcophagi in Phrygia*, in HERZ, WAEKENS 1988, 139-144.
- WAEKENS M. 1994 = *Cave di marmo*, in *EAA*, II Suppl., Roma, 71-88.
- WAEKENS M. 1997 = *Interdisciplinarity in Classical Archaeology. A Case Study: the Sagalassos Archaeological Research Project (Southwest Turkey)*, in M. WAEKENS, J. POBLOME (eds.), *Sagalassos IV. Report on the Survey and Excavation Campaigns of 1994 and 1995* (ActaALovMono 9), Leuven, 225-252.
- WAEKENS M., DE PAEPE P., MOENS L. 1987 = *Survey in the White Quarries of Anatolia*, in *AST* 4, 113-126.
- WAEKENS M., DE PAEPE P., MOENS L. 1988a = *Quarry and the marble trade in antiquity*, in HERZ, WAEKENS 1988, 11-28.
- WAEKENS M., DE PAEPE P., MOENS L. 1988b = *Patterns of extraction and production in the white marble quarries of the Mediterranean: history, present problems and prospects*, in J.C. FANT (ed.), *Ancient Marble Quarrying and Trade* (BARIntSer 453), Oxford, 81-116.
- WAEKENS M., HERZ N., MOENS L. (eds.) 1992 = *Ancient Stones. Quarrying, Trade and Provenance* (ActaALovMono 4), Louvain.
- WAEKENS M., MUCHEZ P., LOOTS L., DEGRYSE P., VANDEPUT L., ERCAN S., MOENS L., DE PAEPE P. 2002 = *Marble and the Marble Trade at Sagalassos (Turkey)*, in HERRMANN, HERZ, NEWMAN 2002, 370-80.
- WALKER S., MATTHEWS K.J. 1997 = *The marbles of the Mausoleum*, in I. JENKIS, J.B. WAYWELL (eds.), *Sculptors and Sculpture of Caria and the Dodecanese*, London, 49-67.
- WALKER S., WALER S., MATTHEWS K.J. 1988 = *Recent work in stable isotope analysis of white marble at the British Museum*, in J.C. FANT (ed.), *Ancient Marble Quarrying and Trade. Papers from a colloquium held at the annual meeting of the Archaeological Institute of America* (San Antonio, Texas, December 1986) (BARIntSer 453), Oxford, 117-126.
- WANKEL H. 1979 = *Die Inschriften von Ephesos Ia* (IK 11.1), Bonn.
- WARD-PERKINS J.B. 1951 = *Tripolitania and the Marble Trade*, in *JRS* 41, 89-104.
- WARD-PERKINS J.B. 1980 = *Nicomedia and the Marble Trade*, in *BSR* 48, 23-69.
- WARD-PERKINS J.B. 1981 = *Roman Imperial Architecture*, Harmondsworth.
- WARD-PERKINS J.B. 1993 = *The Severan Buildings of Lepcis Magna* (Libyan Studies Monograph 2), London.
- WARD-PERKINS J.B., DODGE H. (eds.) 1992 = *Marble in antiquity: collected papers of J.B. Ward-Perkins* (Archaeological monographs of the British School at Rome 6), London.
- WARDA J., FREY F., HELLER D., KUSHEL D., VITALE T., WEAVER G. 2011² = *Ultraviolet photography*, in J. WARDA (ed.), *AIC Guide to Digital Photography and Conservation Documentation*, Washington.

- WESTAWAY R. 1990 = *Block rotation in western Turkey 1st observational evidence*, in *Journal of Geophysical Research* 95, 857-884.
- WESTAWAY R. 1993 = *Neogene evolution of the Denizli region of western Turkey*, in *Journal of Structural Geology* 15, 37-53.
- WESTAWAY R. 1998 = *Dependence of active normal fault dips on lower crustal flow regimes*, in *Journal of Geological Society of London* 155, 233-253.
- WESTAWAY R., GUILLOU H., YURTMEN S., DEMIR T., SCAILLET S., ROWBOTHAM G. 2005 = *Constraints on the timing and regional conditions at the start of the present phase of crustal extension in western Turkey, from observations in and around the Denizli region*, in *Geodinamica Acta* 18, 3-4, 209-238.
- WESTAWAY R., PRINGLE M., YURTMEN S., DEMIR T., BRIDGLAND D., ROWBOTHAM G., MADDY D. 2003 = *Pliocene and Quaternary surface uplift of western Turkey revealed by long-term river terrace sequences*, in *Current Science* 84, 1090-1101.
- WESTHOLM A. 1963 = *The architecture of the Hieron*, Lund.
- WEYL CARR A., NICOLAÏDÈS A. (eds.) 2012 = *Asinou across times. Studies in the architecture and murals of the Panagia Phorbiotissa, Cyprus*, Princeton.
- WIEGARTZ H. 1965 = *Kleinasiatische Säulensarkophage. Untersuchungen zum Sarkophagtypus und zu den figürlichen Darstellungen*, Berlin.
- WIEGARTZ H. 1974 = *Marmorhandel, Sarkophagherstellung und die Lokalisierung der kleinasiatischen Säulensarkophage*, in *Mansel'e armağan. Mélanges Mansel 1*, Ankara, 345-383.
- WIENHOLZ H. 2014 = *Baalbek und die Freiheit der Ausführung*, in LIPPS, MASCHKE 2014b, 117-128.
- WILL E. 1985 = *Le sanctuaire de la Déesse Syrienne, Délos 35*, Paris.
- WILLIAMS T.B. 2014 = *Good Works in 1 Peter: Negotiating Social Conflict and Christian Identity in the Greco-Roman World* (Wissenschaftliche Untersuchungen zum Neuen Testament 337), Tübingen.
- WILSON-JONES M. 2000 = *Principles of Roman Architecture*, New Haven.
- WINFIELD D. 2012 = *The murals of the Narthex: the paintings of the Twelfth Century. Part Two: the mural of St. Georges: technique and conservation*, in WEYL CARR, NICOLAÏDÈS 2012, 102-112.
- WINTER E. 1996 = *Staatliche Baupolitik und Baufürsorge in den römischen Provinzen des kaiserzeitlichen Kleinasien* (AMS 20), Bonn.
- WINTER J. E. 1990 = *Studies in Hellenistic Architecture*, Toronto.
- WIPLINGER G. (ed.) 2006 = *Cura Aquarum in Ephesus. Proceedings of the Twelfth International Congress on the History of Water Management and Hydraulic Engineering in the Mediterranean Region II* (Ephesus-Selçuk, 2-10 October 2004) (BABesch Supplement 12), Leuven.
- WITTE-ORR J. 2003 = *Technical study of frescoes and mosaics from the lower city church*, in C.S. LIGHTFOOT (ed.), *Amorium Reports II. Research papers and technical Reports* (BARIntSer 1170), London.
- WOODSIDE J., MASCLE J., HUGUEN C., VOLKONSKAIA A. 2000 = *The Rhodes basin, a post-Miocene tectonic trough*, in *Marine Geology* 165, 1-12.
- WULF-RHEIDT U. 2009 = *Warum konnte der römische Ziegelbau in Kleinasien keine Erfolgsgeschichte werden?*, in BACHMANN 2009, 497-507.
- XYDIS S.G. 1947 = *The Chancel Barrier, Solea, and Ambo of Hagia Sophia*, in *ArtB* 29, 1-24.
- YALÇINER C.Ç., BANO M., KADIOĞLU M., KARABACAK V., MEGHRAOUI M., ALTUNEL E. 2009 = *New temple discovery at the Archaeological site of Nysa (western Turkey) using GPR Method*, in *JASc* 36, 8, 1680-1689.
- YALÇINER C.Ç. 2013 = *Investigation of the subsurface geometry of fissure-ridge travertine with GPR, Pamukkale, western Turkey*, in *Journal of Geophysics and Engineering* 10, 1-10.
- YAVUZ A.B., BRUNO M., ATTANASIO D. 2011 = *An updated, multi-method database of Ephesus marbles*, in *Archaeometry* 53, 2, 215-240.
- YAVUZ A.B., BRUNO M., ATTANASIO D. 2012 = *A new source of bigio antico marble: the*

- ancient quarries of Iznik (Turkey), in GUTIÉRREZ GARCIA, LAPUENTE, RODÀ 2012, 255-262.
- YAVUZ M., ÇOBANOĞLU G. 2007 = *Lichen Flora of Pamukkale (Hierapolis), Turkey*, in *Pakistan Journal of Biological Science* 10, 2998-3001.
- YEGÜL F. 1986 = *The Bath-Gymnasium Complex at Sardis, Archaeological Exploration of Sardis Report 3*, Cambridge-London.
- YILDIZ H., ŞİMŞEK C. 2000 = *Sarcophagi a ghirlande dalla necropoli di Laodicea al Lykos*, in D'ANDRIA, SILVESTRELLI 2000, 99-140.
- YILMAZ Y. 2001 = *Some striking features of the Anatolian geology*, in *Fourth International Turkish Geology Symposium*, Abstract Volume, Çukurova University, Adana, 13.
- YOUNES A., GAIED M. E., GALLALA W. 2012 = *Stone blocks used for the building of the Thysdrus and Thapsus amphitheatres in Tunisia*, in GUTIÉRREZ GARCIA, LAPUENTE, RODÀ 2012, 452-462.
- YUKSEL F., BRAMWELL B., YUKSEL A. 1999 = *Stakeholder interviews and tourism planning at Pamukkale, Turkey*, in *Tourism Management* 20, 351-360.
- ZABRANA L. 2011 = *Vorbericht zur sog. Tribüne im Artemision von Ephesos - ein neues Odeion im Heiligtum der Artemis*, in *ÖJh* 80, 341-364.
- ZACCARIA RUGGIU A. 2007 = *Regio VIII, insula 104. Le strutture abitative: fasi e trasformazioni*, in D'ANDRIA, CAGGIA 2007, 211-256.
- ZACCARIA RUGGIU A. 2012 = *Un quartiere residenziale: l'insula 104*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 419-442.
- ZACCARIA RUGGIU A. 2014 = *Sistemi decorativi dall'insula residenziale 104 a Hierapolis di Frigia*, in N. ZIMMERMANN (ed.), *Antike Malerei zwischen Lokalstil und Zeitstil. Akten des XI. Internationalen Kolloquiums der AIPMA (Association Internationale pour la Peinture Murale Antique)* (Selçuk, 13.-17. September 2010) (AF 23), Wien, 209-220.
- ZACCARIA RUGGIU A. 2016 = *Scavi e restauri nell'insula abitativa 104*, in D'ANDRIA, CAGGIA, ISMAELLI 2016, 279-292.
- ZACCARIA RUGGIU A., BORTOLIN R. forthcoming = *Hierapolis di Frigia. Le abitazioni dell'Insula 104*, Istanbul.
- ZACCARIA RUGGIU A., MAZZOCCHIN G.A. 2012 = *Appendice: analisi di frammenti di intonaco dalla Casa dell'Iscrizione Dipinta*, in D'ANDRIA, CAGGIA, ISMAELLI 2012, 443-452.
- ZACHARIASSE W.J., VAN HINSBERGEN D.J.J., FORTUIN A.R. 2008 = *Mass wasting and uplift on Crete and Karpathos (Greece) during the early Pliocene related to beginning of south Aegean left-lateral, strike slip tectonics*, in *Geological Society of America Bulletin* 120, 976-993.
- ZANKER P. 1989 = *Augusto e il potere delle immagini*, Torino.
- ZIMMERMANN M. 2011 = *Pergamon. Geschichte, Kultur, Archäologie*, München.
- ZUIDERHOEK A. 2009 = *The Politics of Munificence in the Roman Empire. Citizens, Elites, and Benefactors in Asia Minor*, Cambridge.
- ZUIDERHOEK A. 2010 = *Oligarchs and Benefactors. Elite Demography and Euergetism in the Greek East of the Roman Empire*, in O.M. VAN NIJF, R. ALSTON (eds.), *Political Culture in the Greek City after the Classical Age*, Leuven, 185-195.
- ZUIDERHOEK A. 2013 = *Cities, Buildings and Benefactors in the Roman East*, in C.P. DICKENSON, O.M. VAN NIJF (eds.), *Public Space in the Post-Classical City*, Leuven, 173-192.
- ZWINGMANN N. 2012 = *Antiker Tourismus in Kleinasien und den vorgelagerten Inseln: Selbstvergewisserung in der Fremde* (Antiquitas Reihe 1, Abhandlungen zur alten Geschichte 59), Bonn.

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