

Cosa IV

The Houses

*Vincent J. Bruno and
Russell T. Scott*

Cosa was a Latin colony founded by Rome in 273 B.C. in territory confiscated from the Etruscan city of Vulci. The fortification walls of the ancient town still dominate the coast some ninety miles north of Rome. The town itself became an agricultural and commercial center, whose trade can be traced in part through a distinctive type of amphora to destinations throughout the Mediterranean world.

Cosa's archaeological importance lies in the fact that it provides essential evidence for Roman culture and political organization as they are expressed in structures and town planning of the republican period, evidence not available in Rome, where republican structures vanished beneath the massive building programs of the imperial age. *Cosa IV* reports on a group of recently excavated houses between the forum and the Florentine or northwest gate. The volume traces the development of the Roman house, which Frank Brown counts as a major contribution to Roman architecture, from a small urban dwelling of the early colony to the more elaborate houses of the late second and early first centuries B.C., including a Cosan example of the atrium house.

The appearance of *Cosa IV*, and its companion volume on the forum, *Cosa III*, adds to the importance of the early colony to the field of ancient studies.

COSA IV
THE HOUSES



The garden of the House of the Skeleton of the early first century B.C., as restored by Frank E. Brown. View looking northwest

COSA IV
THE HOUSES

BY

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The following studies of archaeological material from the excavations at Cosa are in progress and will be published in due course: *Cosa III: The Buildings of the Forum* by Frank Edward Brown, Emeline Hill Richardson, and L. Richardson, jr, *The Lamps* by Cleo Rickman Fitch and Norma Goldman, *Inscriptions on Stone and*

Brick-Stamps by Edward Jan Bace, *The Sculpture and Furniture in Stone* by Jacquelyn Collins-Clinton, *The Glass* by David Grose, *The Arretine Pottery*, *The Italic and Gaulish Sigillata* by Maria Teresa Marabini Moevs, *Black-Glaze Pottery Studies* by Ann Reynolds Scott, *The Storage Ware* by Elizabeth Lyding Will, and supplementary studies of the arx by Russell T. Scott, Elizabeth Fentress, Michelle Hobart, and Teresa Clay.

From other publishers:

A Late Antique Shrine of Liber Pater at Cosa, by Jacquelyn Collins-Clinton (Etudes préliminaires aux religions orientales dans l'empire romain, edited by M. J. Vermaseren, volume 64), Leiden (E. J. Brill) 1977

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ABBREVIATIONS

The abbreviations of titles of periodicals and standard reference works used in this book are those approved by the *American Journal of Archaeology* and the *Oxford Classical Dictionary*, plus the following:

Brown CMRT	F. E. Brown, <i>Cosa: The Making of a Roman Town</i> (Ann Arbor, Michigan, 1980).
Buttrey Coins	T. V. Buttrey, <i>Cosa: The Coins</i> (MAAR 34, 1980).
<i>Classificazione preliminare</i>	N. Lamboglia, <i>Per una classificazione preliminare della ceramica campana</i> (Bordighera, 1952).
<i>Cosa I</i>	F. E. Brown, <i>Cosa I: History and Topography</i> (MAAR 20, 1951).
<i>Cosa II</i>	F. E. Brown, E. H. Richardson, and L. Richardson, jr, <i>Cosa II: The Temples of the Arx</i> (MAAR 26, 1960).
<i>Cosa III</i>	F. E. Brown, E. H. Richardson, and L. Richardson, jr, <i>Cosa III: The Buildings of the Forum</i> (MAAR 37, forthcoming).
Dressel	CIL 15.2, tab. 2 (H. Dressel).
Dyson Utilitarian Pottery	S. L. Dyson, <i>Cosa: The Utilitarian Pottery</i> (MAAR 33, 1976).
Lamboglia	See above, <i>Classificazione preliminare</i> .

xxii Abbreviations

Moevs <i>Italo-Megarian, Aco</i>	M.-T. Marabini Moevs, <i>Italo-Megarian Ware at Cosa, Aco in Northern Etruria: The Workshop of Cusonius at Cosa</i> (MAAR 34, 1980).
Moevs <i>Thin Walled Pottery</i>	M.-T. Marabini Moevs, <i>The Roman Thin Walled Pottery from Cosa</i> (MAAR 32, 1973).
Morel	J.-P. Morel, "Ceramique à vernis noir du Forum Romain et du Palatin," <i>MEFRSupp</i> 3 (1965).
Oxé-Comfort CVA	A. Oxé and H. Comfort, <i>Corpus Vasorum Arretinorum</i> (Bonn, 1968).
"Scavi"	F. E. Brown, "Scavi a Cosa-Ansedonia, 1965–66," <i>BdA</i> 1967 (anno 52) 37–41.
A. R. Scott <i>Black-Glaze</i>	A. R. Scott, <i>Cosa: Black-Glaze Pottery Studies</i> (forthcoming).
Will <i>Storage Ware</i>	E. L. Will, <i>Cosa: The Storage Ware</i> (forthcoming).

Abbreviations of Journal and Series Titles

AJA: American Journal of Archaeology

AnalRom: Analecta romana Instituti Danici

BABesch: Bulletin antieke beschaving. Annual Papers on Classical Archaeology

BdA: *Bulletino d'Arte*

BibEFAR (*BEFAR*): Bibliothèque des Écoles Françaises d'Athènes et de Rome

BonnJbb: *Bonner Jahrbücher*

Délos (*EAD*): Exploration archéologique de Délos faite par l'École française d'Athènes

DialArch: Dialoghi di archeologia

EPROER (*EPRO*): Études préliminaires aux religions orientales dans l'empire romain

Jdl: Jahrbuch des Deutschen Archäologischen Instituts

JFA: Journal of Field Archaeology

MAAR: Memoirs of the American Academy in Rome

MEFRA: Mélanges d'archéologie et d'histoire de l'École française de Rome. Antiquité (*MEFR* through 1970; *MEFRA* from 1971)

PBSR (*BSR*): Papers of the British School in Rome

RendPontAcc: Atti della pontificia accademia romana di archeologia. Rendiconti

RömMitt (*RM*): Mitteilungen des Deutschen Archäologischen Instituts, Römische Abteilung

RStLig: Rivista di studi liguri

SkrRom: Skrifter utgivna av Svenska Institutet i Rom

INTRODUCTION

The early campaigns of archaeological work at Cosa were devoted to mapping the site and to systematic exploration of the Arx and Forum.¹ One of the results of these years was an assessment of the ratio of public to private land within the circuit of the city walls. Approximately two-thirds of the area encompassed was found to have been occupied by public works, and a suggestive index to private development was the abundant remains of ancient walls in limestone rubblework visible above the modern surface in the northwestern half of the site, where, below the broad ridge running down from the Arx across the Forum and up to the Eastern Height, the land falls off steadily to the north and west toward the line of the walls on the northwest and the northwest gate (Fig. 1).

Geographical contours helped to determine the location of the ancient streets framing a central area in which the signs of habitation were concentrated: to the northwest and southeast run Streets K and O; to the northeast and southwest run the cross Streets 4 and 6. The enclosed area is some 88,333 m², and it was here that the investigation of house plots and domestic architecture began in 1966.

1. See *Cosa I, II, and III*.

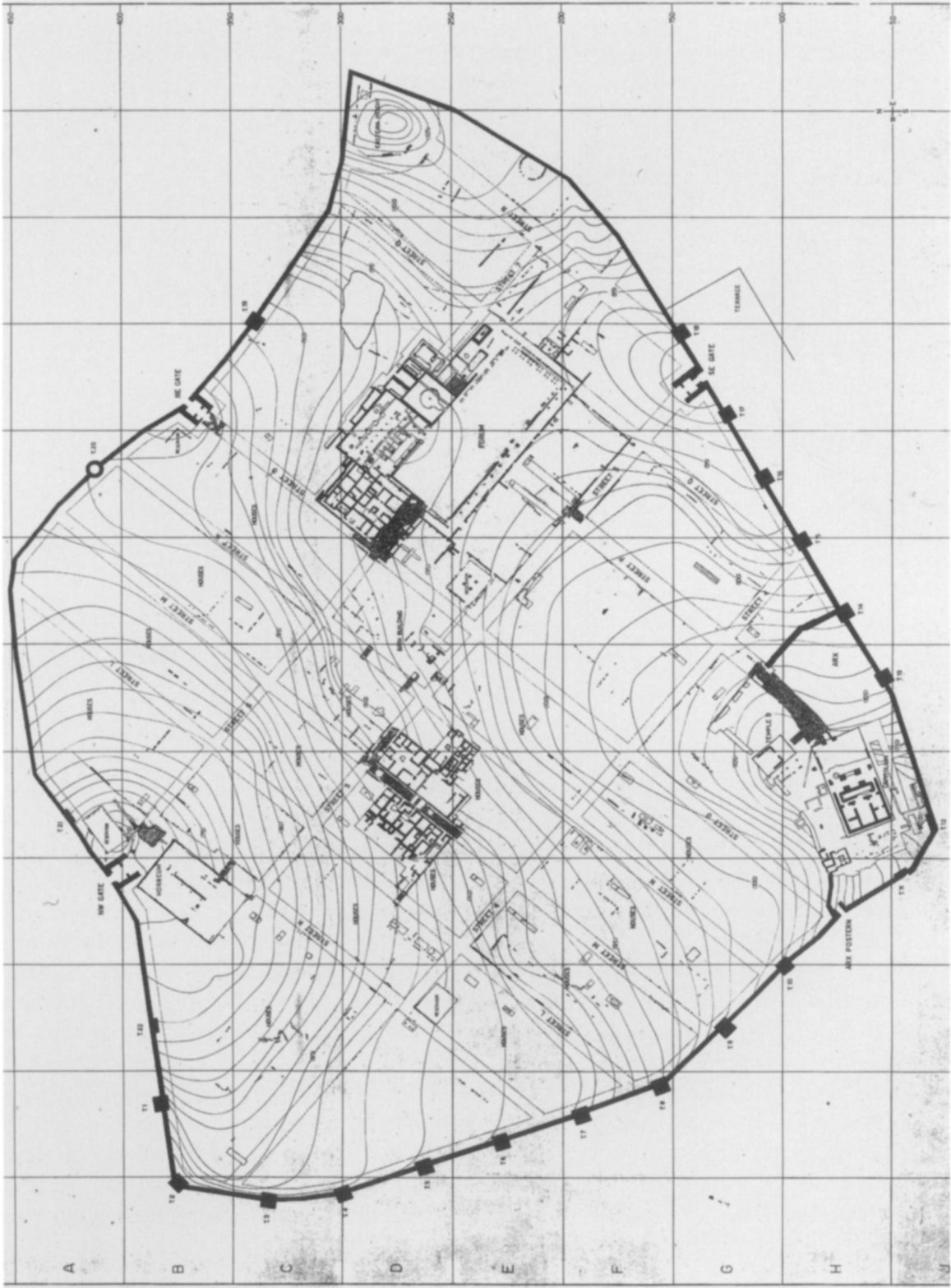


FIG. 1. Town plan

The rectilinear grid of the streets shows the exploitation of the natural terrain by the architects of the town, as does the orientation of the blocks.² Within the frame of the street grid, however, planners in antiquity were obliged to develop a scheme for the subdivision of the blocks and plans for the houses that were to rise on them. They devised modular solutions for both.

Their unit of measurement was the actus of 120 Roman feet, with its fractions and multiples, which are familiar to students of Roman weights and measures.³ The blocks defined by Streets O to K, 4 and 5, exclusive of sidewalks, measure 280 feet in length and between 110 and 115 feet in width.⁴ The blocks to the northeast between Streets O to K, 5 and 6, without sidewalks, measure 180 by 110 to 115 feet.⁵ Examination of the Square V–D of the modern survey grid (Fig. 2) aids the interpretation of these figures and understanding of the modular scheme for the subdivision of the blocks.

Here excavation has revealed the remains of a wall running down the middle of the block from southwest to northeast. It is made of clay-bonded limestones of medium size worked to roughly rectangular or trapezoidal shape with one finished face. Its width is 0.50 m, or $1\frac{2}{3}$ feet, at the foot, 0.45 m, or $1\frac{1}{2}$ feet, in the upper courses. Despite its ruinous state, it clearly served as a retaining wall against the slope to the northwest and divided the block lengthwise into two approximately equal halves (Pl. 1).⁶

Traces of walls in analogous locations have been found by excavation and survey in four adjacent blocks and also in blocks to the southwest of Street 4 and to the northeast of Street 6. These median walls, running roughly parallel to the northwestern and southeastern sides of their blocks, constitute one axis of a grid; they were crossed at right angles by other walls of similar construction running parallel to the short ends of the blocks from southeast to northwest. Five can be seen in the excavated portions of the blocks in Square V–D. Continuation of the one uncovered along the southwestern limit of the excavated area can be traced through three blocks between Streets 4 and 5.

Ideally the grid of walls would have divided the blocks in V–D between Streets 4 and 5 into ten squares, 58 feet on a side, arranged in rows of five, and such presumably would also have been the arrangement in all four blocks defined by Streets O to K, 4 and 5. In the blocks delimited by Streets O to K, 5 and 6, the same module would have produced only six squares, arranged in two rows of three. Actual dimensions, however, were modified by the physical conformation of the site. What impressed the observer in 1966 and still does today is how well

2. *Cosa I*, 23, 27.

3. On the actus, see A. Oxé in *BonnJhb* 1939, 54.

4. One has to allow for variations in measurement produced by converting survey lines into walls, curbs, and streets. If the sidewalks (between 1.10 and 1.15 m wide) are included, the blocks become 290 by 115 to 120 feet. The metric measurements of the blocks from southeast to northwest are

(1) 82.40 m by 34.00 m, (2) 82.40 m by 33.80 m, (3) 82.40 m by 34.00 m, and (4) 81.00 m by 32.40 m.

5. With sidewalks the blocks become 119 by 115 to 120 feet. The metric measurements of the blocks from southeast to northwest are (1) 55.40 m by 32.80 m, (2) 53.00 m by 34.20 m, (3) 53.00 m by 33.00 m, and (4) 54.00 m by 32.60 m.

6. "Scavi," 37.

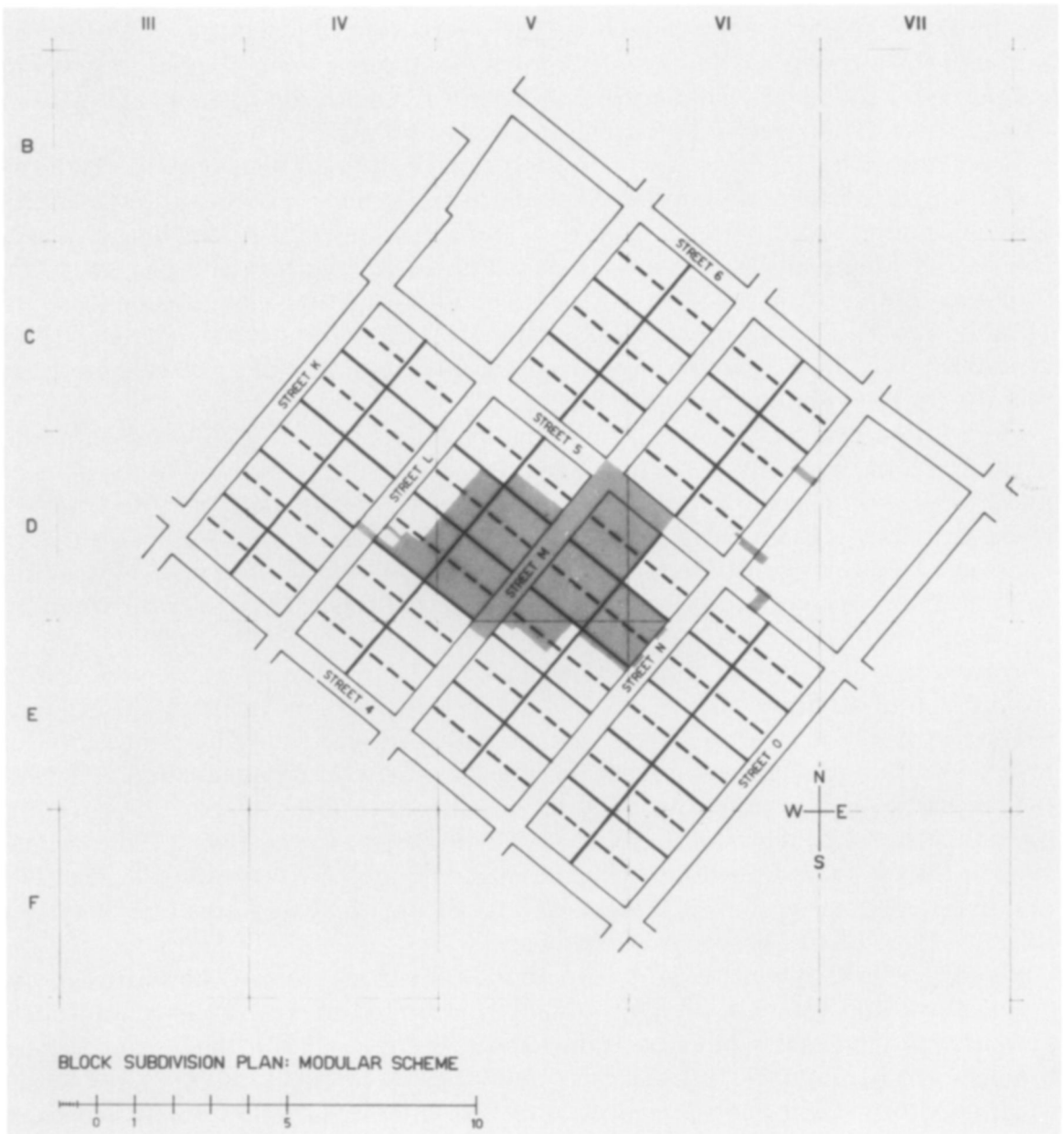


FIG. 2. Block subdivision plan: modular scheme



PLATE 1. V-D, West Block, NE/SW division wall, looking SW

the reconstructed survey module suits the northwestern part of town generally. The built shape of the space so organized would of course have been determined chiefly by the organization of the colony itself, the size and number of families to be served, and their wealth.⁷

The information recovered at Cosa confirms the picture of colonial structure suggested by the ancient sources, with a minority of colonists being resident in the town and the majority being settled on farms in the surrounding territory.⁸ More than one hundred and thirty farm sites are already known in the territory of Cosa, whereas the excavations of 1966 to 1972 showed that no more than three

7. On division walls as survey points of reference, see, for example, F. Castagnoli, *Ippodamo di Mileto e l'urbanistica a pianta ortogonale* (Rome, 1956), 30–31. For bibliography on the evolution of Roman block design, see J. S. Boersma, "Large-Sized

Insulae in Italy and the Western Roman Provinces," *BABesch* 57 (1982), 38. Investigation of this aspect of town planning in the middle republic has in fact been to date very limited.

8. *Cosa I*, 112–13; Brown *CMRT*, 18.

hundred house plots of the size of those found to date could have been created on the town site, with the actual number of houses built no more than ninety.⁹

The system of progressive subdivision derives from the original town plan and must be considered contemporary with it. But in the limited area explored from 1966 to 1972 no house was found that could be dated earlier than the first quarter of the second century B.C. As of this writing there is no house known from the third century, but it is a fair surmise that the earliest houses would have had the same general design as those of the second century. The housing of the first generation of settlers may well have been only temporary in character, but by the end of the First Punic War the town was on a firmer footing.

This report, then, traces the development of private housing at Cosa in a two-block area over a period of one hundred and fifty years, based on the evidence of fourteen houses excavated wholly or in part. The two blocks, bounded by Streets L, M, 4 and 5, and Streets M, N, 4 and 5, are called for convenience the West Block, that to the northwest, and the East Block, that to the southeast. The houses dating from the second century B.C. are representative examples of simple colonial houses of their period, while those of the early first century show the interaction of old and new styles of design, decoration, and landscaping. They were built during the period of the colony's greatest prosperity, and one of them, the House of the Skeleton, shows an interesting adaptation of the basic Cosan house plan to accommodate an atrium, a columned portico, a formal garden, and other amenities later included by Vitruvius in his prescriptions for a proper house. They were barely completed before the violent destruction of the town early in the second quarter of the same century.¹⁰

Scant furnishings have survived from any of the houses, but two families have been identified who held their properties for several generations. A member of one of these, Quintus Fulvius, left an impressive sum of money hidden beneath his pantry floor at the time of the destruction mentioned, two thousand and four denarii, the largest hoard of republican silver found to date in Italy in a controlled excavation.¹¹

The partial revival of Cosa in the Augustan period is attested by the construction of a large double-atrium house in part over the ruins of earlier dwellings. It was to discover these and other patterns in the history of private life at Cosa that work on the houses has gone on.

When, after an interval of ten years, excavation was resumed on the site in 1965 under the direction of Frank E. Brown, among his goals were the completion of

9. On the surveys in the territory made by the Wesleyan University team, see S. L. Dyson in *JFA* 5 (1978), 251; *BAR* 102 (International Series, 1981), 269; and most recently, M. G. Celluzza and E. Rugoli, "La Valle d'Oro nel territorio di Cosa," *DialArch* 4 (n.s. 1982), 31. The built shape of the

blocks, as opposed to the theoretical ideal, could vary considerably, as will be shown below.

10. Preliminary notices: "Scavi"; V. J. Bruno, "A Town House at Cosa," *Archaeology* 23 (1970), 232-41; R. T. Scott in *AJA* 75 (1971), 213.

11. The hoard has been published in *Buttrey Coins*.



PLATE 2. V-D, modern farmhouse built over Street M, looking NE

work on the Arx and in the Forum, the beginning of detailed exploration of private housing, and construction of a museum.¹² Square V-D was chosen as the point of departure for the last two objectives because of its location and its more recent history. On it stood a roofless modern building of modest size, built of reused ancient materials in the eighteenth century (Pl. 2). While the occupants' efforts at agriculture on the hilltop were largely frustrated by the remains of antiquity around their house, in time they managed to destroy and plow away most of these in the immediate vicinity down to their foundations. Thus it seemed advisable in 1966 to begin excavation in this clearly disturbed sector in order to establish as best one might in the circumstances the character, date, and disposition of the ancient structures and to discover whether their abused remains could be cleared away or used in the projected museum.

The results of that campaign settled the location of the museum and led to the extension of excavations into the adjacent Squares IV-D, V-E, and VI-E in the

12. "Scavi," 37.



PLATE 3. V-D, modern farmhouse restored and museum courtyard, looking SW

years 1968–72. The importance of these operations to the form and arrangement of the museum was acclaimed at the ceremonies marking the transfer of the Cosan antiquarium to the Republic of Italy on 17 September 1981. The design preserves the plans and many of the features of a series of houses dating from the second and first centuries B.C. The interior floors are carried at the same levels as the ancient ones, and the pavements are a mixture of the ancient ones in polished *opus signinum* and modern reproductions.

The courtyard of the antiquarium, in conformity with the system of transverse block division already described, descends from the level of Street M and the houses fronting on it to the main entrance of the museum at the lower end of the block. The construction techniques used in the modern building also mirror ancient practice; the perimeter and main bearing walls of the complex are of mortared limestone rubblework and rise from ancient footings to support tiled roofs with deep eaves carried on wooden beams (Pls. 3, 4, 5).

While water is now pumped to the dry hill of Ansedonia, the rock-cut cisterns that served the houses in antiquity are incorporated in the museum and still



PLATE 4. V-D, museum, general view looking SW from entrance stair



PLATE 5. V-D, museum courtyard and entrance, looking NW

function as reservoirs. The eighteenth-century farmhouse, too, has been restored to use at the back of the courtyard in a setting its original tenants might have found as agreeable as it is hoped those will who come to visit the museum and the site to which it is dedicated.

Part I

THE HOUSES OF THE
SECOND CENTURY B.C.

THE WEST BLOCK, PERIOD 1.1

The West Block, as excavated, shows not only the effects of the sack and subsequent abandonment of the town in the first century B.C. but also those of more recent seasonal occupation by small farmers and herdsmen between the beginning of the eighteenth and the middle of the nineteenth century, whose cottage seated atop the debris covering Street M was the only building in the neighborhood visible at the beginning of excavations in 1966. The superstructures of ancient walls and, on occasion, even foundations have been plowed away, while floors rarely survive, except for bedding or rudus. Vaults of cisterns and cesspools have been breached, drains have collapsed, and plaster wall coats have been pulverized. Yet the processes of growth, destruction, and replacement that were first set in motion here with the tracing of the town plan in 273 B.C. have left a legible and continuous record.

Throughout the history of republican Cosa the number of colonists resident in the town was small, as the restored plan of the first recoverable pattern of development in the West Block shows. Lots for those who were to live in the town were created as follows.¹ The square modules of the block were halved to make narrow rectangular lots, the length double the width, measuring 56–58 Roman feet by 28–

1. Brown *CMRT*, 17–18.

30 Roman feet, exclusive of sidewalks.² Thus ten houses could have been built on the higher lots of the southern half of the block, fronting on Street M, while the lower lots of the same size in the northern half were to serve as kitchen garden and work areas, reached by stairs from the back of the houses above. This presumably was the pattern in all the blocks bounded by Streets O to K, 4 and 5. In the same fashion, six houses and garden plots of the same size could have been developed in the shorter blocks between Streets O to K, 5 and 6.³

Excavation in the West Block of V–D has so far uncovered six houses and six back lots. The numbering of the lots is from right to left. The remains of two staircases are discernible in the actual state plan (Fig. 3). One lies at the back of the house at the northeastern limit of the excavated sector, designated Lot 1; the other is located at the back of the fourth house lot and was later absorbed into a house built in the lower half of the block in the second stage of its development. In addition, the probable axis on which other similar stairs were aligned appears as a broken line in the exits to the rear of the houses in Lots 2 and 3 and the exit to the stair from the back of the house in Lot 5 (Fig. 5).

The stair in Lot 4 is somewhat better preserved than the other, thanks to the later development of the northern half of the block. It has a sloping core of roughly worked limestones of medium size bonded with clay and has more carefully finished facing stones along the one preserved edge. Its risers have almost all vanished, but two survive at the turning and foot (0.70 m long and 0.40 m wide). Comparison with the well-preserved stairs in the northeastern of the pair of republican houses in the East Block of V/VI–D, E (below) suggests that the treads were about one foot (0.296 m) deep and the whole stair had a maximum of ten steps. The risers were 0.18–0.22 m high. While only the core of the other stair is preserved, it shows a width of approximately 1.00 m; the preserved length is 2.30 m. The construction is identical with that of the stair in Lot 4.

The houses themselves are of a nearly uniform design. The specimens most nearly complete are in Lots 2 and 3. That in Lot 5 was altered at the end of the second century (page 79), as may also have been the house in Lot 1, which was not completely excavated. But it is clear from the location of the walls visible in Lots 1, 5, and 6 that the design of all five was essentially the same and, as will be seen, that all were built at the same time. The history of Lot 4 is unclear because of its combination with Lot 5 to make a single property apparently early in the development of the block (page 21).

The houses in Lots 2 and 3 are made up of three units: a front unit consisting of an entrance corridor flanked by single rooms of different sizes; an approximately

2. Lengths in V–D: 16.50 m (minimum), 17.10 m (maximum). The widths: 8.00 m (minimum), 9.20 m (maximum).

3. The built shapes of the blocks, as opposed to

the ideal, could vary considerably. Some building lots for houses in the upper half of a block are known to have been left vacant, while others were developed.

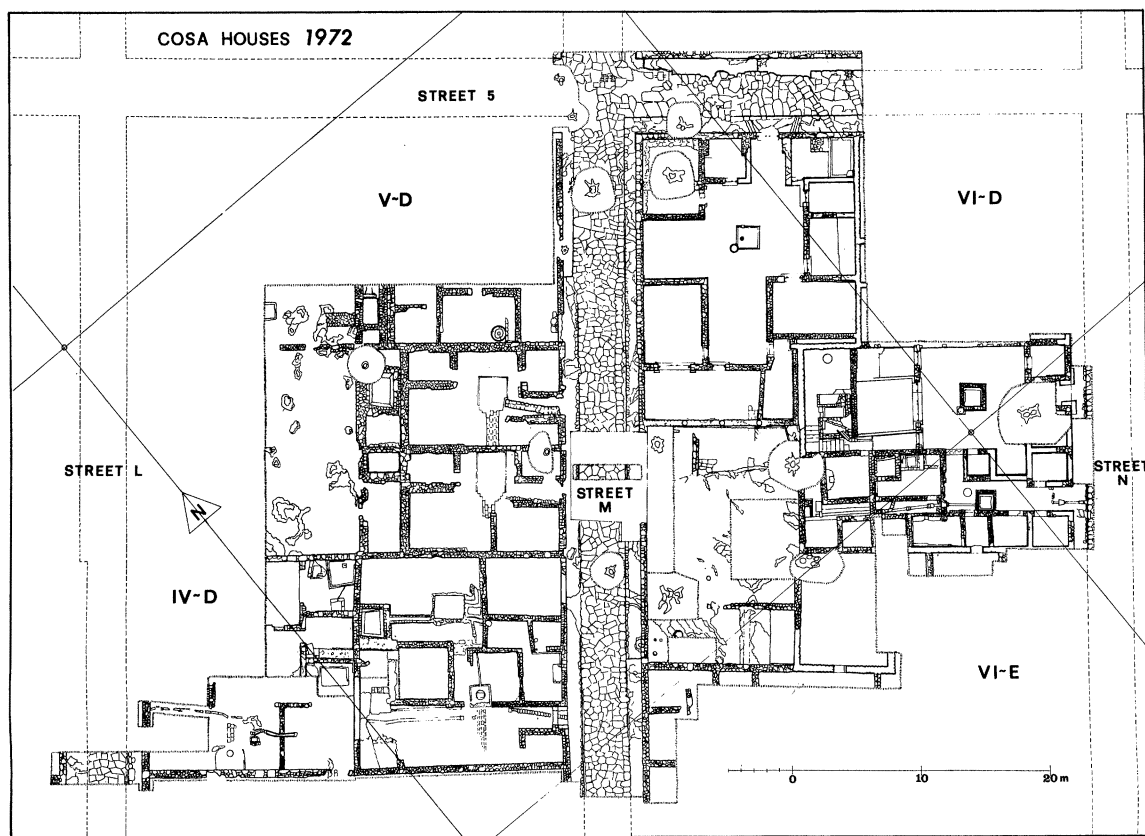


FIG. 3. Houses of Square V-D and environs, plan, actual state

square central space with a room set in a rear corner; and a long transverse room at the back of the house accessible through the corner room, from which there was access to the lower garden. The interior dimensions of these units from front to rear are $16\text{--}16\frac{1}{2}$ Roman feet, 22 feet, and 9–10 feet. Measurements of the analogous areas in the houses in Lots 5 and 6 appear to have been 17 feet, 24 feet, and 8–10 feet. For the house in Lot 1 measurements of $16\frac{1}{2}\text{--}17$ feet, 25 feet, and 7 feet are estimated.⁴

4. "Scavi" 39–40. Lots 2 and 3: 4.80–4.90 m, 6.50 2.80 m. Lot 1: 4.80 m, 7.50 m, 2.00 m, 2.90–3.00 m. Lots 5 and 6: 5.00 m, 7.10 m, 2.50–

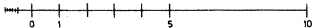
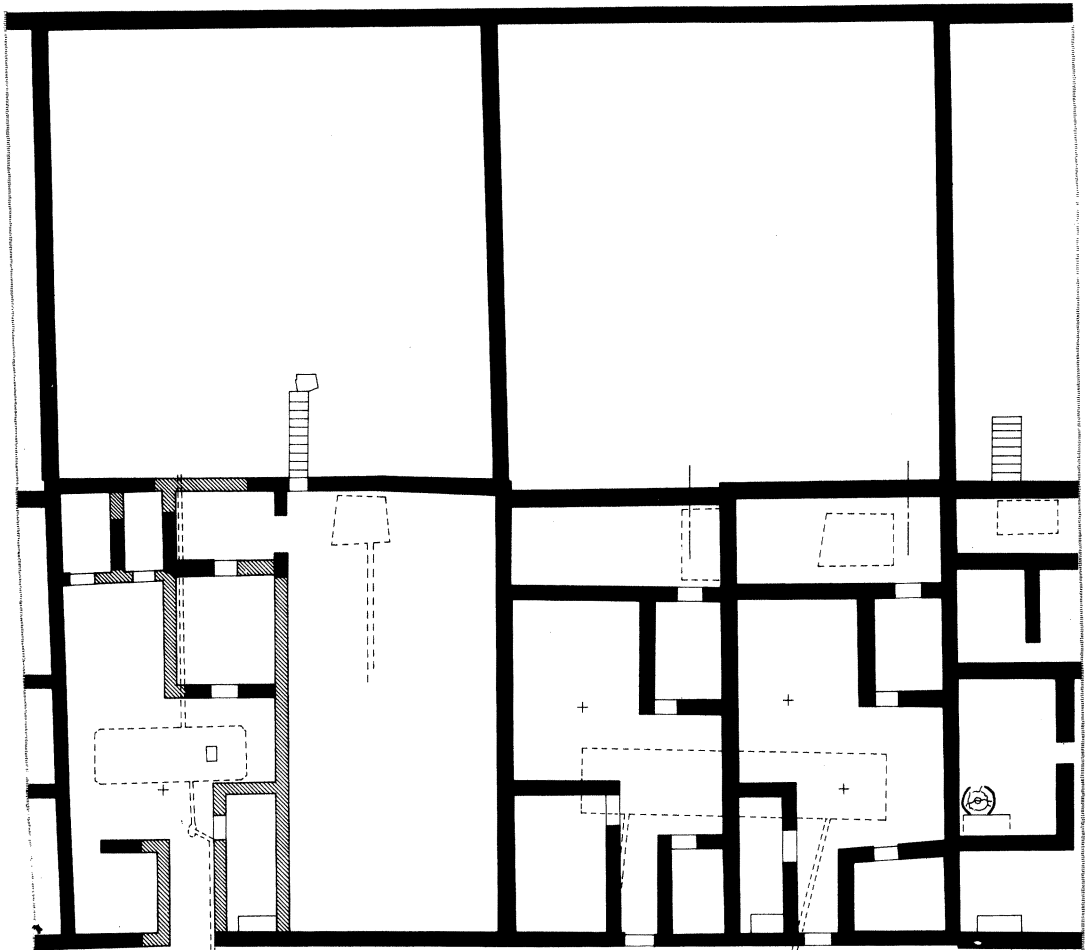


FIG. 5. West Block, Period 1.1: restored house plans

travertine of Monte Merano. The living rock beneath the floors was quarried and cut into rectangular cisterns for water, while its leaching capacities were utilized for cesspools and soak-away pits.⁵

Little has survived of the walls above the level of the foundation offsets, but the use of both stone and mud brick is likely. The stone was worked to rectangular or trapezoidal shapes c. 0.25–0.30 m in length, 0.12–0.20 m in height. It was laid in rough courses evened out with smaller stones and chips, clay bonded and

5. *Cosa I*, 59; "Scavi," 39; Brown *CMRT*, 64.



PLATE 6. West Block, Period 1.1: settling basin in Lot 5, looking SE

finished with plaster of lime mixed with sand and crushed tile. The roof was a simple system of beams and rafters, overlaid with imbrices and tegulae of standard dimensions (tegula: $1\frac{1}{2}$ by 2 Roman feet, 0.45 m by 0.60 m), the imbrices cemented to the tegulae along the eaves with lime mortar.

Water Supply

Examination shows that cisterns inside the houses were fed by conduits sloping in from the exterior, passing through the door and under the entrance corridor to inlets in the cistern vaults.

The channels are of rectangular section, 0.20 m wide and 0.15 m deep, and lined with signinum. They are built of stone, the interstices plugged with fragments of tile and potsherds in mortar. That of the house in Lot 5 has the refinement of a small, signinum-lined oval settling basin, 0.50 m by 0.30 m, and 0.17 m deep, a modest version of the settling tanks connected with the cisterns of the forum and forum piscatorium.⁶ A similar feature was found in one of the East Block houses (page 36; Pl. 6). The same house in Lot 5 offers the proof that these cistern leads brought in water that had been collected from the eaves of the roof,

6. See *Cosa III: The Buildings of the Forum*.

clearly demonstrating that the houses were not compluviate atrium houses, for it has leads to its cisterns from the eaves both front and back.⁷

The cisterns were signinum-lined on the floor and sides up to the springing of their vaults. A quarter-round sealing, or cover-joint, 0.08 m high masked the juncture of wall and floor. The floors sloped gently down to the northeast and at their lower ends, close to but not under the drawshaft, each had a circular depression to collect sediment.

Of the three cisterns excavated in the West Block the best preserved is that in Lot 5, in part perhaps thanks to its having been repaired and modified at the end of the second century.⁸ It measures 5.50 m by 1.90 m and is 2.30 m deep below the shoulder of the vault. The vault itself, in mortared limestone masonry, is composed of fifteen voussoirs, seven to either side of the keystone, and rises 0.69 m from the impost to the intrados (Pls. 7 and 8). Over the vault was laid a polished signinum paving in which a rectangular spill basin with a raised margin and outlet to a cesspool surrounded the drawshaft. The circular wellhead has vanished, but the trace of its diameter, 0.68 m, is preserved.

Such features can be postulated for the first phase of the neighboring houses in Lots 2 and 3, but the vaults of their cisterns were found badly damaged, and there is no trace of the arrangements at floor level. The cisterns of the houses occupying Lots 1 and 6 lie outside the limits of the excavation in the West Block, but it may be assumed that they were similarly located at the front of the central area of the houses.

The original building on Lot 4 is problematic. The only features that might belong to it are the back stair, a pit in line with those in Lots 1 through 3, the scant remains of the front and back walls, and the party walls on the northeast and southwest. A sounding carried to bedrock along the northeast wall below the beaten-earth floor of a room built at the end of the second century revealed remains of an earlier signinum floor with a rudus of crushed limestone laid on the living rock 0.20 m below the later floor. There was no dating material recovered from the rudus of the earlier floor, and the pavement itself had been broken up at the time the later room was built.

A second sounding carried to bedrock in Lot 4 along the inner face of another wall dating to the end of the second century uncovered the foundations of that wall but no earlier construction. Two coins were found toward the bottom of the sounding: C66.103, a reduced sextantal triens of about 200 B.C., and C66.112, an as of uncertain date.⁹

7. On the implications for the reconstruction of the roof, see page 24. Vitruvius warned against *displuviate atria: sed ea habent in refectioibus molestiam magnam quod circa parietes stillicidia defluentia continent fistulae, quae non celeriter recipiunt ex canalibus aquam defluentem itaque redundantes restagnant, et intestinum et parietes in eis generibus aedificiorum*

corrumpunt (6.3.2). Carrying the gutters along overhanging eaves, however, would answer this objection. On water collection in general, see page 90.

8. The three West Block cisterns have all been repaired and are now in use in the museum complex.

9. See *Buttrey Coins*, 41 no. 46, 43 no. 119.



PLATE 7. West Block, Period 1.1: cistern in Lot 5, interior, looking SW



PLATE 8. West Block, Period 1.1: drawshaft and spill basin in Lot 5, looking NE

In the absence of a soak-away pit in Lot 5 and a cistern in Lot 4, it seems best to read these as parts of a single house on a double lot. Amalgamation would have occurred before the remodeling of the house in Lot 5 at the end of the second century, when the first soak-away pit was filled in and a second one created nearer a new bath and kitchen area (page 81). A sounding through the plaster lining of the second soak-away pit in its west corner yielded black-glaze pottery dating to the last quarter of the second century, while the latest material from the layer of sediment in the original soak-away pit would appear to be of about the same date.¹⁰ The lack of any substantial remains of construction within the area of Lot 4 further suggests that the combination of the two lots took place early in the first phase of development of the block.

Soak-Away Pits

The rectangular pits at the rear of the houses require little comment. They are carried to a bedrock bottom, leveled with limestone detritus. Since they are placed close to the point at which the terracing of the slope steps down to the northwest, the sides are partly rock-cut, partly built of medium-sized limestones bonded with clay and then plastered over. They narrow toward the bottom; at the top they seem originally to have been roofed by planking, over which a pavement was probably laid (Pl. 9). Later modifications may have included the substitution of vaulting for the planking.¹¹

The soak-away pits in Lots 1, 2, and 3 show signs of modification and repair that attest to the long occupation of the respective houses, as does the filling in and replacement of the original pit in Lot 4. The later pit in Lot 4 was vaulted, as apparently was the one in Lot 2. That in Lot 3 was covered by a paving in herringbone brick set in lime mortar that may have been supported by a vault (Pl. 10). The paving was found ruined by plowing, but the pit's northwest wall contained pottery that suggests a date in the late second or early first century for its repair.¹² This is in harmony with other evidence for building activity in the block at this time (page 92).

10. For the black-glaze pottery found beneath the lining of the second soak-away pit, see A. R. Scott *Black-Glaze*. Note also a Class 1 lid and Class 16 flat-bottomed pan (Dyson *Utilitarian Pottery*, 67, 77, 87, 91). The sediment layer of the first soak-away pit yielded the incomplete profile of a Campana B plate with offset rim, Form 6, and a neck-and-shoulder fragment of a small Punic amphora or garum jar of Will Type 18. See Will *Storage Ware*.

11. The dimensions, northeast to southwest: 1.90 m by 1.20 m, 2.70 m by 1.90 m, 2.50 m by 1.50 m, 1.90 m by 1.70 m (original), 2.20 m by 1.80 m (replacement). The dimensions of a vaulted cess-pool built in the lower half of the block in the later second century B.C. are 2.50 m by 1.40 m (page 69).

12. These are the bottoms of two late Campana A bowls (C66.394), one of which is uncatalogued. The foot is Morel Form 3 (Morel, 225).



PLATE 9. West Block, Period 1.1:
soak-away pit in Lot 4, interior

Decorations: Pavements and Walls

The scanty traces of floors found in the houses show some variety. Fragments of polished signinum floors survive in various states of preservation, and tile sawn into small bricks and cubes was also used for paving. These are best represented by floors from the house in Lots 4 and 5 that was remodeled in the last phase of building in the block, but it seems highly probable that there were signinum, brick, and beaten-earth floors over a ubiquitous packing of limestone detritus in the houses throughout their occupation.¹³

13. Signinum floors are regarded as standard by Cato Agr. 21.7.



PLATE 10. West Block, Period 1.1: remains of herringbone brick pavement over soak-away pit in Lot 3

For interior decoration of the plastered stone or mud brick walls, little evidence remains except, again, from the last period of building, when fragments of First Style decoration appear in Lots 1, 2, 4, and 5.¹⁴ From a sounding made at the back of the house in Lot 1, however, came eight fragments of an older First Style in purple and black and purple and yellow. The purple and yellow are separated by a black fillet 0.01 m wide; there are no other design dimensions.

14. From the house in Lot 1 came: (1) 29 fragments of raised rectangular panels with marbleizing in red and yellow with black outlines, probably framed by bands 0.009 m wide between incised parallel grooves; (2) 8 fragments of rectangular grooved panels 0.12 m wide framed by a band 0.009 m wide (no color preserved). From Lot 2 came 16 fragments

of a horizontal cornice in white plaster, presumably part of a First Style decoration. The profile is incomplete. It is composed of a fascia below two cyma reversas, separated by a pair of fillets. The preserved height is 0.09 m. For the decoration of the house in Lots 4 and 5 as later remodeled, see page 86.

Design

Such then were the houses, similar in size, design, and construction. The pattern of life in them is not well attested, and scant furnishings survive to assist an inquiry. The large central hall or lobby is clearly the most important space in the plan, and the exedral part of it opening behind it probably served as a tablinum. At the rear one would be inclined to put the kitchen and laundry area in conjunction with a soak-away pit.¹⁵ But the cooking of the gruels and stews simmered in ovoid pots set on stands over a fire on which the inhabitants of these houses chiefly subsisted might have gone on in the front of the house, where there are stone platforms that might have been hearths in the long rooms off the entrance corridor in Houses 1, 2, and 5.¹⁶ The small rooms off the entrance corridors seem to have been bedrooms,¹⁷ and perhaps two of the small rooms at the back of the house in Lot 5 were as well. For the others evidence is lacking. Nevertheless, these are the elements of a simple Roman house, however schematized it may be by the exigencies of row housing: entrance throat, central space, and rooms for special functions opening off it front and rear.

The roofs were of an open-gable type. The bearing system is the same for all the houses. Measuring back from the façades one finds parallel transverse wall lines at these intervals: 9–10 Roman feet, 5–5½ feet, 8–12 feet, and 7–10 feet. The only interior points at which the support of a beam by a wooden column or post might conceivably be required are indicated by small crosses in the restored plan and involve spans of more than twelve feet. In House 2 there are two such possible points, one at the end of the entrance area and one along the lateral axis of the central area. It was also in the cistern of this house that a fragment of a small Doric capital in travertine was found (Pl. 11). The spans are 5.30 m and 4.38 m. In House 3 there is one such point along the lateral axis of the central area; the span is 4.60 m. In House 5 there is one at the end of the entrance corridor; the span is 5.20 m.

No wall in the West Block now stands high enough to preserve any beam hole, but in the East Block (and elsewhere in the northwestern part of the town) beam holes have been found measuring 0.25–0.30 m by 0.15–0.20 m (page 163). In addition to beaming and spans, reconstruction of the roofing system must also consider the need for light and ventilation. For this too a solution seems available in the house plans.

15. "Scavi," 40; Brown CMRT, 64–65.

16. Compare the arrangements in the house in Lots 4 and 5 (first and second phases), the House of the Skeleton, and its neighbor at the southwest end of the garden, pages 81, 123, and 154. The houses later built in the garden lots below Lots 4 and 5 in the West Block have the soak-away pit at the rear in a light well (page 69). On hearths and stove platforms, see C. Scheffer, *Acquarossa II, Part 1: Cooking*

and *Cooking Stands in Italy 1400–400 B.C.* (SkrRom 38.2.1, 4th series, 1981), 92ff. and E. Salza Prina Ricotti, "Cucine e quartieri servili in epoca romana," *RendPontAcc* 51–52 (1978–80), 237ff. On diet, see Appendix 1.

17. See pages 86 and 131 for the cubicula in the remodeled house of Lots 4 and 5 and the House of the Skeleton.

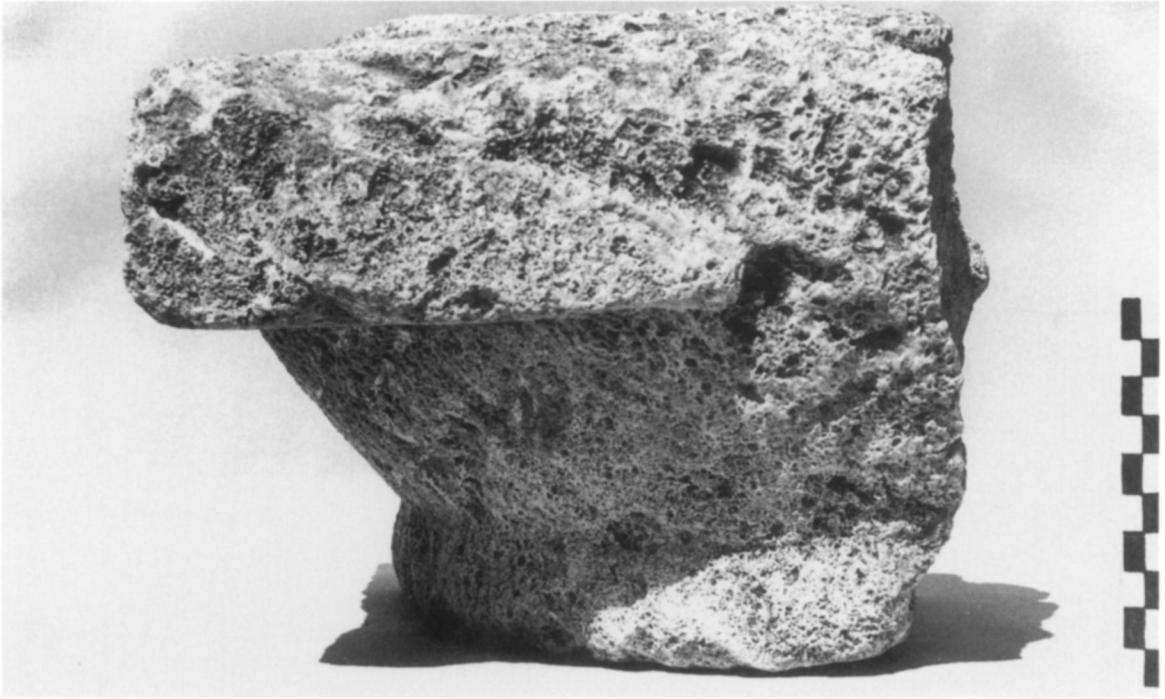


PLATE 11. West Block, Period 1.1: Doric capital in travertine

These all show a five-foot interval between the front and central portions of the house extending across its width. This feature can perhaps best be read as accommodating a dormer opening in the roof gable that provided air and light across the front of the house away from winter winds. Windows, of course, may also be posited at the front and back of the house, but it is doubtful whether these would have given sufficient light to the central area around which much of the domestic routine of the household was organized.

The archaeological record for the history of housing in ancient Italy is simply too lacunose at present to reconstruct an orderly progression from an agglomeration of rooms grouped around a courtyard, a house type known in the archaic period, to the emergence of the atrium house in Campania and central Italy in the Hellenistic period. It is known, however, that the *atria publica* of Rome, presumably a development from the atrium house, appeared in the early second century B.C. and buildings of this type also appear around the forum of Cosa in the period 197–180 B.C.¹⁸ Thus the houses under discussion in the West Block are contemporary with atrium buildings on the forum (page 27), but their

18. References to the *atria publica* of Rome are conveniently gathered in *TLL* 2.1102,59–1103,29. See also *Cosa III: The Buildings of the Forum*.

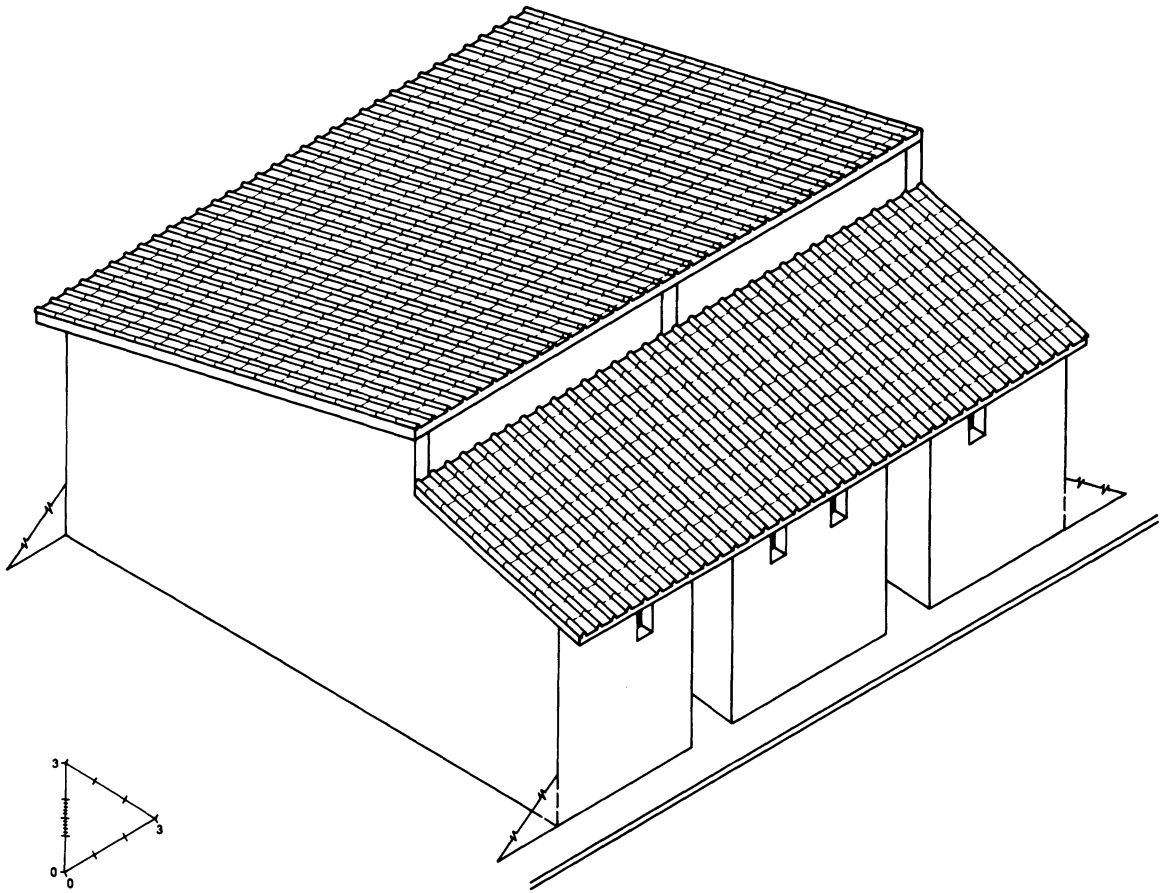


FIG. 6. West Block, Periods 1.1–1.3: House Lots 2–3, restored elevation 1

size and disposition on narrow lots next to one another precluded employing a compluviate atrium design.

Knowledge of such design, however, may have influenced the lighting of the central area. The height of the opening in the gable as illustrated in the restored elevation drawing is conjectural, as must also be its breadth, and so are the inclinations of the roof. Some form of shuttering for the opening should also be assumed. This type of opening has parallels in Pompeii (Figs. 6, 7).¹⁹

19. For the opening in the house in Pompeii at IX.xii.6, see the discussion by V. Spinazzola, *Pompei alla luce degli scavi nuovi di via dell'Abbondanza (anni 1910–1923)* (Rome, Libreria dello Stato, 1953), vol. 1.51 and 54, figs. 54–57. It is certainly possible that there were narrow slit windows flanking the doors of the West Block houses like those found in Pom-

peii VI.xi.12, for example, but their presence in the restored axonometric drawing remains conjectural. They are mentioned by Cato *Agr.* 17.2 and were probably called *rimae*, as in Seneca *Ep.* 86.8. It should be noted that no tile pierced for lighting was found in the excavation of the house.

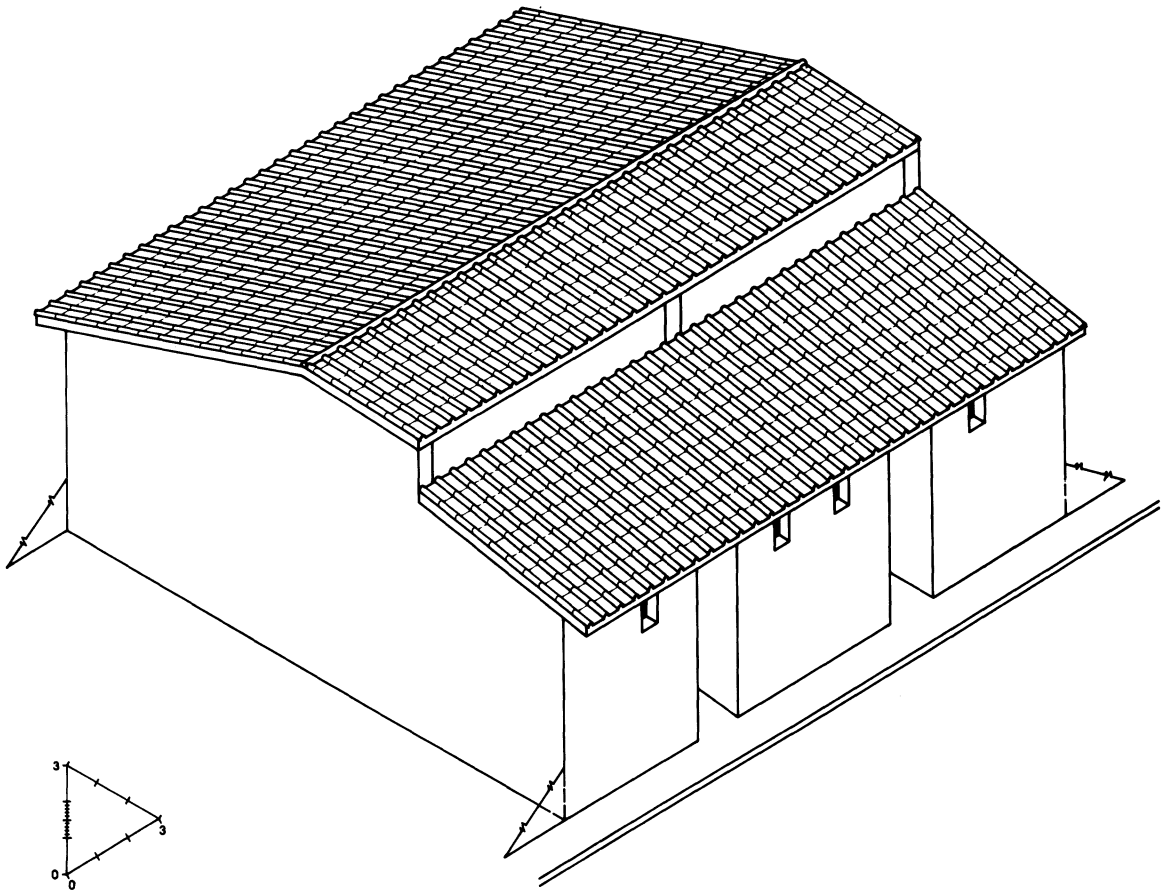


FIG. 7. West Block, Periods 1.1-1.3: House Lots 2-3, restored elevation 2

Date

The materials to date these first houses in the West Block come from a series of small soundings made across the excavated quadrant from northeast to southwest. Those made in Lots 1 and 2 produced no useful evidence, but one in the central area of the house in Lot 3 (S. 1 W), carried to bedrock and hardpan beneath the floor level and the offsets of the party wall shared with the house to the southwest, uncovered a construction level that produced black-glaze pottery of both early and late third century B.C. (Pl. 12).²⁰ Excavation through the broken remains of a signinum paving to the packing of limestone chips and spalls over

20. For the black-glaze pottery, see A. R. Scott *Black-Glaze*.



PLATE 12. West Block, Period 1.1: sounding 1 W in Lot 3, construction level with working floor and wall foundations, looking NW

the vault of the cistern of House 3 produced two coins, a reduced sextantal as of 210–200 B.C. (C66.81) and an as of uncertain date (C66.85).²¹

A sounding to spalled bedrock through the floor of the kitchen at the front of the remodeled house in Lot 5 (S. 3 S) yielded black-glaze kitchen and domestic wares of the late third and early second centuries that suggest the kitchen was always in the same location.²² Remains of earlier beaten-earth floors were found in three places in the same house. A sounding (S. 1 S) revealed the conduit and settling basin of the original inlet to the cistern from the front eaves, while excavation in the north corner of a remodeled room at the back of the house uncovered the original conduit from the back eaves and the floor of the first period overlying it (Pl. 13). Remains of this same floor were found in an adjacent

21. See Buttrey *Coins*, 41 no. 42, 43 no. 119.

22. For the black-glaze pottery, see A. R. Scott *Black-Glaze*. Specimens of kitchen and domestic

wares recovered include Dyson Lids: Classes 1 and 2; Pots: Class 2; Jars: Class 3 (Dyson *Utilitarian Pottery*, 24, 30, 31, 33, 42).



PLATE 13. West Block, Period 1.1: house in Lot 5, original conduit to cistern from rear of house and replacement, looking SE

room in 1966 and 1971, 0.20 m below the level of a later, elegant tessellated signinum paving (page 86). The materials from the 1966 sounding (S. 4 W) included a number of fragments of Teanum ware and other black-glaze ware of the third century, broken up for use in the rudus of the earlier floor or trodden into it.²³

The burden of this evidence places the initial construction of the West Block houses somewhere between the end of the third century and the end of the first quarter of the second century B.C., likely a result of the stimulus to growth provided by the arrival of new colonists after 197 (Livy 33.24.8–9). They cannot be the earliest houses built at Cosa, only the earliest of which remains have so far been found. The persistence of the house plan into the first century suggests that such would have been the design of their third-century predecessors

23. See A. R. Scott *Black-Glaze*.

as well. Moreover, the complete harmony of the house plan they show with the overall design for the town laid down at its foundation further supports this inference.²⁴

24. See Brown *CMRT*, 63–66. There is no need to recapitulate theories of the origins of the Roman house, for which one may now consult A. G. McKay, *Houses, Villas and Palaces in the Roman World* (London, 1975). The inspiration for combining house and garden lots of identical dimensions at Cosa may well have come from Rome, as did so many of the colony's institutions. The Marble Plan

of Rome shows examples of houses in which the same spatial relations obtained, although the back lots have undergone architectural transformation into peristyles, a process also to be traced in Pompeii. See G. Carettoni, A. M. Colini, L. Cozza, and G. Gatti, *La pianta marmorea di Roma antica* (Rome, 1960), Fragments 95, 98, 132, 415, 470, 484, 543, and pl. 53.

THE EAST BLOCK, PERIOD 1.1

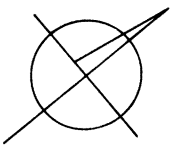
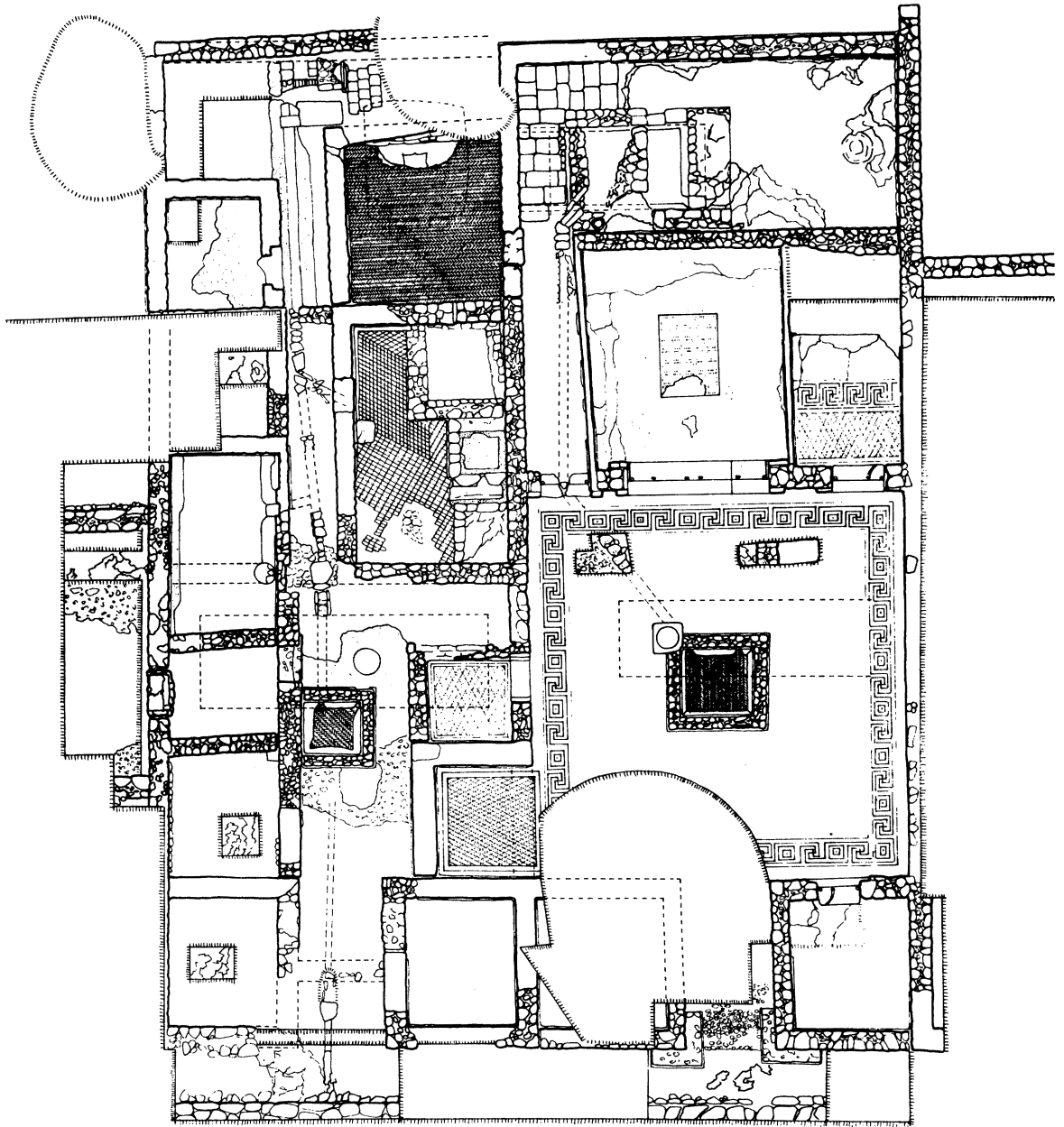
The first signs of construction preserved in the East Block also come in the first quarter of the second century B.C., a pair of houses of the size and type familiar from the West Block. In some details they are better preserved than those in the West Block because the East Block was partially reoccupied in the Augustan period, at which time the remains of the pair were rebuilt as a large double-atrium house. The larger atrium of the Augustan house overlay the whole northeast house, however, and its plan is therefore less complete than that of its neighbor on the southwest (Figs. 8, 9).¹

Southwest House

We are in the fortunate position of having evidence for the gentilician name of the original owner of the southwest house and for the fact that it remained in his

1. The Augustan reoccupation of Cosa, as far as private housing can be assessed at present, seems to have been confined to the higher ground between the arx and the forum. Since the market just inside the northwest city gate was certainly refurbished

and used in the imperial period, there may have been a narrow belt of housing around it, oriented to Street 6, which leads from the northwest gate to the forum (page 161).



V/VI-DE EAST BLOCK PERIODS 1;2
ACTUAL STATE PLAN

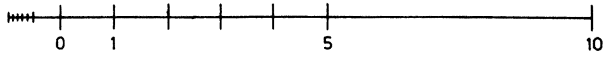


FIG. 8. East Block, Periods 1 and 2: actual state plan

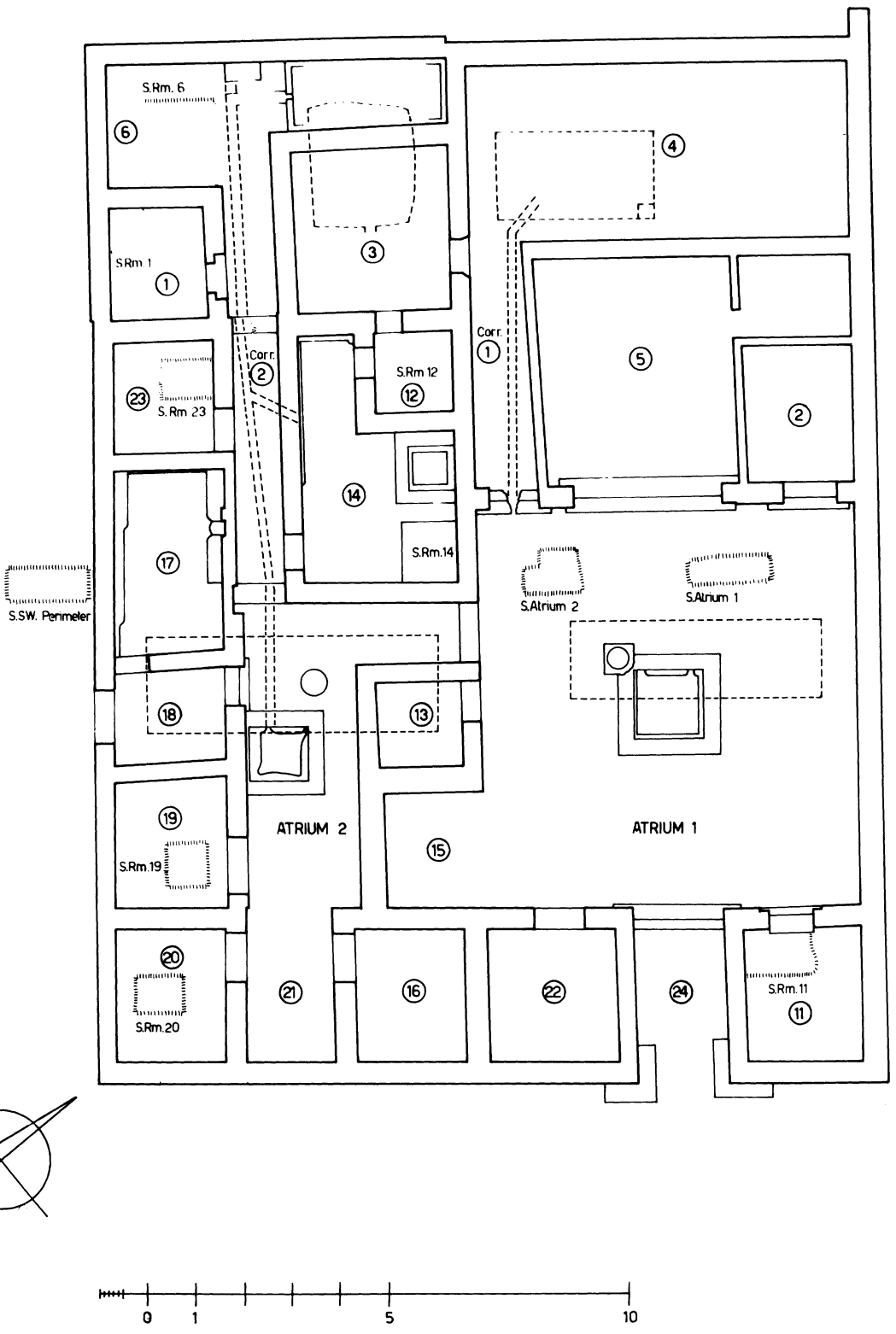


FIG. 9. East Block, Period 2: House of the Birds, diagrammatic plan



PLATE 14. East Block, Period 1.1: Southwest House, black-glaze plate with graffito SAL

family for several generations, down to the end of the development of the block in the early first century. From a soak-away pit in use between 200 and 175 B.C. came two black-glaze plates with graffiti. One reads SAL (C71.24, Pl. 14), the other s in the same letter style (C71.27, Pl. 15).² Below the bottom step of a small garden stair in the lower half of the block that was destroyed at the time the lot was acquired by the builder of the House of the Skeleton in the early first century B.C. was found a late black-glaze plate base (C70.131, Pl. 16) with the graffito SAL in neat square letters.³ From this we can infer that the *nomen* was Salvius and that the property remained in the family's possession for three or four generations.⁴

2. On the pottery, see, in general, A. R. Scott *Black-Glaze*. From the soak-away pit a small Campana B bowl akin to form 96b and two bases in Campana A datable to the first half of the second century are the latest forms. See Morel, 224–26. On the graffiti, see R. Cagnat, *Cours d'épigraphie latine* (4th ed., 1914), 1–6.

3. For the relevance of this evidence to the social status of a second known property holder from the

West Block, see pages 74, 79.

4. *Cosa I*, 110–11. Salvii, while much in evidence in Rome, are not well attested epigraphically for the republican period in this part of Etruria. The best-known representatives are those of the tomb of the Salvii at Ferentium of first-century date. *CIL* 11.3033 from Viterbo, which mentions a L. Salvius Clonius, is probably first century A.C. See A. Degraffi in *RendPontAcc* 34 (1961–62), 59.



PLATE 15. East Block, Period 1.1: Southwest House, black-glaze plate with graffiti s

Construction

The southwest house had no neighbor on that side and remains of one of the foundations and some courses of the exterior wall have survived. It was footed directly on the spalled bedrock with a packing of small stones to level the base. The exterior ground level was about 0.12 m higher. The exterior foundation blocks are worked to roughly rectangular shape with one finished face and average two Roman feet in length by one and one-half feet in height (0.60 m by 0.45 m). They are bonded with clay. The stones of the upper courses average 0.25–0.30 m long by 0.12–0.20 m high. The foundations measure 0.50 m in width, the wall above 0.45 m.

The outer walls on the other three sides, observed at various points, reveal an equally careful construction. Footing courses rise directly from the living rock in thin flat limestones of uniform size, 0.10–0.12 m in length, 0.06–0.08 m in height, set close and bonded with clay. The stones of the upper courses above an offset are as already described.

The upper courses of the party wall with the house on the northeast may have



PLATE 16. East Block, Period 1.1: Southwest House, black-glaze plate with graffito SAL

been of mud brick; in the unprotected northwest and southwest walls they appear to have been of stone, clay-bonded and plastered on both faces. The southeast façade wall on Street N, also footed on bedrock, may originally have been mud brick above the foundations, as it was when rebuilt in the Augustan period, but this rebuilding has destroyed any other evidence. Use of mud brick in interior walls, demonstrable for the Augustan house (page 162), may be assumed for the republican period as well.

Water Collection and Storage

Remains of the settling basin and conduit to the cistern for the water collected at the eaves along the house's façade are well preserved. The signinum-lined channel was cut into the rock, its sides eked out with small rectangular fragments of limestone and tile, which are also the materials of its cover. The channel is 0.15 m wide and 0.15 m deep, the settling basin lined with signinum, 0.40 m square and 0.32 m deep (Pls. 17, 18). Below the line of the eaves the drip from this has

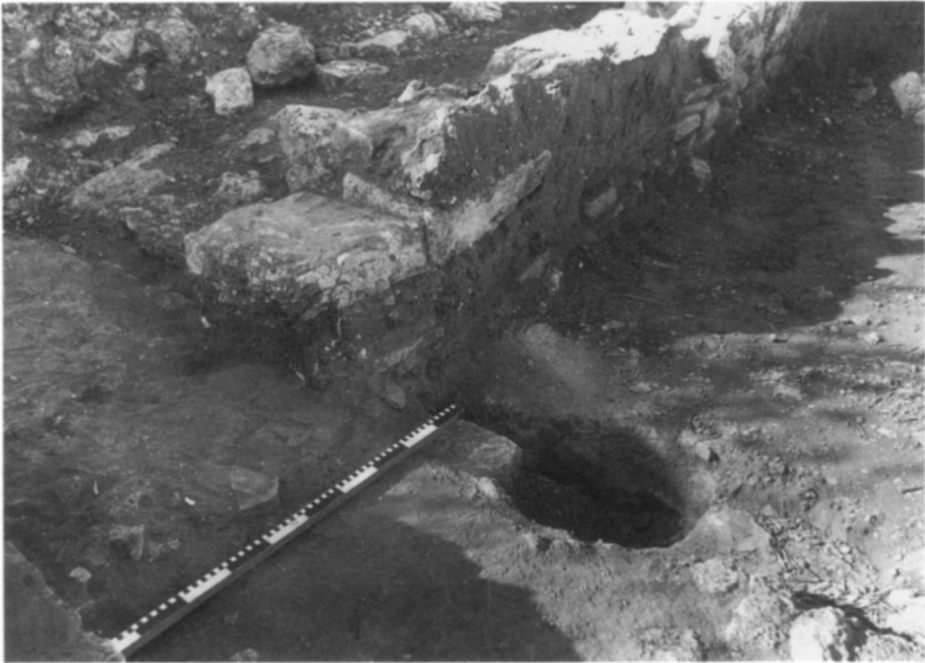


PLATE 17. East Block, Period 1.1: Southwest House, settling basin, looking SW



PLATE 18. East Block, Period 1.1: Southwest House, settling basin, detail of inlet

eroded away the sidewalk packing and the underlying rock to indicate an overhang of about 0.90 m for the roof, nearly the whole distance to the street curb.

The house cistern could be only superficially investigated, and its contents remain unexcavated. Its original vault was of narrow sandstone voussoirs set in hard lime mortar with an aggregate of sand and crushed tile, and it rose only 0.37 m from the springing to the midpoint at the southwest end. Its depth at that end from the springing to the floor was 3.03 m; the length at the same level was 6.00 m; the width at the center 1.98 m. The sides and floor were faced with signinum. The inlet for the conduit was on the southeast side. It was blocked off when the vault was repaired and the cistern reactivated in conjunction with an impluvium in the Augustan period.

The repairs to the vault at that time were made in brick, and the location of the drawshaft may have been changed. It is two feet in diameter (0.60 m); the mouth was found plugged with a chunk of rubblework masonry, an effort perhaps by the medieval occupants of the site to seal it and its companion to the northeast after futile attempts to fill them up with debris from the site.

Soak-Away Pits

The soak-away pit at the rear was connected with a bathroom in which the most prominent feature was a large signinum spill basin with a raised and rounded lip that drained to the pit. Its dimensions were c. 2.58 m by 2.66 m. Next to the basin in the corner of the room was a small platform, the purpose of which is not clear. The overall arrangement is similar to one found in an incompletely excavated house in the West Block belonging to the second phase of its development. In the West Block house this is a combined bath and kitchen (page 153), and such may have been the case here, but the remodeling of this area in the Augustan house has blurred and effaced the original features.⁵ The pit itself apparently was not

5. The corner was thoroughly explored in an effort to ascertain its use. Excavation within it revealed a stratum of rich, loose red earth interspersed with small stones and fragments of tile 0.20 m deep, under which was a stratum of light-brown earth colored ash-gray by calcium precipitates and interspersed with potsherds and limestone chips. This stratum was 0.40 m deep. Below it was a packing of large flat pieces of limestone, the construction fill over the foundations of the northeast wall of the house. It rose from the footing of the wall on spalled bedrock to the top of the offsets, about 0.37 m. From the gray-earth stratum came an uncial as (C70.455) struck between 169 and 158 B.C., filmed with calcium but otherwise in good condition, and a

shallow black-glaze bowl (C70.453), a companion piece to one found in the garden steps associated with the East Block houses before the construction of the House of the Skeleton (C70.127). The form, Lamboglia 27b, is current after the middle of the second century. The character of the gray-earth stratum reinforces the evidence for the use of water in the room already provided by the spill basin and drain to the soak-away pit. Had there been a hearth platform in the corner, one would have expected a sturdier construction. The feature explored may conceivably have been a washing platform with slats for drainage. On the coin, see *Buttrey Coins*, 41, no. 49; on the pottery, see A. R. Scott *Black-Glaze* and N. Lamboglia *Classificazione preliminare*, 176.

used at that time; indeed its use in the original house did not exceed twenty to twenty-five years.

The upper portions of the house's northeast and northwest sides are the bases of the northeast and northwest walls; the lower portions are rock-cut. The southeast and southwest sides were probably rock-cut as well. The length, as reckoned by the southwest wall of the room, is c. 2.90 m, the width 1.70 m. The depth below the spill basin is c. 1.71 m. The bottom was leveled with limestone detritus. Neither it nor the sides shows any trace of plaster; it cannot be determined how the pit was covered because of later building activity.

Uncertainty with respect to the back parts of the house is pervasive. The stair to the garden lot below may have been on the longitudinal axis of the bathroom, or the access may have been through the room adjacent to this on the southwest; the contour of the slope would permit either location. But the extension of the rear of the house northwest to the line of the back wall of its neighbor on the northeast in the Augustan period has destroyed all but poor traces of earlier use.

The Augustan house had two bathing rooms behind its kitchen (nos. 12 and 3) to which a corridor running beside the tablinum gave access. The smaller room was closer to the kitchen and partially overlay the soak-away pit of the earlier house. The larger was in the new northwest extension, its entrance located off the corridor, and had a vaulted rectangular soak-away pit, 2.25 m by 1.92 m, under its floor. There was a direct inlet to the pit from the larger and the smaller room.

It is not possible to determine how long this bath was used. The larger room was replastered and repainted red at some time, and its utilitarian signinum floor was resurfaced with herringbone brick probably at the same time (Pls. 19, 20), but eventually it was abandoned. The terracotta tub (C68.635, Pl. 21) was broken and the doorway to the two rooms sealed up. A new inlet to the pit from an adjacent corridor to the southwest was made, however, to receive drainage from the impluvium in the atrium in the southwest part of the house.

What is of interest here is the date of the soak-away pit under the bathing room. Is it contemporary with the later atrium house, or might it at one time have served the original house as a replacement for a pit abandoned in the early second century? The only original architectural feature with which it could be connected is the party wall with the neighboring house on the northeast, which continued on northwest along the garden lot below. For the neighboring house the wall was the basis of a small court with its own washing area and soak-away pit reached by a stair from above (page 45). The construction of the soak-away pit itself, however, is not incompatible with an early date. The sides are partly of living rock, partly of medium-sized limestones bonded with clay. The bottom is rock-cut, leveled with small limestone spalls and earth. From the bottom to the springing of the vault it is 1.88 m deep, and the vault rises 0.40 m from the springing to its midpoint. The limestone voussoirs are shaped in thin wedges



PLATE 19. East Block, Period 1.1: Southwest House, bathroom with broken tub, looking SE



PLATE 20. East Block, Period 1.1: Southwest House, bathroom, walled-up doorway, looking NE



PLATE 21. East Block, Period 1.1: Southwest House, bathtub, restored

and set in hard lime mortar with an aggregate of gray and black sand. The interior of the pit was unlined.

But the character of the pottery recovered from the sediment layer seems to reflect the period when it served the bath of the later house (Figs. 17, 18). The catalogued black-glaze pottery consists of a late Campana A plate of the first century B.C. (C68.504) and two plates (C68.483 and 511) of a variety of Campana C about which little is known at present, except that it is probably late republican. The same may be said of an early Arretine cup (C68.532) and a fine-ware beaker (C68.546). Two jars (C68.510 and 502) belong to the same period.⁶ This

6. On the catalogued black-glaze ware, see A. R. Scott *Black-Glaze*, and on the fine ware, see Moevs *Thin Walled Pottery*, 164–67. The prototype is current throughout the first century B.C. On the jars and bowls, see Dyson *Utilitarian Pottery*, 79, 100–101. The shallow carinated cup (C68.532) with a single rosette stamp impressed in the center of the floor is earlier than the type from Bolsena dated 12–10 B.C. by C.

Goudineau, *MEFARSupp* 6.1 (1968), 303. See Appendix 3: Pre-Arretine Pottery from the Houses. The lamps belong to Broneer Classes 18–20, although the broad, flat nozzles reflect the tradition of Italian wheel-made lamps, in contrast to the pointed and triangular nozzles of the Broneer types (O. Broneer, *Corinth 4.2, Terracotta Lamps*, 1930, 61–76, and cf. Pl. 17).

evidence is supported and somewhat extended by the uncatalogued pottery, in which first appear fragments of developed Arretine.

Either the accumulation comes from the latest period of use of the earlier house, with other material having intruded later, or all the material reflects the Augustan occupation. In the first case the pit would be republican in date, in the second, Augustan. If it was republican and built to replace the original soak-away pit in the house, it must have been cleaned out repeatedly and thoroughly from 150 to 70 B.C. Clearly the southwest house had more than one such pit during its republican phase; all that is in doubt is whether the one under the later bathroom is one of these.⁷

Design

Still, the original plan of the southwest house is intelligible enough, despite this problem. The owner does seem to have lost or ceded a narrow slice of space to his neighbor in the laying out of the two lots; the southwest lot is 8.10 m wide, while the northeast lot is 8.65 m wide. Excluding the problematic soak-away pit and any other dependencies beyond the back wall of the house, the length of both is 16.00 m, which would leave a lower garden lot 17.60 m long to the northwest.⁸ The arrangement of the interior of the house, however, shows some modification of the design observed in the first phase of the West Block houses.

Here the square central area, 24 by 21 Roman feet (7.10 m by 6.20 m) seems to have been drawn forward toward the entrance so that the pair of rooms flanking the entrance corridor now projects into the court, while the tablinum is withdrawn from it, opening out of a rear corner and flanked by the bath. The location of services remains the same as in the original West Block houses, although the later occupation of the house, as has been seen in the bath, has obscured many features. There is no trace of a hearth platform at the front, nor is it clear whether the area where it might have been, on analogy with the West Block houses, was originally one room or two.

Traces of original signinum floors have been found throughout the house, but remains of painted plaster from the walls are negligible.⁹ Another change visible in the house plan is the location of the dormer light. With the drawing forward of the central area toward the front of the house, this would have had to occur over

7. Brown *CMRT*, 66. On the pottery, see Moevs *Aco*, 243–245.

8. The depth of the block is 33.60 m.

9. Three small fragments of painted wall plaster preserving traces of decoration were recovered:

within a red frame a raised panel with mottled reds and black lines in a pattern that reminds a modern viewer of a sketchy rendering of skeletal windmill blades but probably was intended to reproduce the veining of africano marble.

it and no longer lay off one end. It is also wider, $7\frac{1}{2}$ –8 Roman feet (2.28 m), than those of the West Block houses. The roofing system remains the same, and only one interior support would seem to have been required, on the line of the southwest wall of the entrance corridor.

Northeast House

The owner of the neighboring house on the northeast is nameless and known only from what his house reveals, and the house is very imperfectly known because of the later occupation. It was contemporary with its neighbors to the northeast and southwest (page 53) and shared construction technique and elements of design with them. Yet there are tantalizing differences—whether original or due to later development cannot be known—which have made it well worth examining, despite the gaps in our knowledge.

Water Collection and Storage

The shape of the entrance is clear. The flanking room on the east was left unchanged when the Augustan house was built, but the creation of its atrium entailed the removal of all trace of the original conduit bringing water from the eaves of the façade to the cistern in the center of the house.

The cistern itself has undergone slight modification. It is high and narrow, bowed at the ends. The horizontal measurements are 5.18 m by 1.58 m at the springing of the vault and 4.82 m by 1.22 m at the floor. It is 2.93 m deep from the floor to the springing of the vault, which rises 0.72 m to its midpoint and is constructed of slabs of sandstone set in hard lime mortar with an aggregate of sand and crushed tile. The drawshaft is centered 1.24 m from the southwest end of the cistern and finished with a square travertine collar, 0.62 m on a side. The original drawshaft was probably farther to the northeast. The diameter of the present shaft is 0.50 m.

The voussoirs of the vault are plastered, the sides and bottom lined with signinum with a quarter-round cover-joint 0.14 m high at the juncture of walls and floor. Under the drawshaft are two sediment basins, one 0.50 m in diameter and centered below the drawshaft, the other roughly twice the diameter of the first and northeast of this, later patched over. It is likely an original feature, while the smaller one is contemporary with the Augustan reactivation of the cistern



PLATE 22. East Block, Period 1.1: Northeast House, cistern, interior, looking SW

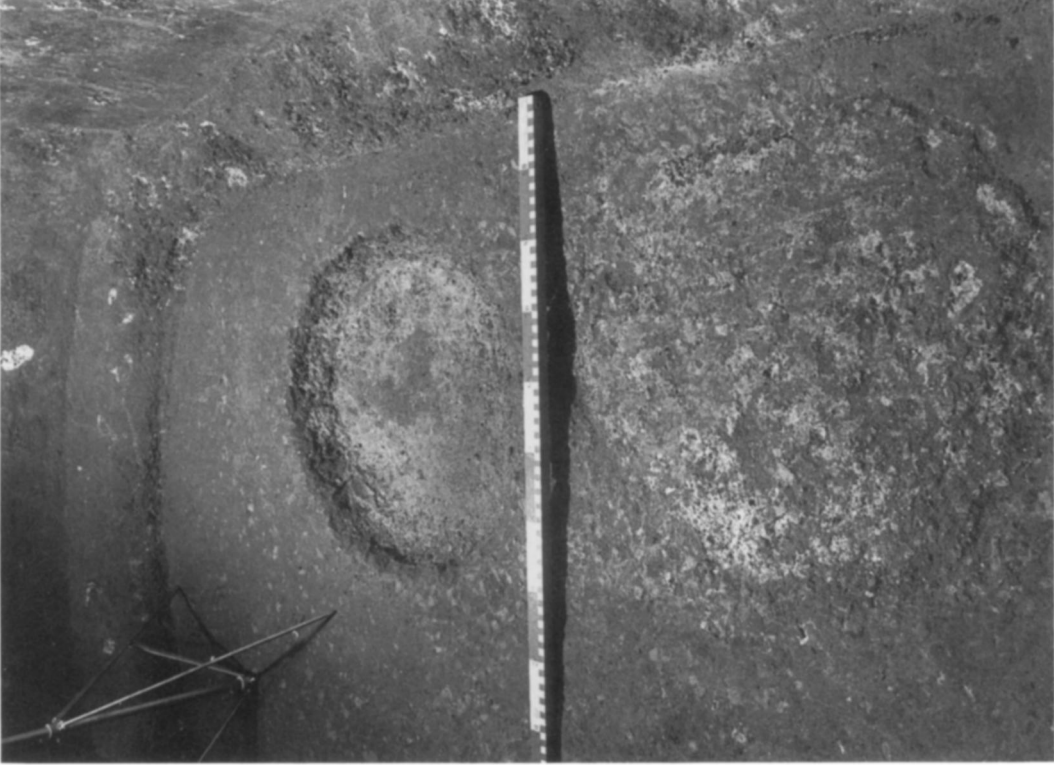


PLATE 23. East Block, Period 1.1: Northeast House, cistern, sediment basins in floor

(Pls. 22, 23). The construction of this cistern is very similar to that in the adjacent house to the southwest.¹⁰

The full dimensions of the room flanking the entrance on the west are conjectural, but it is probable on functional grounds that the same arrangement was made in front of this house that was made in the neighboring house on the southwest and in those of the West Block already described. Beyond this point, however, similarities give way to differences. The plan shows a square central area, 28 by $26\frac{1}{2}$ Roman feet (8.20 m by 7.80 m), drawn forward toward the street as in the southwest house. But the square is then repeated (8.60 m by 7.80 m) in the area to the northwest extending beyond the limits of the lot and the terrace wall dividing the block in half with garden lots below. The party walls on the northeast and southwest step down between the garden lots below and run to a terminal northwest wall, which was rebuilt in mortared limestone rubblework in the Augustan period. Enough of the original wall of limestones of medium size (0.25–0.30 m by 0.12–0.20 m) bonded with clay survives under the later wall to confirm the line (Pls. 24, 25). The southwest wall was also repointed and replastered in the Augustan rebuilding.

Back Court

The second square is divided into upper and lower areas by the slope of the hill toward the northwest, and a terrace wall of limestones of medium size bonded with clay, 0.62 m thick, marks the original limit of the upper house lot 16.65 m from the façade on Street N. The lower extension took the form of a rectangular back court measuring $26\frac{1}{3}$ Roman feet by 12 feet (7.80 m by 3.60 m) accessible by a stone stair from above. The stair partially shelters the main surviving features of the court: a washing platform faced with signinum with stone margins and a large rectangular spill basin over a vaulted soak-away pit.

The stair ran along the northwest and southwest walls of the court. The first flight, against the southwest wall, from the head to a landing in the west corner is 2.50 m long, supported on a shallow vault of thin limestone wedges set in lime mortar with a peppery sand aggregate. The angular vault springs from two walls of small limestones bonded with clay, 0.40 m wide, that rise on the vertical lines of the margins of the spill basin, a span of 1.75 m. The rise of the vault follows that of the stair, so that the crest is off center to the southeast (Pl. 26) and is about 1.90 m above the basin floor.

The stair drops 1.27 m over a length of 2.30 m from the top to the landing; the risers vary in height from 0.16 m to 0.22 m. The steps are made of pairs of

10. See *Cosa I*, 88.



PLATE 24. East Block, Period 1.1: Northeast House, west corner, original wall and rebuilding, looking NW



PLATE 25. East Block, Period 1.1: Northeast House, northwest wall, looking NW



PLATE 26. East Block, Period 1.1: Northeast House, stair and supporting vault, looking SE

rectangular limestone blocks, carefully finished and fitted, with a tread one foot broad (0.30 m). The flank of the stair, the ceiling of the vault, and the supporting walls preserve traces of plaster.

The second flight, from the landing in the west corner to the court, runs along the northwest wall. Its construction is the same as that of the first flight, except that the steps are based on a mass of earth and limestone rubble. It drops 0.97 m over a length of 2.00 m. The risers are 0.17 m to 0.21 m high. Its flank on the south was protected by the wall above the spill basin (Pl. 27).

Soak-Away Pit

The signinum basin measures 3.50 m by 1.75 m and has a rectangular inlet, 0.35 m by 0.25 m, to a soak-away pit in its east corner. A raised quarter-round curb, 0.15 m wide and 0.12 m high, finishes the juncture of sides and floor. Behind and



PLATE 27. East Block, Period 1.1: Northeast House, lower stair and basin wall, looking SE

above the northeast side was a raised platform of stone faced with signinum c. 0.70 m deep. There was no other sign of paving in the court than a beaten earth floor containing limestone detritus from spalled crests of bedrock. A conduit cut into the rock running northeast to southwest apparently served to drain the area. The channel is 0.15 m wide and empties into the soak-away-pit inlet at the east corner of the basin.

The pit is entirely rock-cut and unlined, except for a small portion of its southwest wall, and measures 3.24 m by 1.70 m. Its greatest depth from the keystone of the vault to the floor is 1.77 m. The vault is nearly flat; it rises only 0.10 m from the springing to the center and is composed of rectangular limestone voussoirs, measuring on the average 0.25 m by 0.20 m, set in hard lime mortar with a gray to black sand aggregate, four to either side of the keystone.

Such are the original features of the back court that have survived; at the time of the Augustan reoccupation the area was completely buried under a massive fill of debris from the sack of the republican town and a triclinium installed above it (page 163). The description of the original court has to be incomplete. That this was a working area seems clear, but there should have been an exit from it to the

garden outside. This may well have been in the northwest wall. Close to the northeast wall is a circular hole, 0.75 m in diameter and 0.40 m deep, dug into hardpan following a natural fault in the rock. It was found on investigation to contain loose brown earth and fragments of bone, with potsherds toward the bottom, and so might well have been a planting pit.¹¹

The fact that the stair overlies about 1.00 m of the spill basin seems on reflection to be fortuitous rather than an indication that the basin and soak-away pit were built earlier. The masonry might in fact suggest they were contemporary. More important is whether the court was part of the original design of the house or a later development. Excavation has provided no answer.

The material contained in the sediment of the pit comes down in time to the early first century B.C. and is apparently a scant accumulation after the last cleaning.¹² But there is no material available to date the construction. A fault in the rock along the northeast wall of the pit yielded only an illegible bronze coin (C68.639).¹³

Examination of the construction of the pit's vault is inconclusive. The work is reminiscent of cut-stone masonry, which might suggest an early date, but the flatness shows a confidence in the binding medium equal to that shown in the vault supporting the stair, which would not be out of place at any time in the second century.¹⁴ Finally, the fact that the square in which the back court is located is approximately the same size as the central lobby of the house may be deceptive; it does not prove contemporaneity. What the back court does show is that the owner intended this work area to be private and a part of the house. The arrangement recalls that of Lots 4 and 5 in the West Block (page 14).

Design

Southeast of the court the arrangement of the rooms was as follows: a door next to the "tablinum" on the southwest led to a corridor leading to the stair to the court. There was probably a door at the head of the stair as well. The original

11. See page 99 (the House of the Skeleton and its Garden). The court probably was open, but there would have been some shelter afforded by the overhang of the roof. Awnings are a further possibility, although not very likely.

12. There was some sediment (0.25 m deep) that had accumulated in the pit when it was excavated. Traces of staining at higher levels on the sides indicate that a cleaning had taken place not long before it was abandoned. The catalogued and uncatalogued pottery includes black-glaze vessels of the later second century, a pre-Arretine plate

(C68.608), wheel-made and mold-made lamps (C68.591, 592, 708), a black painted D-ware bowl of Class 19 (C68.623), and fine-ware beakers representing Forms 1, 3–5, 7. A worn bronze coin could be identified as a republican triens, but no more precisely (C68.639). For the black-glaze ware, see A. R. Scott *Black-Glaze*; for the painted bowl, see Dyson *Utilitarian Pottery*, 103; for the fine ware, see Moevs *Thin Walled Pottery*, 49–69; and for the Arretine, see Moevs *Aco*, 245–46.

13. See Buttrey *Coins*, 57.

14. See *Cosa I*, 88, 109.



PLATE 28. East Block, Period 1.1: Northeast House, corridor to stair in west corner, looking SE

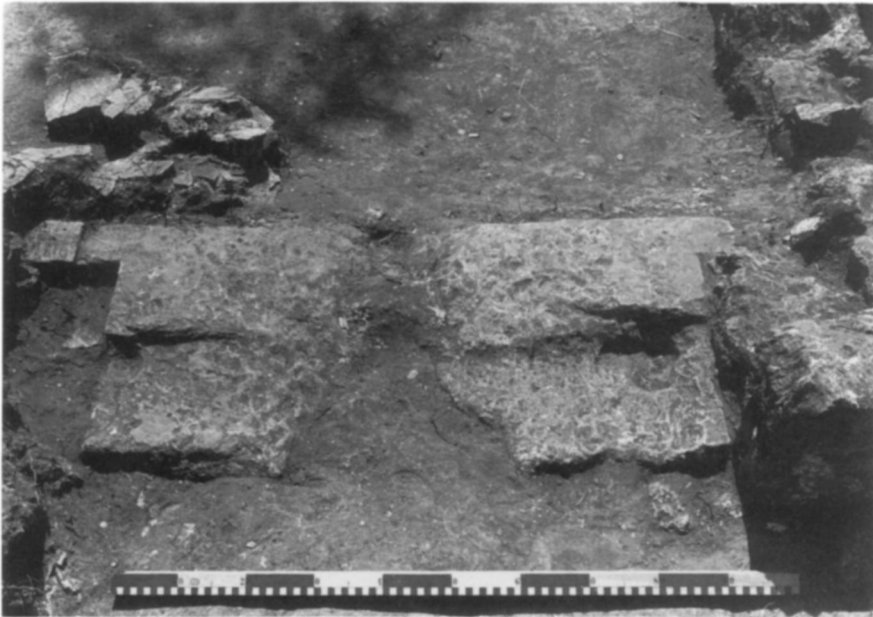


PLATE 29. East Block, Period 1.1: Northeast House, corridor to stair in west corner, travertine still, looking SE

travertine doorsill, heavily worn, was left in place and used by the later occupants, but cut through to allow the installation of a drain beneath the floor (Pls. 28, 29).

The width of the original tablinum is not known; the later one was centered on the axis of the entrance and atrium. To judge by the evidence of the neighboring house to the southwest and the West Block houses, this would not have been flanked by another room (or rooms) on the northeast. Remains of an earlier sill of worked bedrock were found 0.10 m below the west end of the travertine sill block of the east room of the Augustan house. The width of the original doorway and hence its importance in the house are unknown.

At this point the question of stages of development recurs. In the southwest house the tablinum was flanked by a service area with its soak-away pit. Such an arrangement can be assumed for the northeast house, thus raising again a problem of successive pits. The one within the house would presumably have been original and might perhaps have been abandoned at some later date, in which event the pit in the back court—indeed, the back court itself—would probably have been a later addition to the house.¹⁵ This is simply speculation prompted by no evidence other than certain similarities of design in the two houses, and since there are important differences between them as well, the argument cannot be pursued without exploring the area northeast of the Augustan tablinum for other possible features of the original house. At this time only one soak-away pit is known.

Exploration beneath the pavement in the atrium of the later house did, however, expose the foundations of an earlier wall 0.45 m wide in limestones of medium size set in a granular mixture of sand and lime. The foundations are footed on bedrock (Pl. 30). The wall they supported was on the axis of the southwest wall of the small cubiculum flanking the entrance corridor on the east, and the room to which it belonged may have had the same size and general purpose. But its location means that access to the area beyond to the northwest would have been through it, not from the center of the house (page 43). Overall the design of this house has much in common with its neighbor to the southwest. The emphasis on the central area is the same, as is the treatment of the front of the house and the arrangement of rooms at the rear. The enclosed back court remains a unique addition. Light, ventilation, roofing, and interior supports are handled in the same way. The recessing of the door is conjectural for the northeast house (Figs. 10–14).

The difficulties of visualizing the chronological development of the architecture of the pair can be appreciated in hypothetical first- and second-stage drawings, necessarily incomplete and with features copied from the West Block (Figs.

15. See Brown *CMRT*, 66.

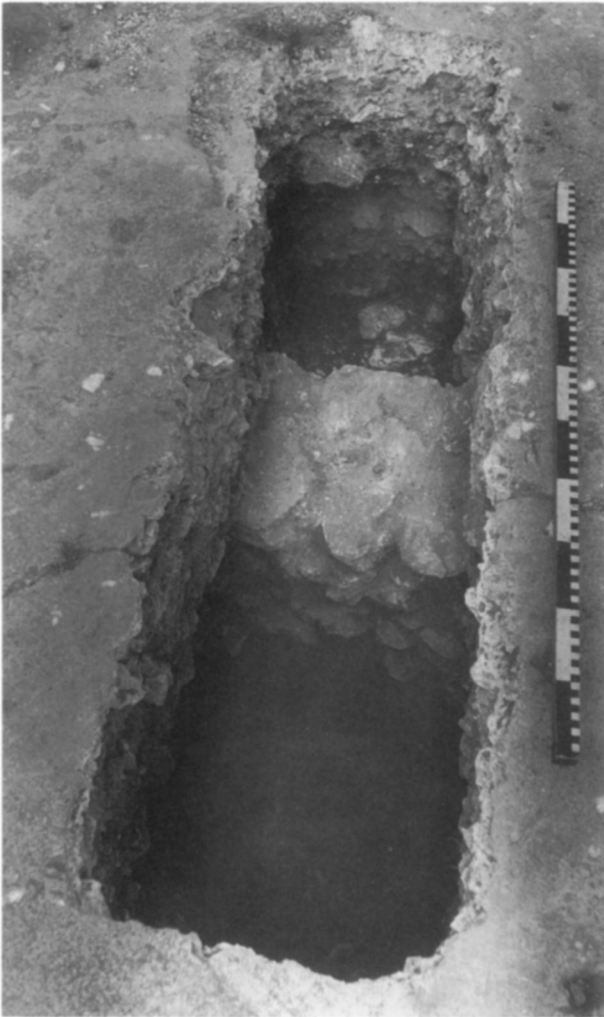


PLATE 30. East Block, Period 1.1: Northeast House, sounding in atrium with wall foundation, looking NE

15 and 16). They cannot, of course, resolve the uncertainties in the present archaeological record. But while the similarity of this pair of houses with those of the West Block is obvious, the interior proportions and certain individual elements give the impression that in their design an effort was made to expand the basic scheme seen in the West Block. The difference in design, however, would appear to indicate a difference in experience rather than in date.¹⁶

16. The impression is the same whether or not these houses are considered of one building period.

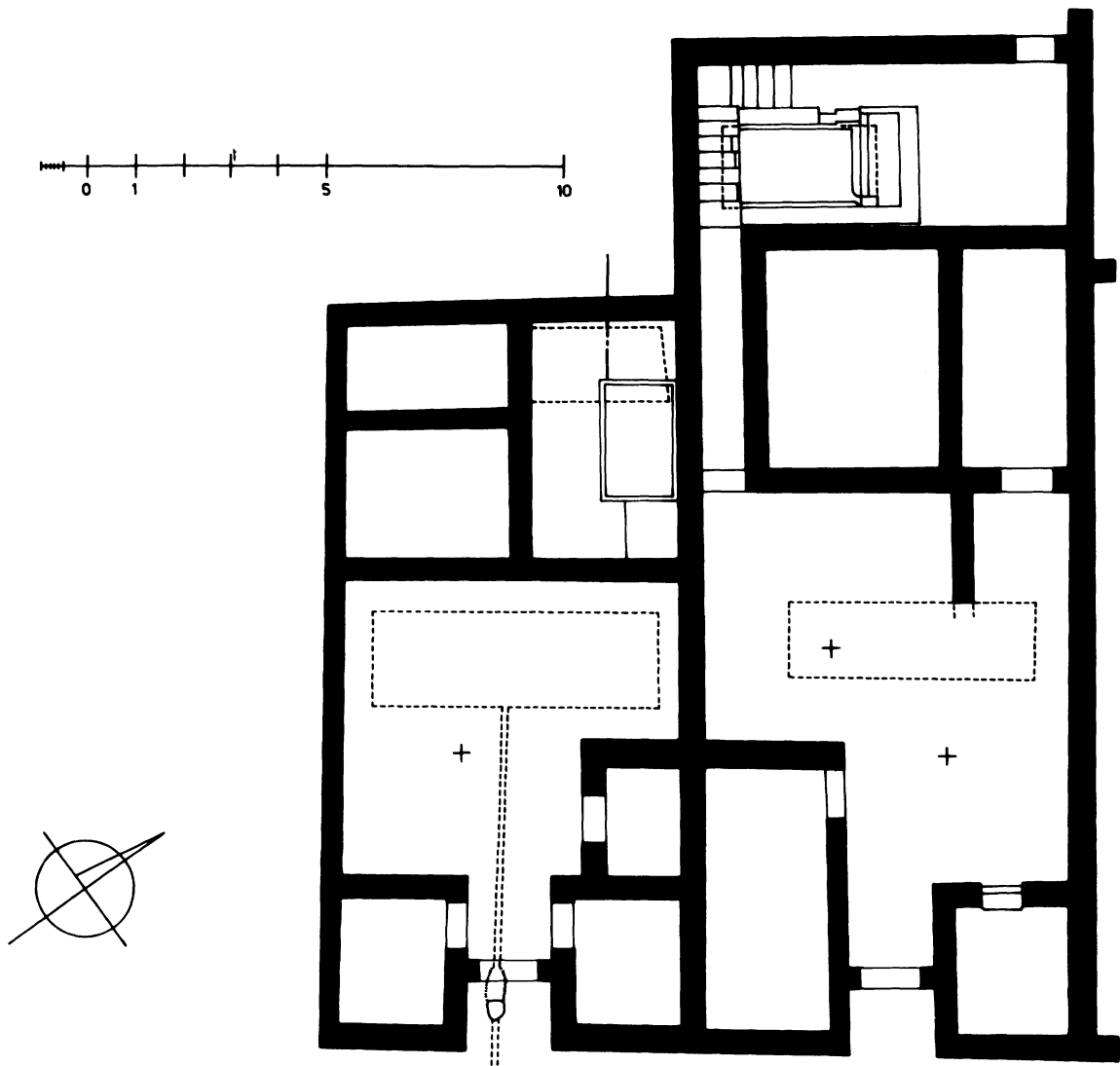


FIG. 10. East Block, Period 1.1: restored house plans

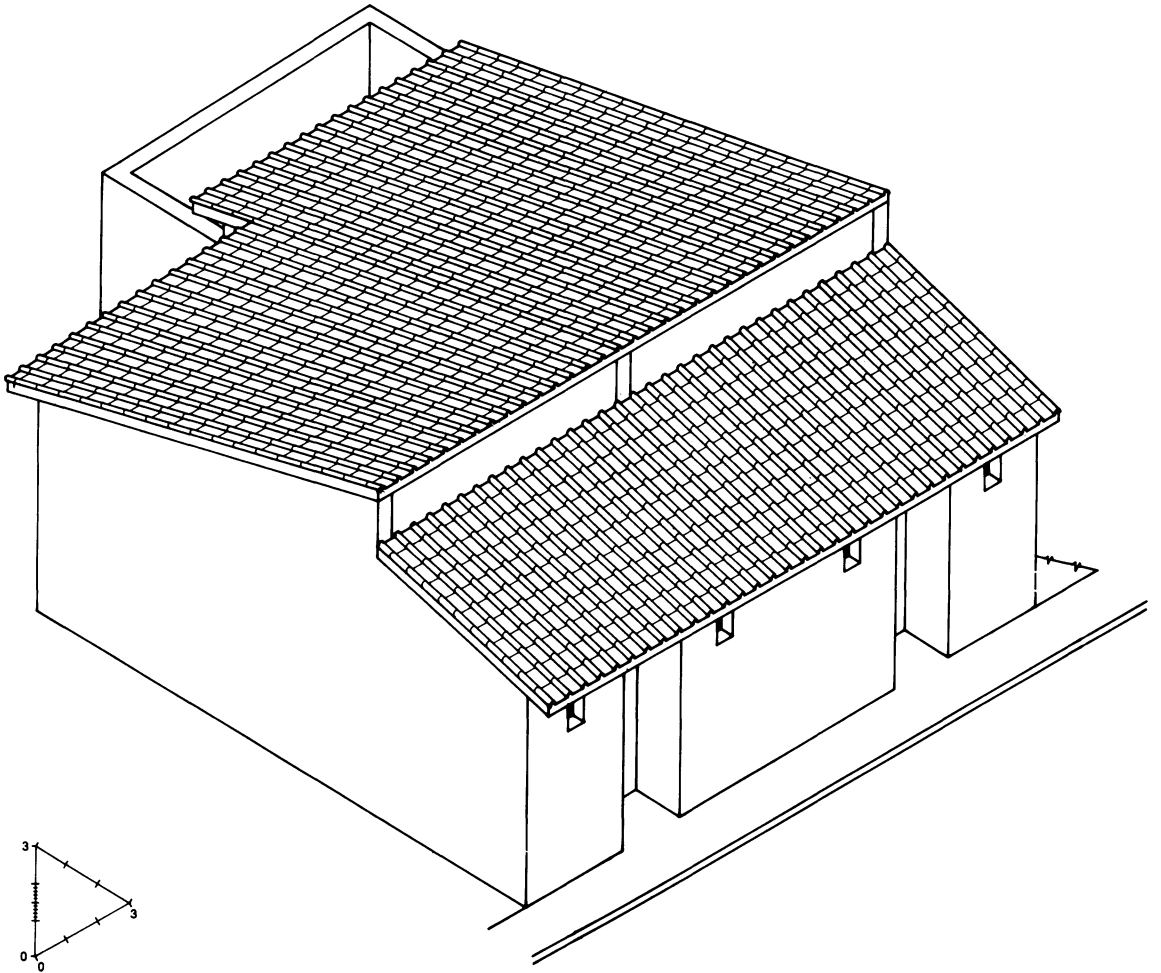


FIG. 11. East Block, Periods 1.1–1.3: restored elevation 1

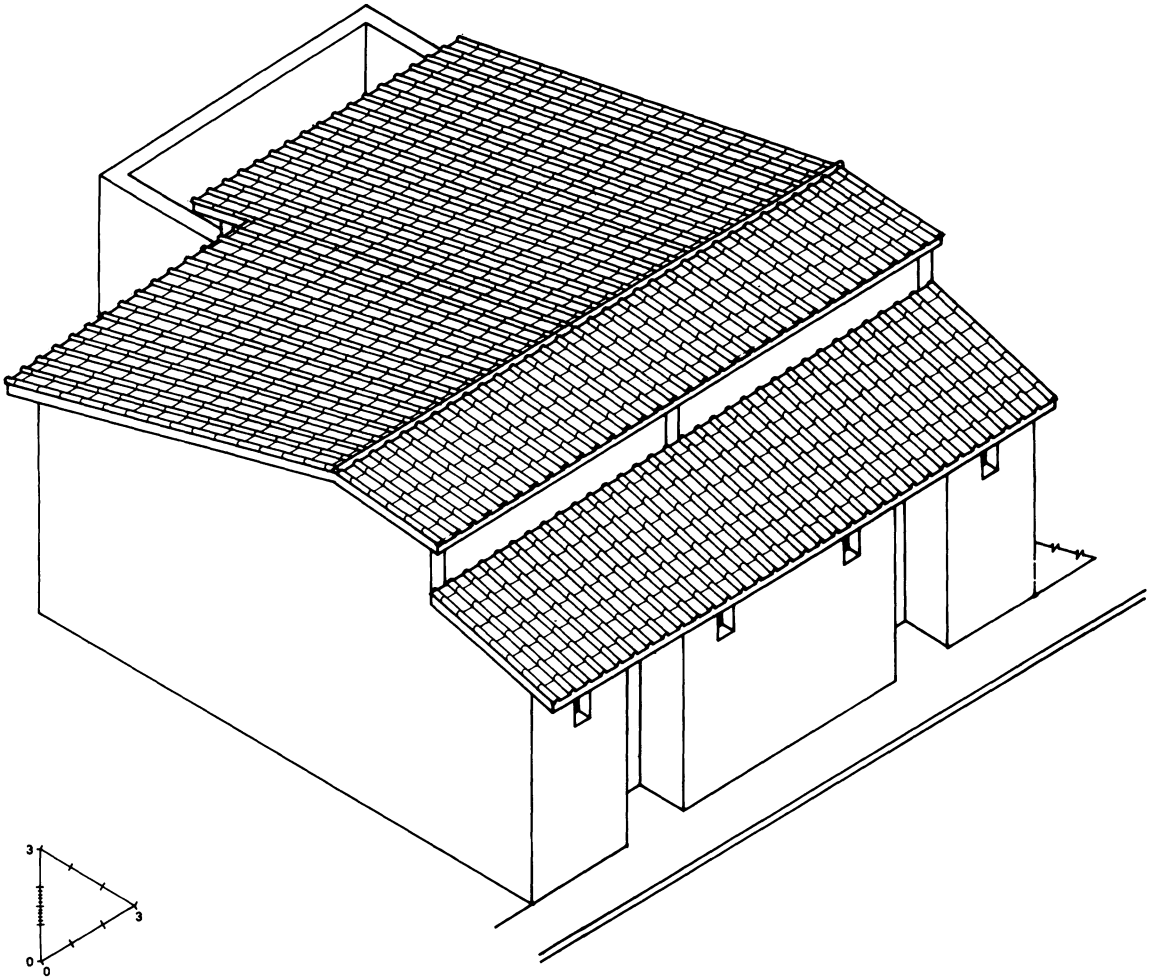


FIG. 12. East Block, Periods 1.1-1.3: restored elevation 2

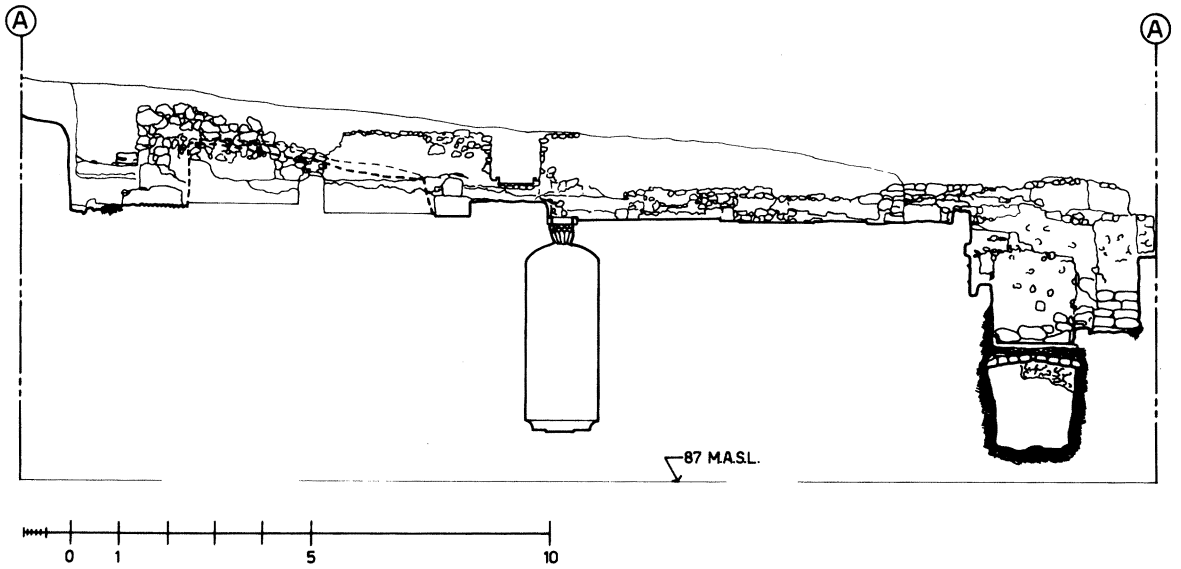


FIG. 13. East Block, actual state section: north/south

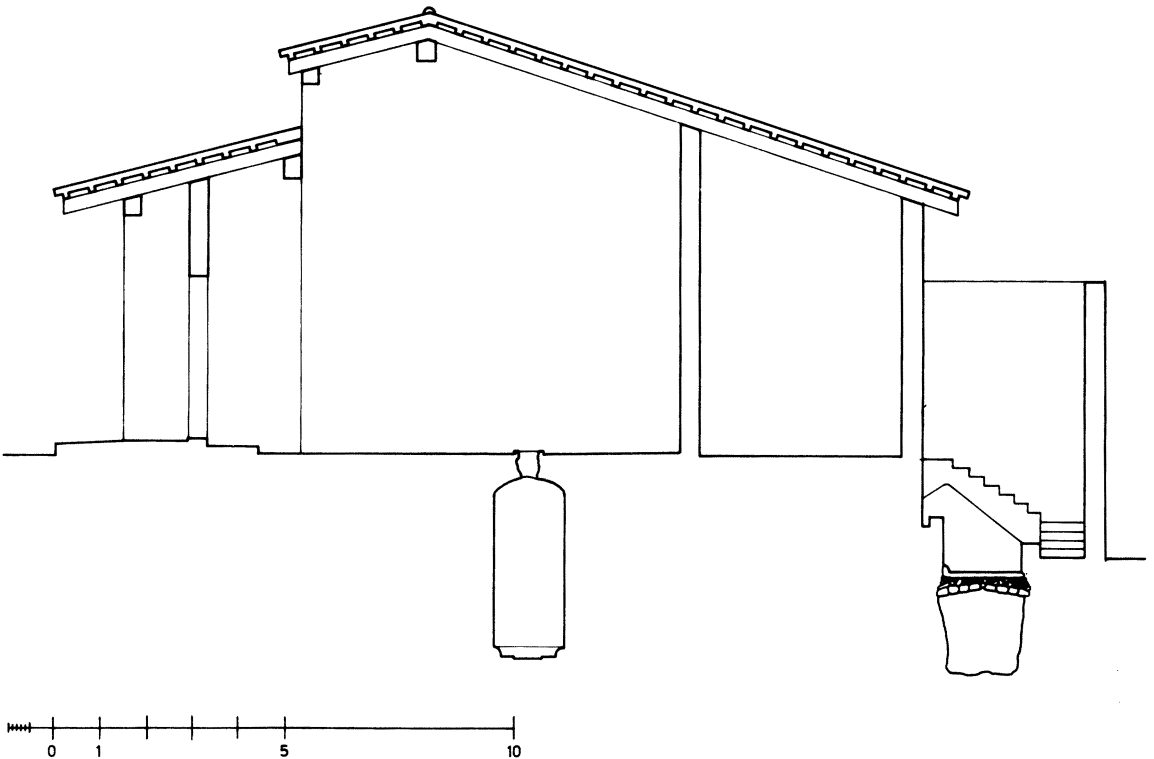


FIG. 14. East Block, Periods 1.1-1.3: House of the Salvii, restored section/elevation

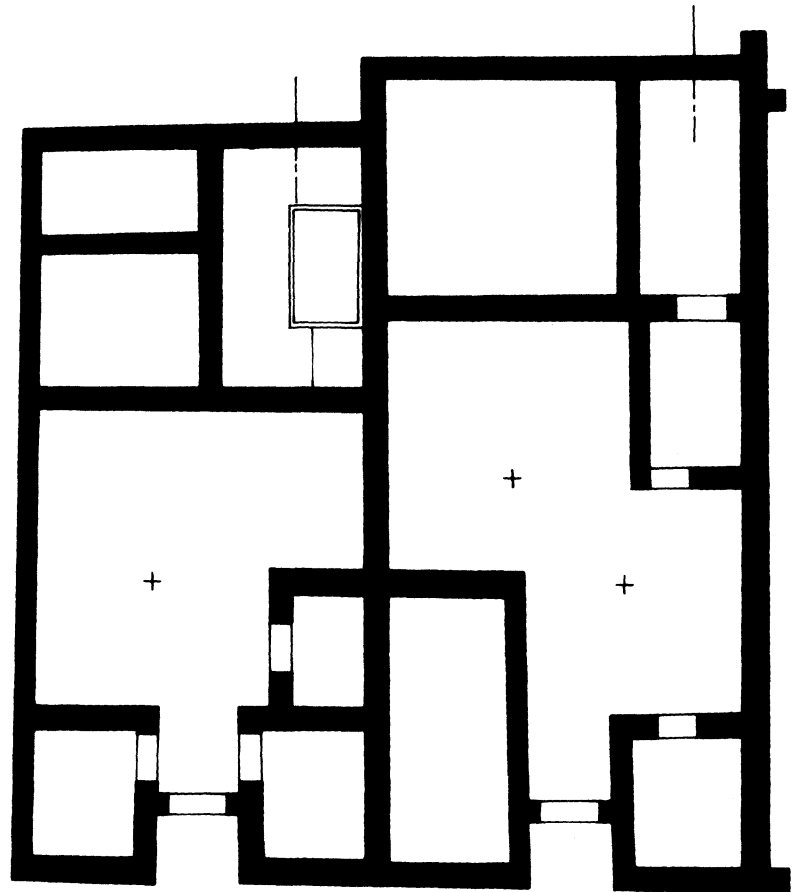
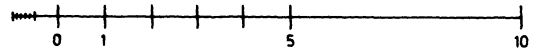
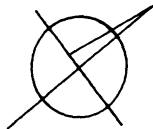


FIG. 15. East Block, Period
1.1: hypothetical house
plans



Date

The soundings made under the floor in the northeast house produced scant dating material but provided additional information about its architectural shape. A sounding (S. Atrium 1) in the Augustan atrium revealed an original wall of the republican structure, and one carried to spalled bedrock and hardpan just inside the entrance to the cubiculum on the northeast side of the entrance corridor (S. Room 11) uncovered remains of its original signinum paving and the working floors for its construction 0.10 m below (Pl. 31). The working floor had a hard-packed surface of red earth into which had been trodden pulverized lime, iron and bronze nails, and bits of limestone detritus. The surface and underlying

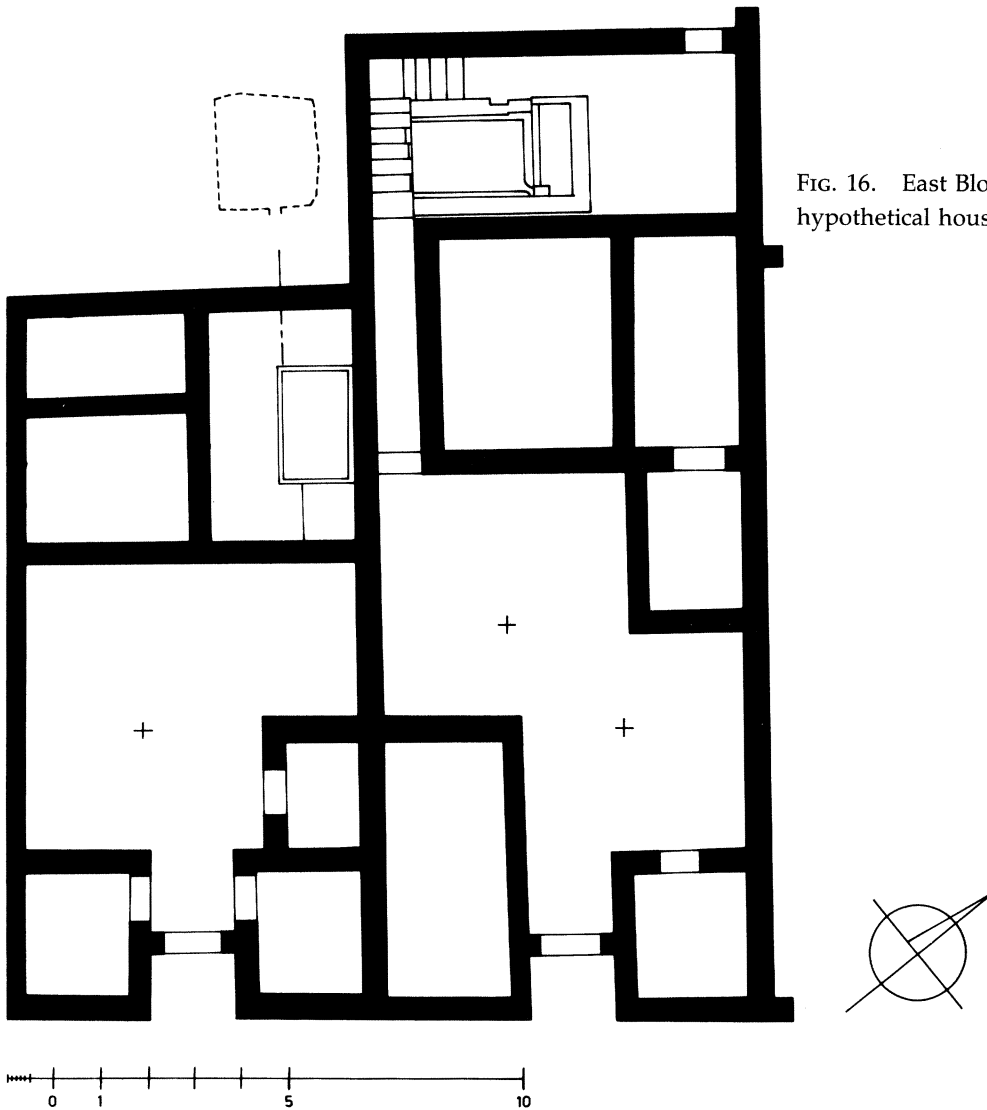


FIG. 16. East Block, Period 1.2: hypothetical house plans

stratum of dense red earth down to the rock contained only one uninformative sherd of black-glaze pottery. The atrium sounding yielding a fragmentary cooking pot.¹⁷

Soundings made in and outside the southwest house gave better results. One carried to spalled bedrock and hardpan in the small cubiculum on the southwest side of the entrance (S. Room 20) produced remains of its original floor of signinum punctuated with small cubes of tile. One made in the south corner of

17. Pots Class 2; see Dyson *Utilitarian Pottery*, 23–26.



PLATE 31. East Block, Period 1.1: Northeast House, sounding in Room 11, construction floor, looking SE

the central square (S. Room 19) uncovered the original paving, a rim-and-handle fragment of a Greco-Italic amphora (C71.215-Dressel 1) mortared in the rudus, and fragments of a flat-bottomed frying pan (C71.216) trodden into the underlying construction floor. The amphora type first appears about 200 B.C. and has a long life, as does the frying pan.¹⁸

A sounding to bedrock through the limestone packing for the floor, now missing, of the small room in the west corner of the house (S. Room 23) found the construction floor 0.20 m below the packing. The packing consisted of fist-sized, irregular limestones packed with earth, limestone chips, and small fragments of tile and pottery. Below the packing was a stratum of relatively sterile red-brown earth. The stratum was 0.20 m deep and overlay a hard-packed earth

18. The frying pan is Class 4; see Dyson *Utilitarian Pottery*, 22. On the amphora, see Will *Storage Ware*.



PLATE 32. East Block, Period 1.1: Southwest House, sounding in Room 23, section profile, looking NW

surface streaked with raw lime and charred wood with a scattering of lump pumice (Pl. 32).

From this sounding were recovered two black-glaze vessels, a kylix (C71.76), and a plate with upturned rim (C71.77), along with fragments of a flat-bottomed frying pan with a graffito on the rim (C71.78) (Fig. 17). The kylix shape is current in the first half of the second century.¹⁹ The uncatalogued wares include fragments of a Class 2 cooking pot, a Class 1 flanged pan, a Class 4 round-bottomed pan, a Class 1 pitcher, and a fragmentary fine ware beaker dated to the end of the first quarter of the second century.²⁰

Finally, a small sounding to bedrock and hardpan along the exterior of the southwest wall of the later house (S. Southwest Perimeter) uncovered the remains of the earlier southwest wall, the ground level associated with it, and its foundations footed on the rock (Pl. 33). From the construction level came small

19. On the black-glaze, see A. R. Scott *Black-Glaze*. The frying pan is Class 3; see Dyson *Utilitarian Pottery*, 22. The uncatalogued fragments of pottery include Class 2 cooking pots, a Class 1 flanged

pan, a Class 1 lid, a Class 4 round-bottomed pan, and a Class 1 pitcher; see Dyson *Utilitarian Pottery*, 21–22, 24, 30, 61.

20. Moevs *Thin Walled Pottery*, 50. See also Pl. 17.



PLATE 33. East Block, Period 1.1: Southwest House, perimeter sounding construction level with working floor and wall foundations, looking NE

amounts of utilitarian and black-glaze pottery, including a black-glaze bowl of Calene type (C71.122) with a central relief medallion of Venus crowned by a winged Cupid with a dove(?) perched on an altar to the left (Pl. 34).²¹ The type is generally dated to the end of the third century. The rim and neck of a Greco-Italic amphora (C71.210-Dressel 1) were also found.

The ceramic evidence suggests a date in the first quarter of the second century B.C. for the construction of the pair of houses and would thus make them contemporary with the West Block houses, even though they appear somewhat advanced in design.

21. This type of bowl (Form 28) has a wide distribution. Cf. no. 38.1109 in the Forum Antiquarium in Rome from the Regia (Hercules with club and wearing the lion's skin) and no. 4176 in the Museo Archeologico in Florence (two erotes standing left and right supporting between them Hercules with club and wearing lion's skin). From Cosa one may compare C68.372, a Calene patera with a molded band of decoration around the umbilicus (erotes hunting a boar). This is from Forum SE L. 1, the

beaten earth floor of the forum. The type is dated late third to early second century B.C. See also A. R. Scott *Black-Glaze*. Other black-glaze pottery fragments from this level include a Form 28 bowl, a saucer with a furrowed rim, and a fragment probably of a plate. To these may be added a fragment of a base of a cooking pot of Class 1 and a round-bottomed frying-pan fragment that cannot be classified more precisely; see Dyson *Utilitarian Pottery*, 21, 30.

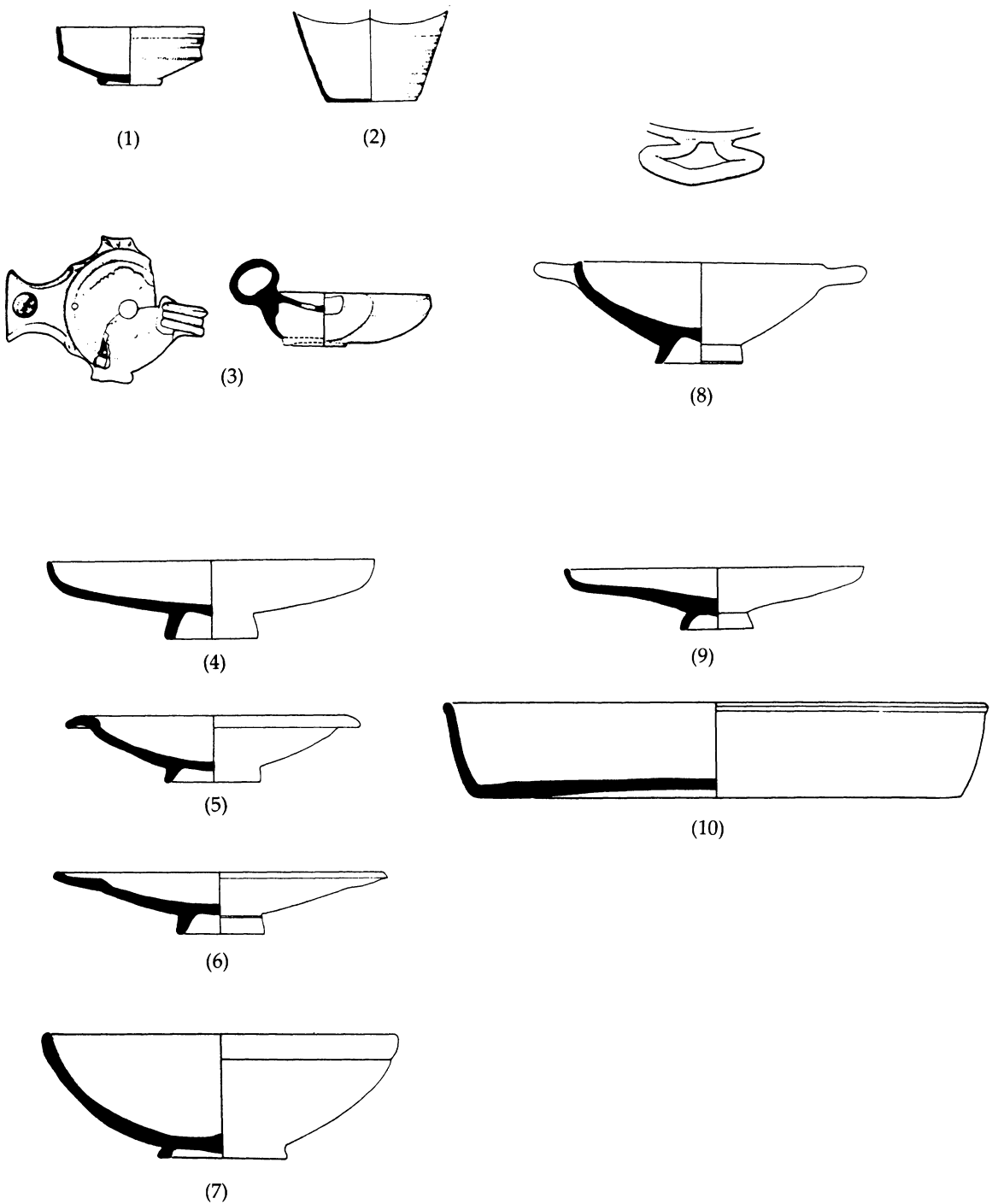


FIG. 17. East Block, Period 1.1: pottery. Soak-away pit (*left*): (1) C68.532 and (2) C68.546, (3) C68.530, (4) C68.483, (5) C68.504, (6) C68.511, and (7) C68.503. Room 23 (*right*): (8) C71.76, (9) C71.77, and (10) C71.78

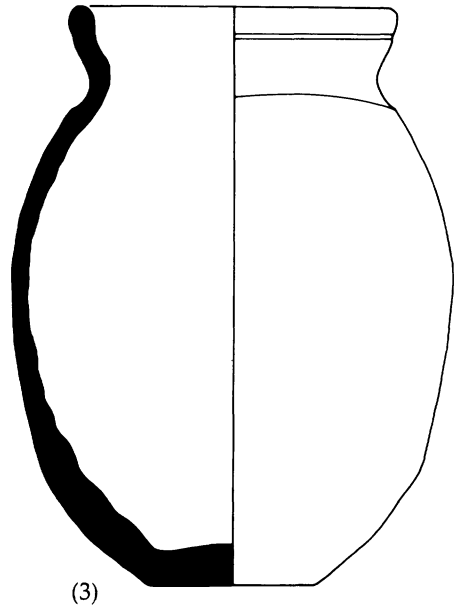
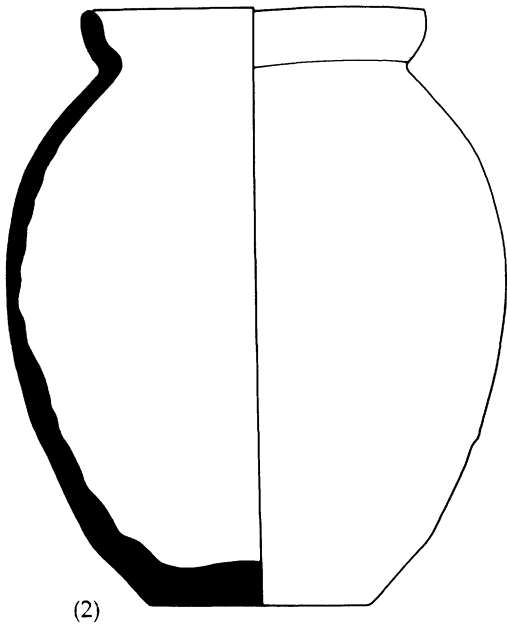
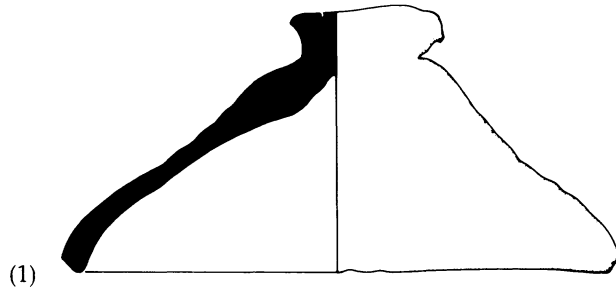
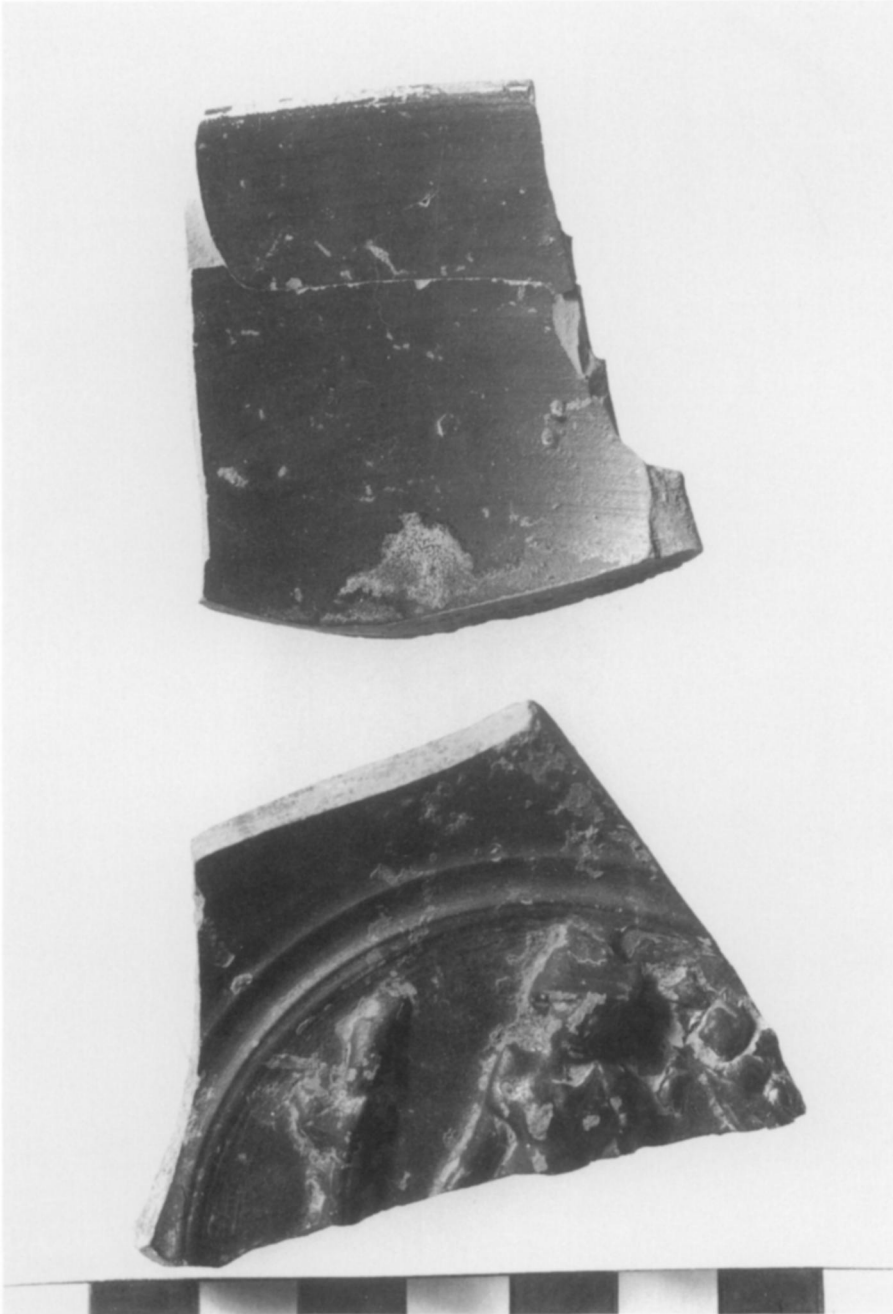


FIG. 18. East Block, Period 1.1: pottery from soak-away pit: (1) C68.536, (2) C68.502, and (3) C68.501

PLATE 34. East Block, Period 1.1: Southwest House, black-glaze bowl with central medallion of Venus



THE WEST BLOCK, PERIOD 1.2

The second century saw steady growth at Cosa and ever more intense utilization of space within the town, both public and private.¹ Its increasing prosperity is reflected in the growth of families and the advance of new generations. The persistence of one family in the East Block has already been noticed (page 31f.), and there are signs of the expansion of others in the West Block about mid-century in the building of two new houses in the lower lots that had earlier served the house of Lots 4 and 5 as garden (Figs. 2, 19).

Construction

The remains of this pair that have been uncovered are unfortunately scanty, chiefly because of modern agricultural work in the area, but also because of the limited time available for their exploration.² Still it has been possible to recover the essential design of one of the houses and, on that basis, to complete a

1. See *Cosa III: The Buildings of the Forum*.

2. The limitations were also financial.

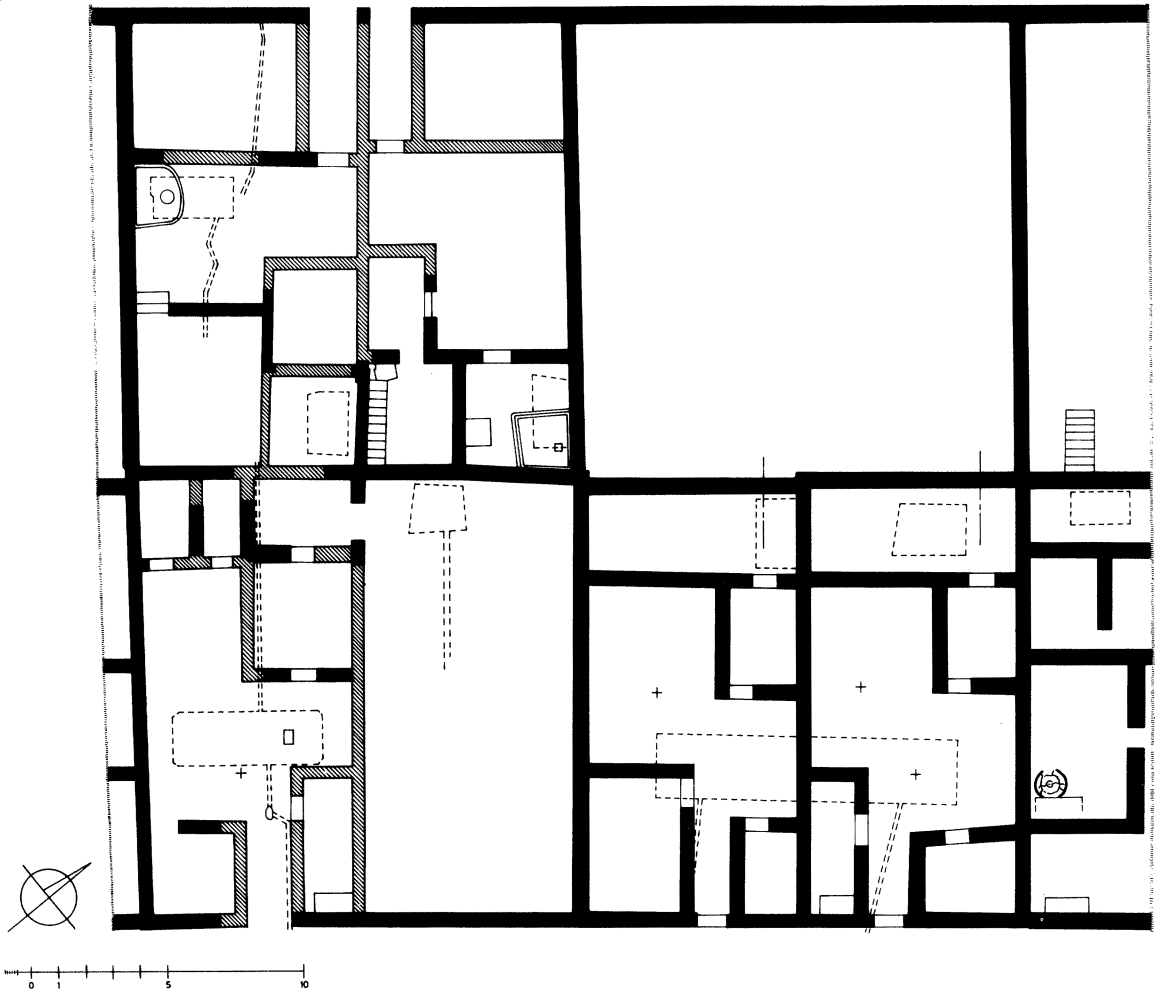


FIG. 19. West Block, Period 1.2: restored house plans

hypothetical plan for the other. The pair fronted on Street L and are described from front to rear.

The lots of the houses lie in the northwest half of the block and are 16.80 m long. They were of the same width before building, but, as built, the southwest lot is the wider, 9.24 m as against 8.00 m. The line of the party wall between the houses is clear at the back of the lots; in the center and at the front, thanks to modern plowing, the line is preserved only as the edge of a badly abraded signinum floor inside the west corner of the northeast house. The façade line on Street L is irregular for the same reason. The wall has been destroyed to the lowest course of the foundations, but the construction technique is clear and familiar: medium-sized limestones roughly worked to rectangular or trapezoidal shapes, clay-bonded and footed on spalled bedrock. The blocks of the



PLATE 35. West Block, Period 1.2: West Quadrant, wall foundations fronting on Street L, looking SW

exterior are larger than those of the interior; the width of the foundations is 0.55 m (Pl. 35).

The location of the entrances is conjectural. The line of the overflow drain to the street from the cistern spill basin in the southwest house might have lain along one side of an entrance corridor, as the cistern conduits of Houses 2, 3, and 5 in the southeast half of the block did, but this cannot be demonstrated. It is clear, however, that the southwest house (and presumably the northeast one, too) was divided, like the others already presented, into three units: front, middle, and rear. The interior dimensions from front to rear are $15\frac{1}{2}$ Roman feet, 17 feet, and $18\frac{1}{2}$ feet.³ The cistern was in the central area, the soak-away pit at the rear, even though the slope down from southeast to northwest meant that the soak-away-pit floor would be higher than the cistern floor, 85.19 m.a.s.l. as opposed to 83.84 m.a.s.l.

3. =4.58 m, 5.00 m, and 5.48 m.

Water Collection and Storage

The cistern is 3.05 m long on its northwest side. A jog midway along the southeast side reduces the length to 2.90 m on that side; it is 1.45 m wide. The vault rises 0.67 m from the springing to the keystone and probably had seven limestone voussoirs on either side of the keystone. The depth is 2.25 m from the floor to the crown of the vault. The vault was pierced around the drawshaft by a nearly rectangular collar in travertine 0.18 m thick (Pl. 36). The diameter of the drawshaft is 0.46 m. It is centered 0.47 m from the southwest end of the cistern. In the floor below the drawshaft is a shallow sediment basin 0.08 m deep and 0.50 m in diameter. The ceiling of the vault was plastered, the sides and bottom lined with signinum. Around the floor runs a quarter-round cover-joint 0.08 m high.

The well head has vanished but was surrounded by a trapezoidal basin of signinum with a raised border of which traces survive. Its greatest interior measurements were perhaps 1.90 m by 1.60 m. The shape is paralleled by the spill



PLATE 36. West Block, Period 1.2: West Quadrant, Southwest House, drawshaft, looking NW

basin over the soak-away pit in the northeast house. The outlet from the basin drained to the street through a channel below floor level. The sides of the channel are made of small limestones; the bottom is made partly of fragments of tile and partly of overlapping sections of imbrices mortared together. The channel is 0.14 m wide and 0.13 m deep.

The inlet to the cistern pierces the vault along the southeast side 0.54 m from the northeast end. The channel is 0.13 m wide and 0.14 m deep. This brought water from the rear eaves of the house, running in a straight line under the floor until it reached the central area, where it ran the remaining 2.50 m to the inlet in an elongated S-curve. The channel is rock-cut and signinum-lined; the sides and roof are of small limestones mortared together. Its greatest width is 0.18 m and its greatest depth is 0.16 m.

Soak-Away Pit

At the rear of the house are the services: the soak-away pit, bath, and kitchen were combined, as the arrangement in the northeast house shows. There the hearth platform of the kitchen is located next to the spill basin over the vaulted soak-away pit below, and around the hearth were found remains of the cooking ware in use at the time the house was abandoned (Pls. 37, 38).

The pit in the northeast house is rock-cut and measures 2.20 m by 1.60 m; it is 1.40 m deep from the floor to the center of the vault. The vault rises 0.35 m from the springing to the keystone, with six limestone voussoirs set in hard lime mortar with sand aggregate to either side of the keystone. The floor was leveled with limestone detritus and fragments of tile. The greatest interior measurements of the signinum spill basin are 1.90 m by 1.80 m. The inlet of the pit is 0.30 m on a side. Around the basin on two sides runs a double molding, fascia and ovolo, 0.24 m wide and 0.15 m high. On two sides there is only an ovolo, 0.10 m wide, 0.08 m high.

Only the soak-away pit is preserved at the back of the southwest house. It too was rock-cut and measures 2.14 m by 1.50 m; its greatest depth is 1.33 m at the southwest end. The sides and floor were plastered. A portion of the raised border of its spill basin is preserved at the south corner, and the arrangement of the inlet was probably the same as in the northeast house. The pit was partly excavated in 1966, when it was uncovered in a trench for the foundations of the museum at Cosa. The southwest half was excavated in 1972 after these foundations were in place. It cannot be determined how it was roofed. The modest dimensions of the room suggest that, in contrast to the northeast house, in the southwest house the kitchen extended into the area adjacent on the southwest.



PLATE 37. West Block, Period 1.2: West Quadrant, Northeast House, kitchen and soak-away pit, looking SE



PLATE 38. West Block, Period 1.2: West Quadrant, Northeast House, mass of kitchen pottery

(The arrangement in the northeast house seems designed in part to preserve the garden stair that descends from the lot above. In the new house it may have provided access to a loft or perhaps continued as communication with the house above.)

Design

Little more survives to be described. Both houses had a room of uncertain size in one corner of the central area, corresponding to similar rooms in the house above to the southeast. The subdivision of the front parts of the houses is unknown. The southwest house preserves the bedding for a doorsill above a step, giving access to the rear of the house from the area of the cistern. The bedding consists of small limestones with leveling fragments of tile set in hard lime mortar with sand aggregate. It is on the line of the wall separating the back of the house from the center and lies tight against the southwest wall of the house; it is 0.34 m deep and 1.20 m wide. It may be compared with the sill bedding preserved in the south corner room of the central area of the northeast house. The bedding for the step below the sill is of the same construction and measures 1.20 m by 0.40 m.

The few surviving fragments of upper walls in the northeast and southwest houses show that these were built of mortared limestone rubble plastered on both faces. Occasionally, where the walls have completely vanished, fugitive traces of the plaster decoration have survived to indicate their lines, as in the west corner of the southwest house. Traces of signinum paving appear in both houses, the more substantial ones in the back parts of the northeast house.

Despite the gaps in this record, it is possible with the information available about the collection of water, internal divisions, and the arrangement of the back portions of these houses to reconstruct how they stood in relation to their predecessors to the southeast, with which they shared a party wall.

The houses on both upper and lower Lot 5 collected water from the back eaves. The hearth of the upper house was at the front, while the hearths of the lower houses were at the back. Moreover, the upper and lower houses of Lot 5 stand back to back. These considerations force the conclusion that the roofing system of the lower house must have been different from that of the upper house, though still a simple gable.

The edge of the roof at the back of the southwest house would have been parallel to that of the roof at the rear of the upper house, and it would have come considerably below it at the party wall. Thus the upper house could have collected water from its eaves without obstruction, but the lower house collected its water rather differently, with water draining to the northwest from the back and

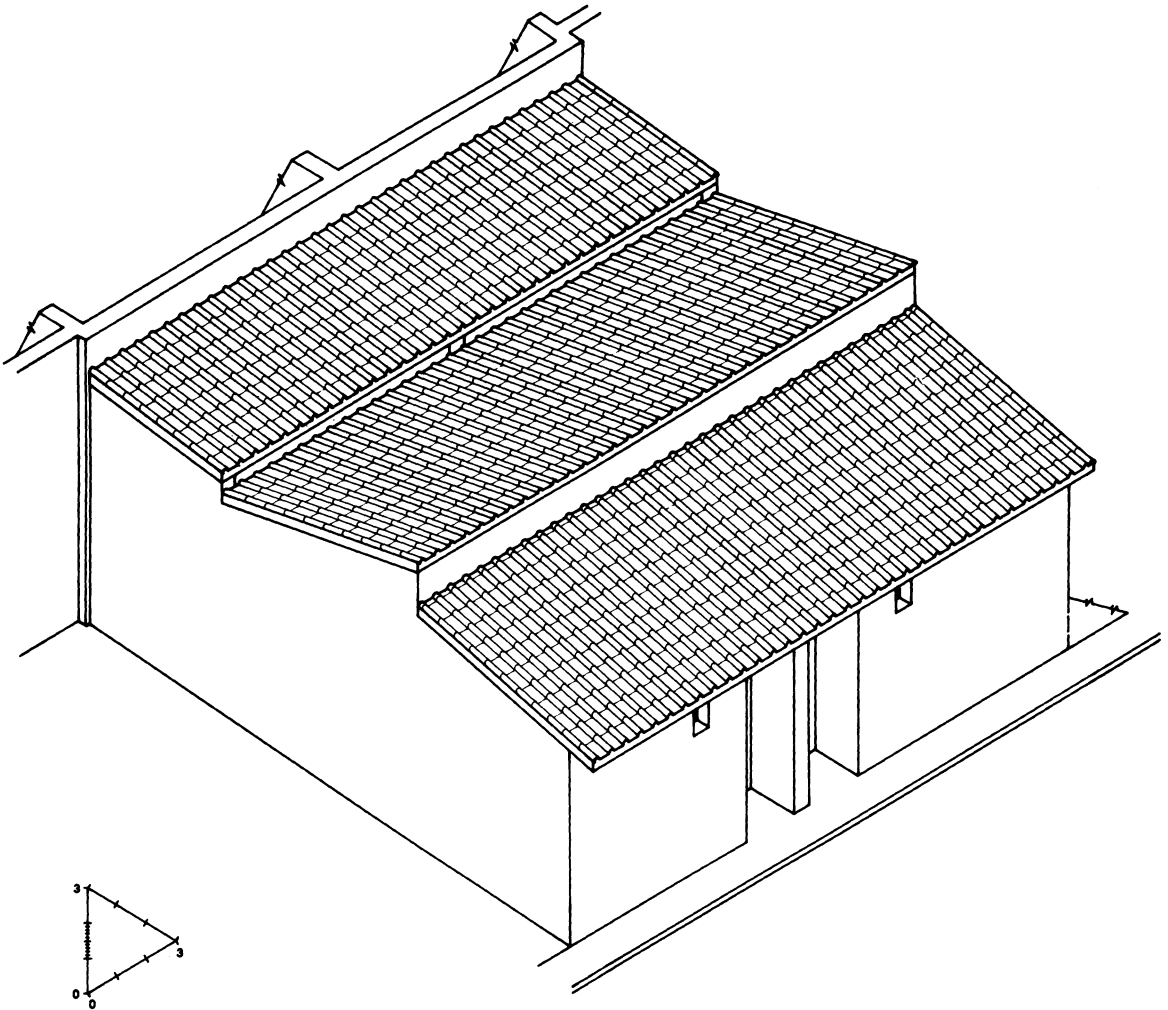


FIG. 20. West Block, Period 1.2–1.3: West Quadrant Houses, restored elevation 1

to the southeast from the roof over the back part of the central area of the house. The dormer opening for light and air lay in between; the difference is six Roman feet.⁴ The roof at the back stands above and pitches toward the central one, which is consonant with the higher elevation of the rear of the house and may seem more efficient. The collecting gutter would have run along the lower edge of the lower roof. The variation is quite simple, involving only a reversal of the pitch of the roof from front to back, and the basic interior house design is close to that of the upper house. What cannot be known in the present state of the evidence is whether or not the dormer rise between the two slopes of the roof at the front of the houses would have been open (Figs. 20, 21).

4. =1.80 m.

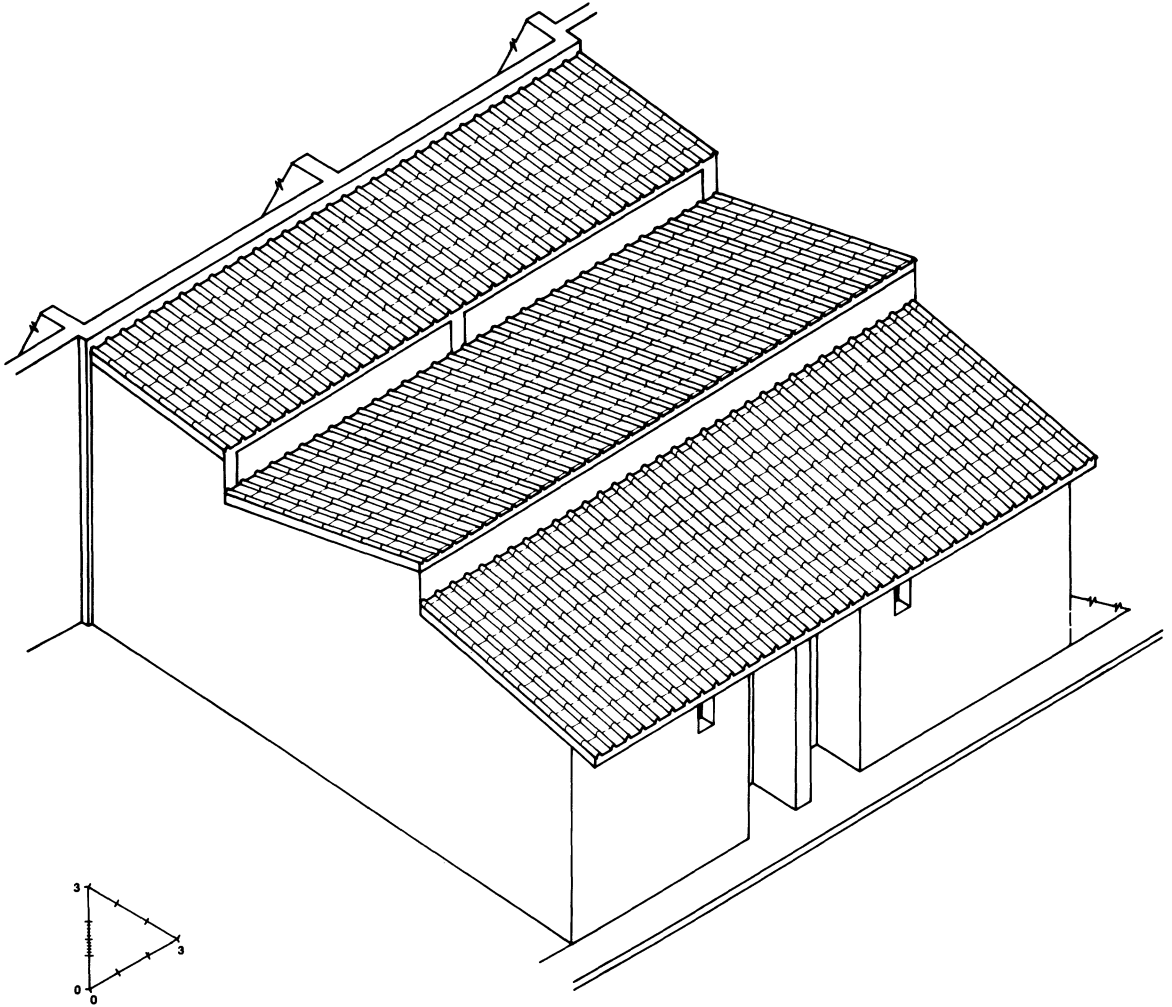


FIG. 21. West Block, Period 1.2–1.3: West Quadrant Houses, restored elevation 2

Date

In 1966 a trench for the foundations of the museum at Cosa sectioned the signinum floor beyond the kitchen of the northeast house, and small amounts of pottery from beneath the floor were reported by the excavator but apparently were uninformative and discarded. The bulk of the material recovered in excavation in the sector serves only to date the end of occupation of the houses, not their construction. Both soak-away pits had small accumulations of pottery in shallow sediment layers indicative of a recent cleaning.

The northeast pit (3 W) contained a complete wheel-made lamp (C66.226), a black-glaze plate of local manufacture (C66.210) imitating a Campana B form of

the second century, and a fine-ware beaker (C66.369) of the early first century B.C.⁵ Uncatalogued fragments of various wares confirm this date.⁶

The southwest pit (4 W) contained three pre-Arretine plates and one pre-Arretine cup (C72.79, 80, 81, 131), which are certainly first century in date (see Appendix 3, pages 200–209), two coarse-ware bowls (C66.403, C72.127), a coarse-ware jar (C66.391), and a skillet (C72.128), also of first century date.⁷ The fragmentary uncatalogued wares extend into the early first century as well.⁸

The construction of the houses, however, can be placed well back in the second century on other grounds. The two lots lie below the single house and work yard of Lots 4 and 5 in the upper half of the block. They were built after 175 B.C. and had already been in existence for some time when the upper house was remodeled early in the first century (page 79).

While it cannot be demonstrated that the four lots involved remained in the possession of members of a single family throughout the period 175 to 90 B.C., that is certainly possible. There is the example of the Salvii in the East Block. Nor would it be unusual for sons to build houses on lots belonging to their fathers and adjacent. Fidelity to the original upper house design is conspicuous both in the lower houses and later in the remodeled upper house, which might reflect family continuity. The use of mortared rubble masonry in the lower houses is not likely to have been anachronistic, but rather suggests construction after the completion of the East Block houses, where mortar is used sparingly. With due caution one may advance a date shortly after 150 B.C. for the construction of the pair.⁹

5. The beaker is clearly related to Moevs Forms 5–7; see Moevs *Thin Walled Pottery*, 62–67.

6. Black-glaze vessels: rim fragments of locally made plates and bowls, rim fragments of a Campana C plate with angular rim. Fine ware: fragments of vessels Forms 3 and 18 (Moevs *Thin Walled Pottery*, 58, 79). Utilitarian wares: fragment of a cooking pot, Class 16; flat-bottomed pan, Class 2; flanged pan, Class 1; bowl, Class 1; lid, Class 2; lid plate, Class 1; jar, Class 3; jar, Class 7 (Dyson *Utilitarian Pottery*, 21–22, 31, 44, 59, 82).

7. See Appendix 1. For the utilitarian wares, see Dyson *Utilitarian Pottery*, 31, 71, 79. Note, however, that C72.127 has a shallow groove in its rim to hold a

lid, and C66.391 is without a handle.

8. Black-glaze vessel fragments: Campana A plate with straight vertical foot (Morel Form 3), low bowl with broad foot, and plate with out-turned rim of local manufacture. Fine-ware vessel fragments: Forms 1, 4, 5–7. Kitchen ware: flat-bottomed pan of Class 1, flanged pan of Class 1, lids of Class 1, lid plates of Class 1, pots of Classes 2, 4, 16, 31. Coarse ware: jar of Class 8, pitcher of Class 2. See Moevs *Thin Walled Pottery*, 49–68; Dyson *Utilitarian Pottery*, 21, 24, 26, 44, 80, 97, 104. Also found was a single fragment of a large pre-Arretine plate.

9. See Brown *CMRT*, 66.

The East Block, Period 1.2

The only securely attested activity in the East Block in the mid-second century is the closing of the original soak-away pit and the excavation of a new one elsewhere. What this meant to the development not only of that house but also of the neighboring one to the northeast has already been discussed (page 38).

Part II

THE HOUSES OF THE
FIRST CENTURY B.C.

THE WEST BLOCK, PERIOD 1.3: THE HOUSE OF THE TREASURE (OF QUINTUS FULVIUS)

After the end of the second century B.C. both blocks were subject to renewed building activity, the last building before the sack of Cosa early in the second quarter of the first century. In the East Block, sometime after 90 B.C., the House of the Skeleton came to occupy five of the old garden lots in the northwest half of the block and broke with the earlier pattern of orientation. It fronted not on Street M but on the important cross-street called Street 5, with an exit (posticum) to Street M at the back of its large and innovative garden, which also broke with tradition. A second house, which did front on Street M, adjoined the garden on the southwest, and a few of its elements have been explored, enough to link it in date with its neighbor (page 153).

In the West Block there are signs of modest remodeling in Lots 1, 2, and 3 (page 21), but the major event was the remodeling of the house on Lots 4 and 5, known since 1966 for the stupendous hoard of 2,004 denarii carefully buried in a jar beneath its pantry floor that, together with other evidence, serves to date the end of republican Cosa (Fig. 22).¹ The hoard itself is an important clue to the personality of the owner and his occupation, as the plan of his house may also be,² and it is also possible to give him a name.

1. "Scavi," 40; *Buttrey Coins*, 81–147.

2. *Buttrey Coins*, 81–82, 86–88.

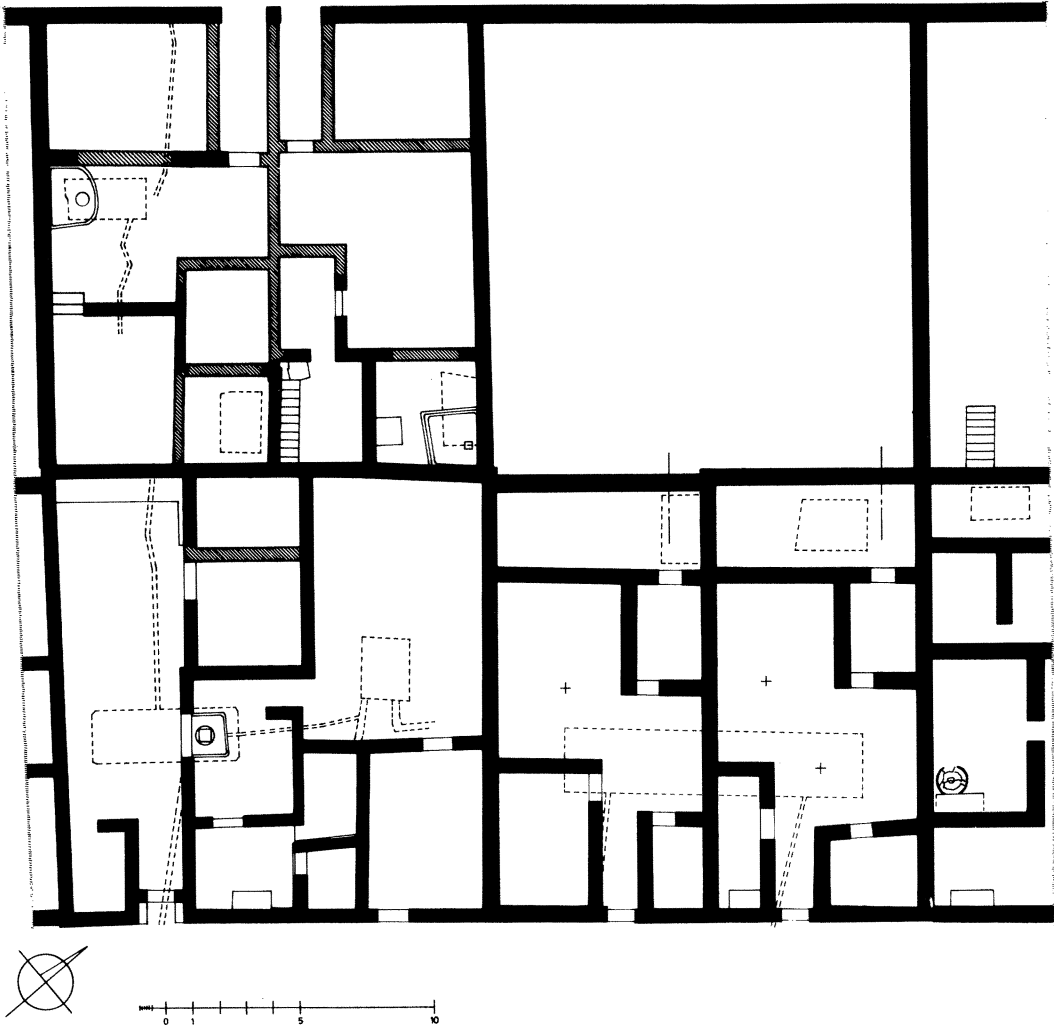


FIG. 22. West Block, Period 1.3: restored house plans

Two black-glaze vessels (C66.220, 855; Pl. 39), one the bottom of a locally made plate, the other a pyxis in Campana B, found in the work yard of the house have the abbreviation Q. FVL scratched on the bottom in neat small letters comparable to those on the first-century Salvius plate from the East Block (pages 34–35; Pls. 14, 15). In this instance, however, the prenominal abbreviation as well as the gentilician name is given; the House of the Treasure is also the House of Quintus Fulvius.³

The house as remodeled generally adheres to the original plan. There is no significant change in design, only changes in scale and furnishings, some of

3. On the pottery, see A. R. Scott *Black-Glaze*.



PLATE 39. West Block, Period 1.3: House of the Treasure (Q. Fulvius), bases of black-glaze vessels with graffito Q FVL

which were no doubt functional, others perhaps indicative of the owner's sense of individuality and the importance of his enterprises (Figs. 23, 24). The living quarters were expanded beyond the original northeast wall and divided into two equal halves by a slightly irregular median wall running northwest to southeast. And a large covered room was added at the southeast end of the work yard to the northeast.

The long, narrow room originally flanking the east side of the entrance corridor was enlarged and made three rooms by adding space to either side: kitchen, pantry, and bath. The original stove platform served to locate the kitchen. The pantry opened off its northeast side and the bath off its north corner, close to the new soak-away pit. The grouping of services is like that in the house of lower Lot 4.

The floors of the new rooms were of polished red signinum decorated with small tesserae of white limestone sprinkled at random, except the floor of the bath, which had an upper surface of cubes of sawn tile 0.03 m square interspersed with occasional cubes of white limestone of the same size. A raised signinum flange at floor level ran from the east end of the hearth around the east corner and northeast wall of the kitchen and turned east to continue along the wall of the bathroom. The bathroom slopes 0.25 m from southeast to northwest, and a drain to the soak-away pit opens in the north corner.

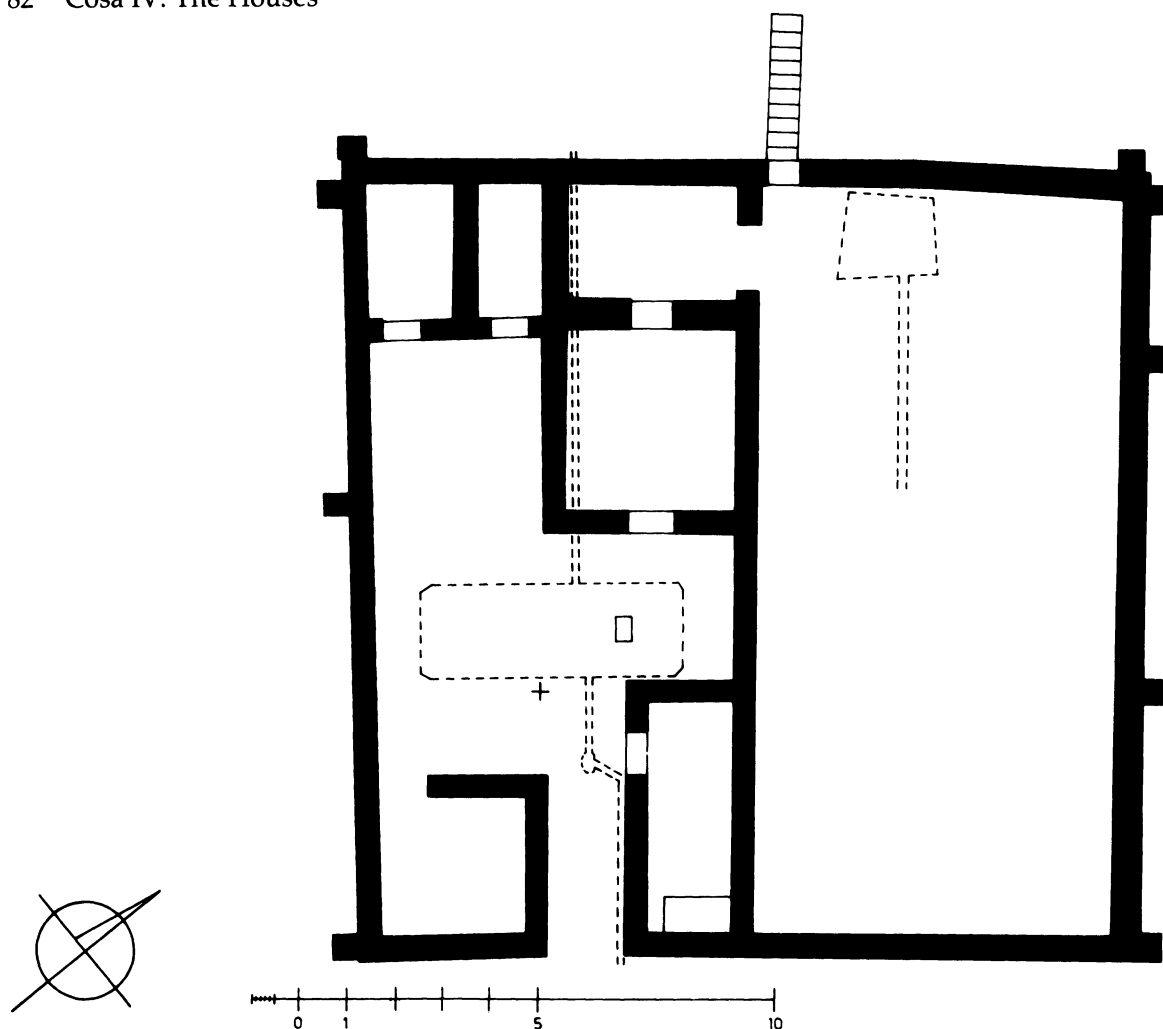


FIG. 23. West Block, Period 1.3: House of the Treasure (Q. Fulvius), restored house plan: Phase 1

The drain is rectangular in section. The sides and floor of the channel are made of fist-sized limestones mortared together, and the drain is lined with signinum. The roof was presumably of flat slabs of limestone, like that of another conduit of identical construction that drained to the pit in the work yard. The channel is 0.28 m wide and 0.18 m deep. The bathroom drain enters the pit at its south corner and the yard drain at its east corner. The overflow drain from the cistern joins the bathroom drain midway to the soak-away pit inlet. Its channel is signinum-lined, the sides made of fist-sized limestones mortared together. The roof is chiefly of overlapping sections of imbrices, but of flat limestones of rectangular shape for the last 1.10 m of its length. The channel measures 0.10 m wide and 0.08 m deep.

The inlets to the cistern were also changed. The original conduit and settling

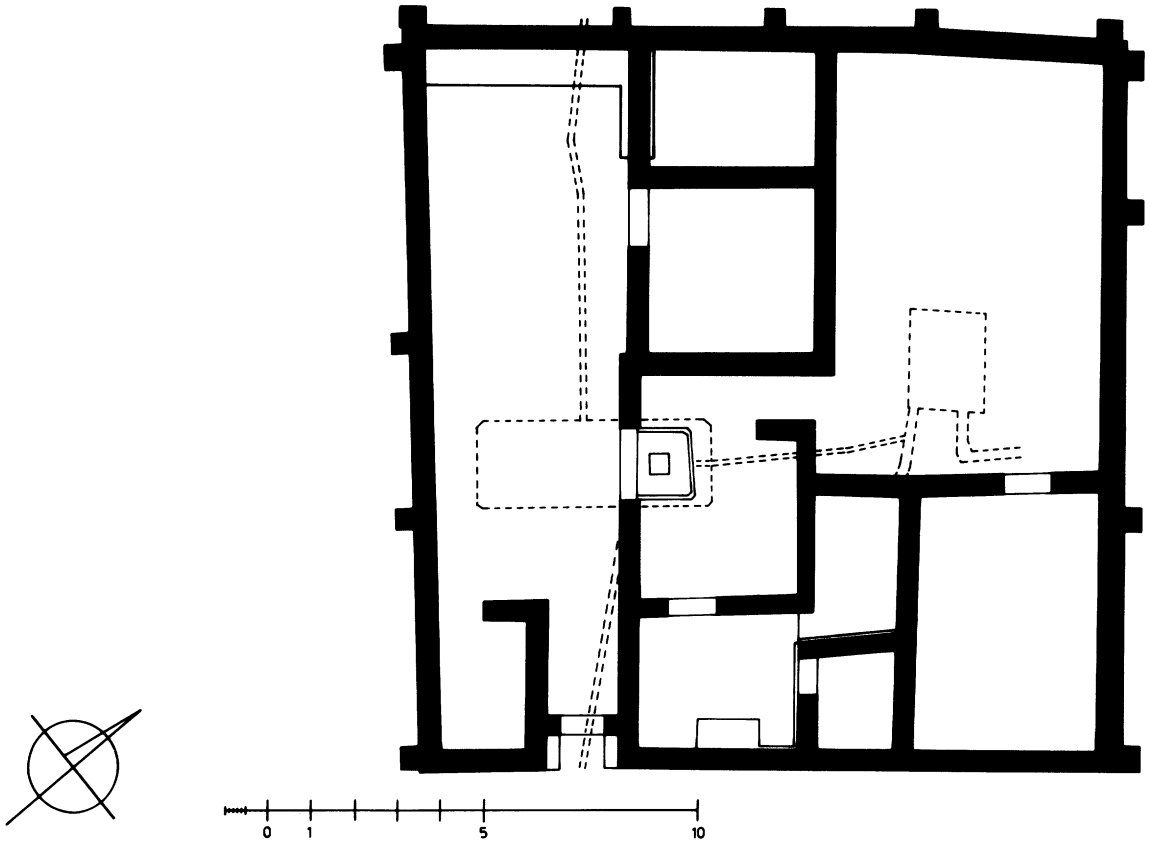


FIG. 24. West Block, Period 1.3: House of the Treasure (Q. Fulvius), restored house plan: Phase 2

basin for the water taken from the front eaves was replaced by a larger conduit running diagonally under the entrance corridor. The conduit from the back of the house was replaced by a larger one running parallel to the old conduit, 0.50 m to the west and 0.08 m above it. The new conduits had channels 0.20 m wide and were, respectively, 0.16 m and 0.12 m deep. The sides of the front conduit were made of fist-sized limestones eked out with fragments of tile and potsherds at the side of the construction trench and mortared over. The cover was made of flat limestones of rectangular shape. The sides of the back channel are made of medium limestones about 0.30 m by 0.20 m, the cover of flat limestones (Pls. 40, 41).

The cistern itself has already been described (page 18). The only peculiarity it presents is a product of the remodeling. Access to the cistern, service rooms, and work yard from the front of the house was by a door in the southwest wall of a court around the well head covering the drawshaft (see Pl. 8). The bedding for a sill block is unmistakable. Its construction is the same as that previously noted in



PLATE 40. West Block, Period 1.3: House of the Treasure (Q. Fulvius), front cistern conduit, looking NE



PLATE 41. West Block, Period 1.3: House of the Treasure (Q. Fulvius), rear cistern conduit, looking NW



PLATE 42. West Block, Period 1.3: House of the Treasure (Q. Fulvius), fragment of puteal

the two lower houses (page 71): small limestones and fragments of tile for leveling set in hard lime mortar with an aggregate of crushed tile and sand. The width of the sill is 1.50–1.60 m; its depth is 0.44 m.

This suggests that the location of the drawshaft is probably original, while the signinum spill basin is at least somewhat earlier than the doorsill, since the bedding for the sill block overlaps its southwest side by 0.12 m. The basin was originally square, the interior measuring 1.40 m on a side. Its raised margin is 0.08 m wide and the same high. To the southwest of the wall across the cistern was found a fragment of a circular base molding in Vulci tufa (Pl. 42) that may belong to the cistern puteal. Its estimated exterior diameter is 0.68 m, its interior 0.38–0.40 m at the base, flaring at the top. The base is flat. The molding profile as preserved shows a quarter-round finished as a cyma recta 0.07 m high between two narrow fasciae 0.05 m and 0.03 m high. The width of the opening in the cistern collar is 0.38 m; the diameter of the well head is 0.68 m.

The entrance to the house was recessed 0.80 m behind the façade on Street M. The door jambs were footed on blocks of Vulci tufa, the upper surfaces of which show a quarter-round profile. The posts were 0.34 m wide and 0.42 m deep; the

width of the sill is 1.00 m and its depth 0.42 m. The mortared limestone and tile bedding for the sill survives; the block does not. Between the posts and the façade were two small rectangular bases of mortared rubblework revetted with hard signinum, 0.80 m by 0.34 m. These are not preserved to their full height but were presumably low benches. (A later, more elaborate pair flanking the entrance to the Augustan house in the East Block were $1\frac{1}{2}$ Roman feet, 0.45 m, high. See page 171).

The small room on the southwest side of the entrance was refloored and replastered. The polished red signinum paving had a decoration of small blue and white limestone tesserae set at random, very similar to one found in Room 12 of the House of the Skeleton (page 129). The remains of plaster found in place low on the northeast and southeast walls showed no color, but fragments overlying the floor were colored red, purple, green, yellow, blue-black, and white.

Beyond this point the southwest side of the house is imperfectly known. The old rooms at the back were swept away, and at the northwest end a low, wide wall in mortared rubble masonry was built with a southeast return on the line of the east side of the front entrance to divide the house in half along its length. The only well-preserved rooms are in the northeastern half. In the southwestern half no trace of internal division survives beyond the end of the entrance corridor. Any floor or wall line has been plowed away.

The long dividing wall is broken by two doors: one, already noted, gave access to the cistern court, service rooms, and work yard beyond; the other led to a large apartment at the north corner of the original house that appears to have been subdivided into two rooms. The principal one is about thirteen feet square, the other rectangular, eight feet by thirteen feet.⁴ The larger room has an elegant signinum paving that ends on the line of a missing northwest wall. The paving is decorated with a lozenge pattern in small white limestone tesserae set on the diagonal in the polished red surface of the floor. The lozenges are 0.18–0.20 m by 0.14 m. The design is very similar to those found in Rooms 13, 14, and 16 of the House of the Skeleton (page 130).⁵ The bedding for the sill block is too poorly preserved to give an accurate width for the doorway. But the bedding was prepared in the same way as that for the cistern court, and the sill measurements may well have been the same: 1.50–1.60 m by 0.44 m.

The arrangement suggests a small suite with a bedroom at the rear. If there is any merit in such a suggestion, then the featureless southwestern half of the house was probably divided at least once across its width to make a tablinum. It appears that the remodeling of the house aimed at the creation of larger rooms, which may reflect the owner's rise in importance (cf. Vitruvius 6.5), as well as a need for more living space than the original house had. A class aesthetic certainly influenced the design of the House of the Skeleton, with which this

4. 4.00 m by 3.92 m by 2.40 m.

Saxa Rubra (Grottarossa) near Rome: *N*Sc 1944–45,

5. Cf. the contemporary pavements from a villa at 52.



PLATE 43. West Block, Period 1.3: House of the Treasure (Q. Fulvius), rebuilt southwest wall, looking SW

remodeling is approximately contemporary (pages 92, 146). But at the same time the privacy of the work yard and its activities was maintained. Indeed, access to it would appear to have been made more difficult at this time by the peculiarly clumsy location of the door to the cistern court.⁶

When the new section of wall was built at the northwest side of the house, the southwest wall was tested in the west corner as well. The builders dug down below its offsets through the original construction fill to the underlying bedrock, dismantling any original features at the back as they went. Then the new northwest wall was footed in a crevice in the rock, supported to the northwest by the party wall with the house in lower Lot 5, and the area refilled with limestone detritus, earth, and stone chips mingled with potsherds. But even this was not enough; the southwest wall was rebuilt with an offset at the top of the new fill two feet (0.60 m) above the original and still sound offsets. The rebuilding does not appear to have been structurally necessary in any way (Pl. 43).⁷

The construction techniques to be seen in the remodeling are a combination of earth-laid, lime-plastered walls and mortared rubble masonry, the best example of which is the new northwest wall just mentioned. It now lies in two sections in two lots: the upper part has pitched forward and down into Lot 5; the stump remains in place above but tilted forward. It is two feet thick (0.60 m), made of

6. In view of the importance of the work yard and its activities (to say nothing of the difficulty of access to it from the interior of the house), it probably had a separate entrance from the street. While no sign of an entrance is preserved in the poor traces of its

façade line, there is a stretch of suggestively worn rock between it and the street that has served to fix the location of a doorway in the restored elevation.

7. For the pottery, see page 92.



PLATE 44. West Block, Period 1.3: House of the Treasure (Q. Fulvius), new northwest wall, looking NE

medium-sized limestones set in hard lime mortar with a filling of small limestone detritus between the faces, and shows leveling courses of fragments of tile and storage ware potsherds. The first course above the leveling course is of notably smaller stones than subsequent ones: 0.16 m by 0.13 m, compared to 0.25–0.30 m by 0.12–0.29 m. Because of its fallen state, the interval between leveling courses cannot be determined (Pl. 44).

Very little of the new plaster decoration has survived, only enough to distinguish orthostat, string course, and molding elements of a First Style decoration. The color spectrum is red, cinnabar, purple, green, yellow, blue-black, and white. Three fragments were found of a blue-black panel with red and yellow marbleizing and some fragments of panels in cinnabar, black and yellow, and purple, red, and green. No design dimensions could be recovered.

The preparation of the wall for the plaster decoration is of the same composition as that found in the House of the Skeleton: lime mortar with an aggregate of crushed tile, brown and white sand, fine dark blue limestone gravel, and occasional pearls of lime. Some of the plaster had been laid against flanged tiles with lozenge-pattern scoring on the unflanged side. These were $\frac{2}{3}$ foot (0.19 m) wide, the flanges 0.02–0.03 m deep; the length is unknown (Pl. 45). Their existence is



PLATE 45. West Block, Period 1.3: House of the Treasure (Q. Fulvius), scored tile

welcome evidence for the development of the technique of mortared rubblework at this time, for the primary purpose would not have been the convenience of the plasterer but rather proper curing of the walls. This is an early example of the *camera d'aria* technique practiced by modern Italian masons. The scoring of the backs of these tiles during manufacture in addition provided a better purchase for the application of the roughcast coat of the plaster decoration.

The roofing system seems to have remained the same, except insofar as the larger dimensions of rooms would have required higher ceilings. The work yard remained partly open, so the covered room at its southeast end, and very likely the adjacent bath and pantry on the southwest, must have been roofed with a single slope at the same height as the front of the house proper. There may also have been a shallow overhang along the northeast side of the work yard. Any water collected from these roofs ran off to the soak-away pit through a drain in the east corner of the yard.

The house is shown covered in the usual schematic fashion. The dormer opening for light and ventilation appears to have been about the size of the

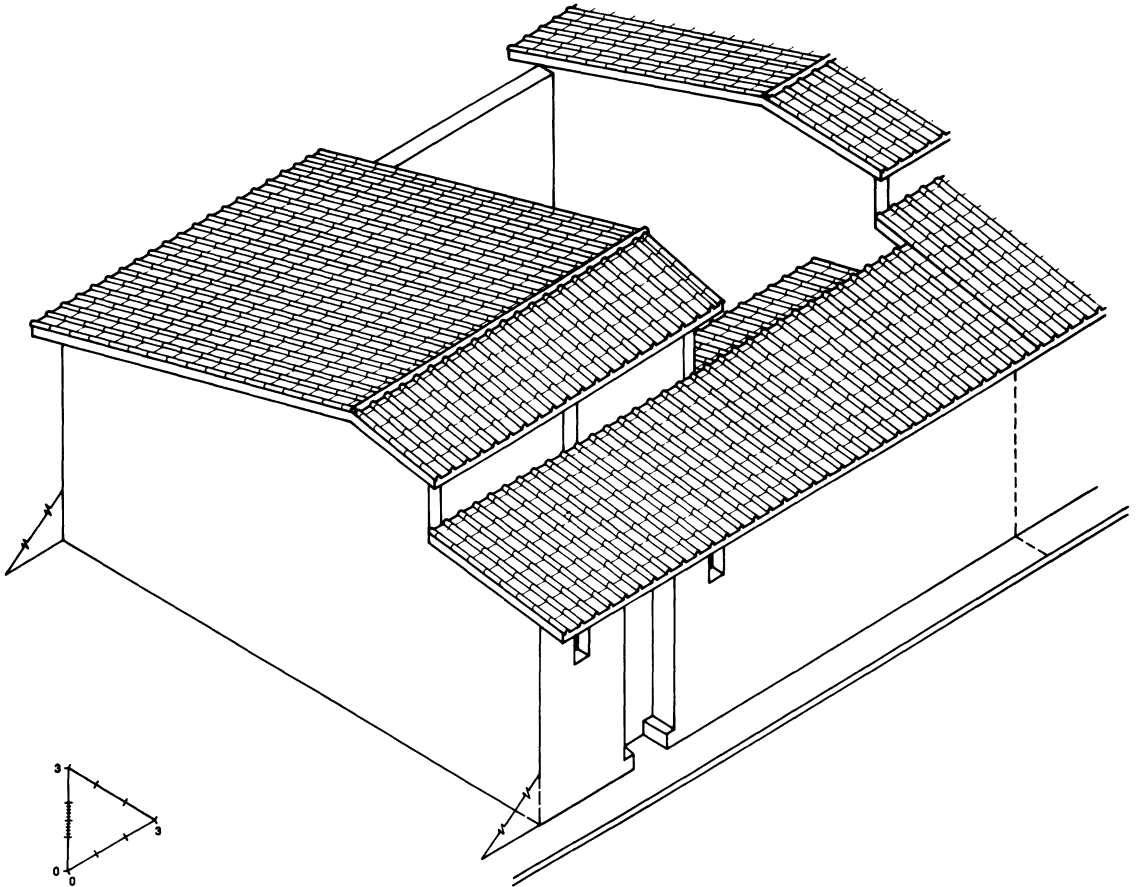


FIG. 25. West Block, Period 1.3: House of the Treasure (Q. Fulvius), restored elevation

original one (5–7 feet), given the distance between the northwest wall of the kitchen and a beam set parallel to it at the southeast end of the door to the cistern court (Fig. 25).

Before turning to discussion of the house's date, it is appropriate to address the question of water collection in this and other houses, since it is from the house of Quintus Fulvius that our best evidence comes. The evidence for the method of water collection at ground level is unequivocal in both blocks. There are conduits to cistern inlets from the front of the houses in Lots 2, 3, and 5 (the first and second phases of the house of Quintus Fulvius) in the West Block and the house of the Salvii in the East Block. There are cistern conduits as well from the rear of the house in Lot 5 (first and second phases) and the west quadrant house in the West Block.

The existence of these conduits from the rear demonstrates conclusively that the water from the eaves was carried down vertically by pipe to below floor level.

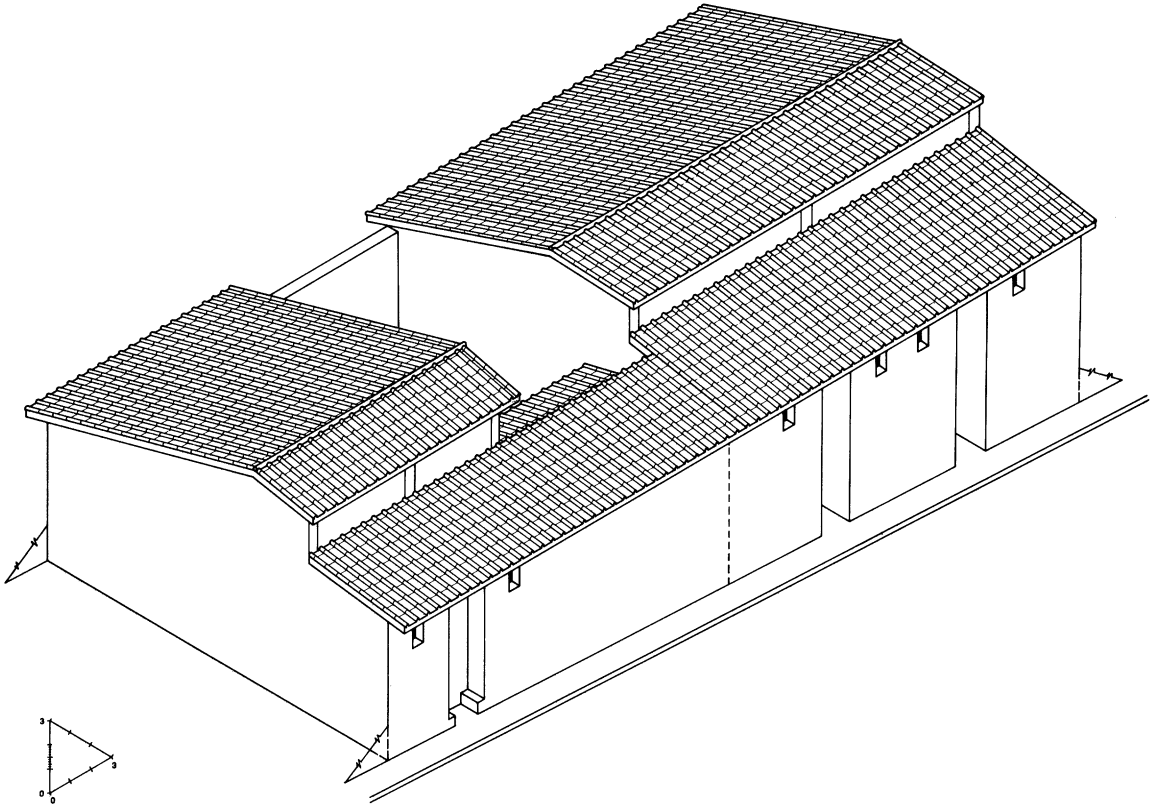


FIG. 26. West Block, Period 1.3: House Lots 2-5, restored elevation

The collection at the eaves must have been by a gutter along the edge of the roof, perhaps of *sima* tiles behind which water flowed to a downspout emptying into a conduit beneath the floor. A fragment of a *sima* tile (C65.477; Pl. 46) was recovered from the cistern of the house in Lot 3 of the West Block, but no certainly identifiable fragment of a clay or metal pipe for a downspout was found in the course of excavation. Yet a gutter system at the edge of a broadly overhanging roof would certainly have required one.

For the system at the front of the houses there is evidence from the house of Quintus Fulvius to supplement the *sima* tile from the house in Lot 3, namely a spout in the shape of a feline head with exaggeratedly realistic features (C72.4; Pl. 47). It is 0.35 m long, 0.24 m wide, and 0.16 m high. The neck diameter is 0.12 m, that of the mouth 0.05 m. The material seems to be susceptible of two interpretations.

The first is to see the spout as for the overflow of the trough and vertical pipe system by which the cistern was fed. The second is to take the spout itself as the collector from the trough and to imagine a *signinum* basin at the street curb in



PLATE 46. West Block, Period 1.3: House of the Treasure (Q. Fulvius) sima fragment from cistern in Lot 3

front of the house to receive its stream and direct it into the conduit running below floor level to the cistern inlet. A comparison might be made with the spill basin and drain above the cistern in the same house.

The second interpretation offers a convenient explanation for the absence of certainly identifiable elements of a downspout; the first is consonant with the general pattern of the use of downspouts on ancient roofs with no compluvium. Drawings of both possibilities are shown (Figs. 27, 28). The evidence for the collection of water at the rear of the houses, however, and the variable trajectory of a spout such as C72.4 make the first the more probable system at the front of the house as well.

Further argument would require more evidence than is available at present. In conclusion it may be noted that lateral simas may also have been used to protect party walls between roofs of different heights and that the Augustan House of the Birds offers an example of a vertical terracotta pipe of round section (page 173).

There is sufficient material to date the remodeling, chiefly potsherds from the fill between the original and later floors of the house, some of which have already been discussed (page 28). The deep construction fill from the north and west corners of the southwest half contained fragments from a variety of black-

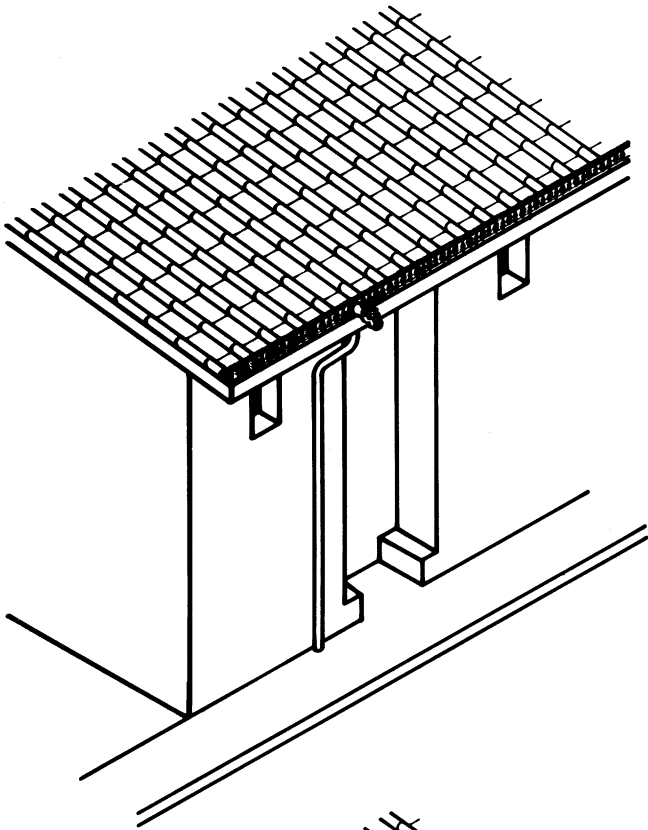


FIG. 27. West Block, Period 1.3: House of Treasure (Q. Fulvius), front eaves water collection system 1

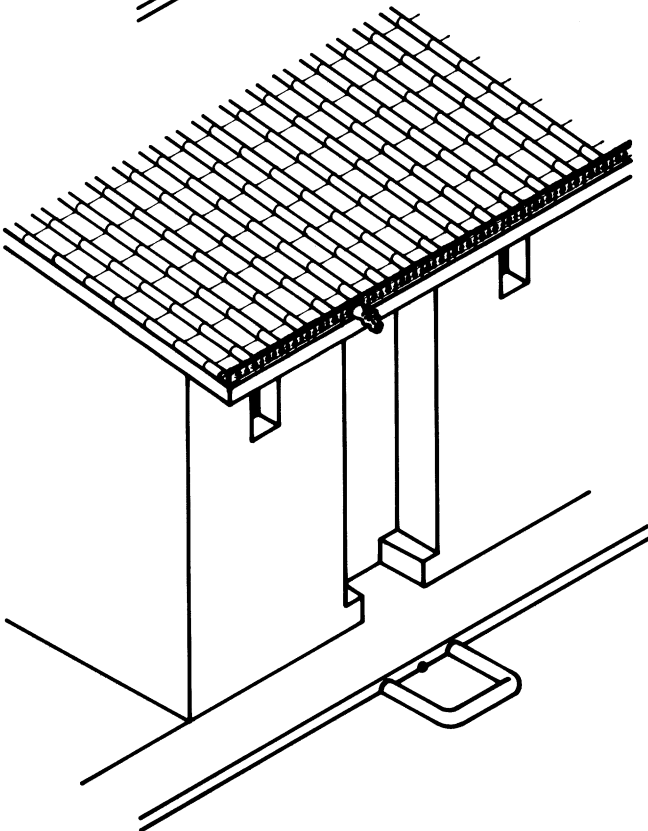


FIG. 28. West Block, Period 1.3: House of the Treasure (Q. Fulvius), front eaves water collection system 2

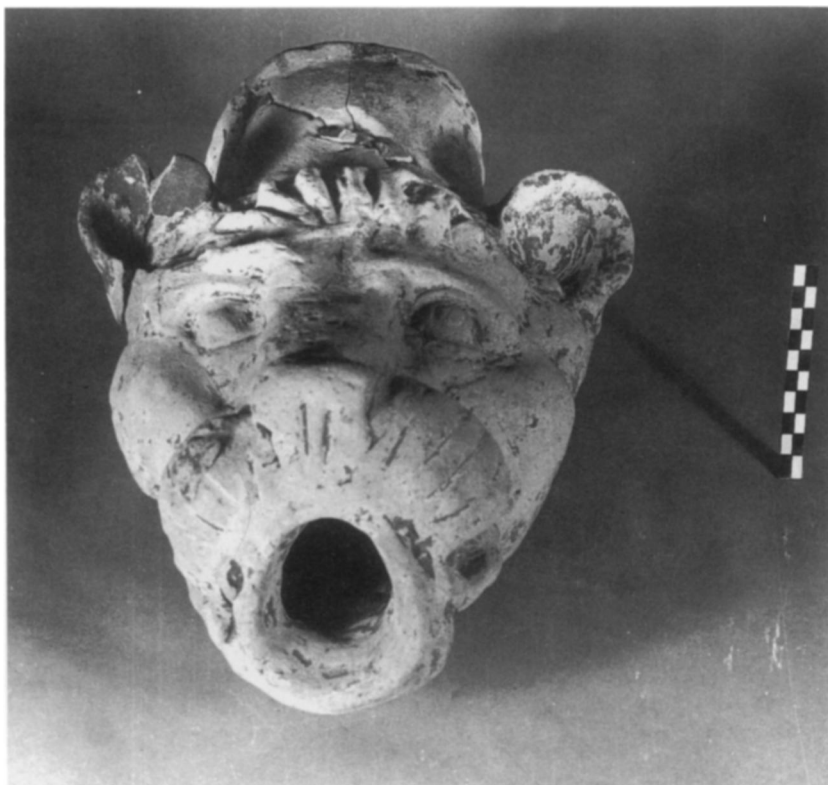


PLATE 47. West Block, Period 1.3: House of the Treasure (Q. Fulvius), water spout

glaze vessels, ranging in date from the late third to the end of the second century B.C.⁸ This date is corroborated by the black-glaze pottery recovered from beneath the brick floor of the bathroom,⁹ while the smaller accumulation of pottery contained in the sediment layer of the cistern takes one into the early first century.¹⁰

The *terminus ante quem* is given by the hoard, which was closed and buried in 72–71 B.C.¹¹ In view of the affinities noted between this house and the House of the Skeleton in the East Block, which is securely dated after 90 B.C. by the evidence of coins, the remodeling may be dated to the same period.¹² Yet, de-

8. Characteristic of the late second century is the Campana B bowl with pointed rim (Lamboglia Form 8b): *Classificazione preliminare*, 148.

9. See A. R. Scott *Black-Glaze*.

10. Among the fragmentary uncatalogued wares from the cistern may be noted a rim fragment of a locally made black-glaze bowl with offset rim and pendant lip (Lamboglia 18/19), a rim and handle fragment of a fine-ware cup, Form 14 (Moevs), and three catalogued pieces of utilitarian pottery:

C66.404, 416, 424. These are a Class 23 cooking pot and one specimen each of two-handled jars, Classes 10 and 11. See *Classificazione preliminare*, 160; Moevs *Thin Walled Pottery*, 75; Dyson *Utilitarian Pottery*, 74, 79.

11. *Buttrey Coins*, 82.

12. The coins (C69.218, C70.448) are semi-uncial *quadrantes* recovered from Room 17 and from beneath the signinum floor of Room 14 in the House of the Skeleton (page 146).

spite the similarities of date and some details of decoration, there are clear differences between the two houses and their owners.

In its location, design, and dependencies, the House of the Skeleton represents a far more radical rethinking of the old house and garden plan observed in Cosa than anything to be seen in the West Block, even though the characteristic design of the old Cosan house can still be traced in it. The arrangement of its tablinum, kitchen, and bath may be cited in evidence. But it was an open house, meant to be seen, explored, and admired. The proportions of its rooms and the character of its garden evoke the class aesthetic of Vitruvius far more clearly than anything in the house of Quintus Fulvius.

Fulvius's house, in contrast, remained traditional and inhospitable, except to those who lived or worked in it. It is difficult not to think of it as belonging to a single family. It had taken up four lots since the second century, and the architectural development seems to show a succession of generations. From the beginning the combination of the house and work yard was the central feature, and it is therefore not so remarkable perhaps that its plan underwent so little change in the course of time (Figs. 29–31).

Quintus Fulvius is the only substantial property owner in the town and its

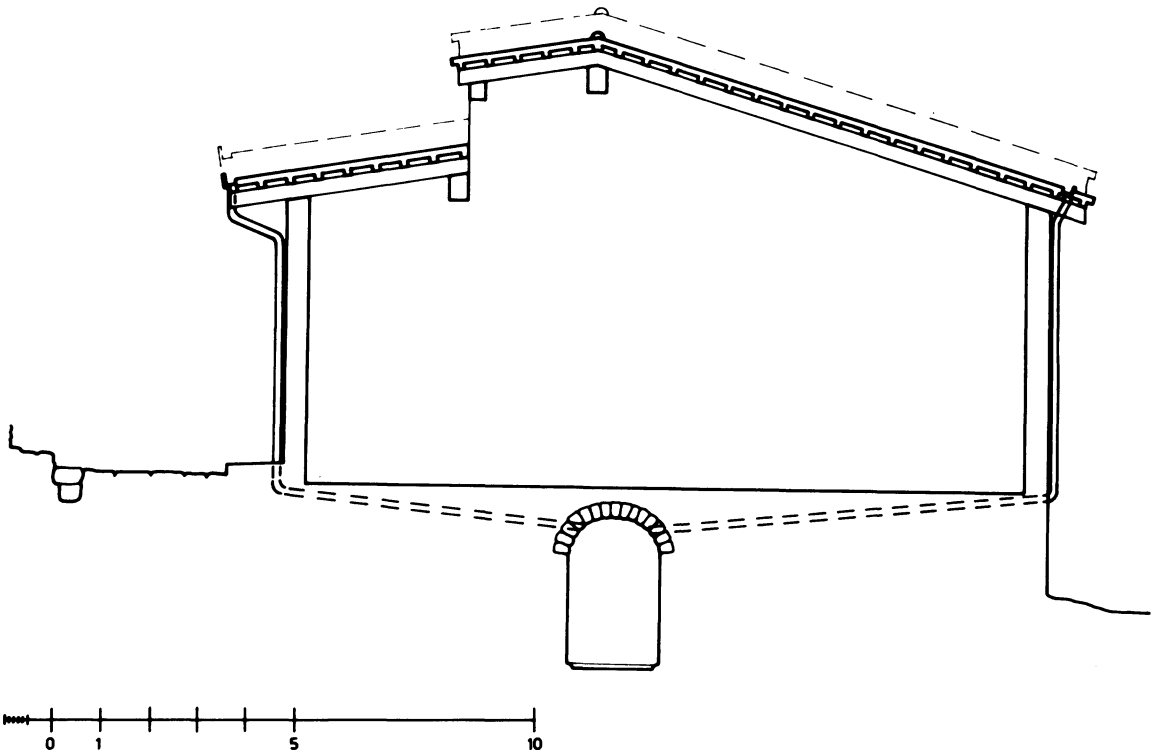


FIG. 29. West Block, Period 1.3: House of the Treasure (Q. Fulvius), restored section/elevation

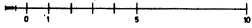
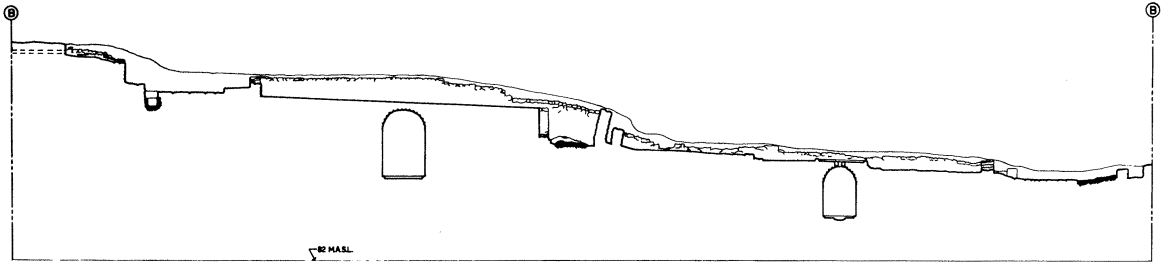


FIG. 30. West Block, Period 1.3: House of the Treasure (Q. Fulvius) and West Quadrant House, north/south section, actual state

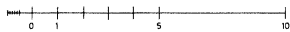
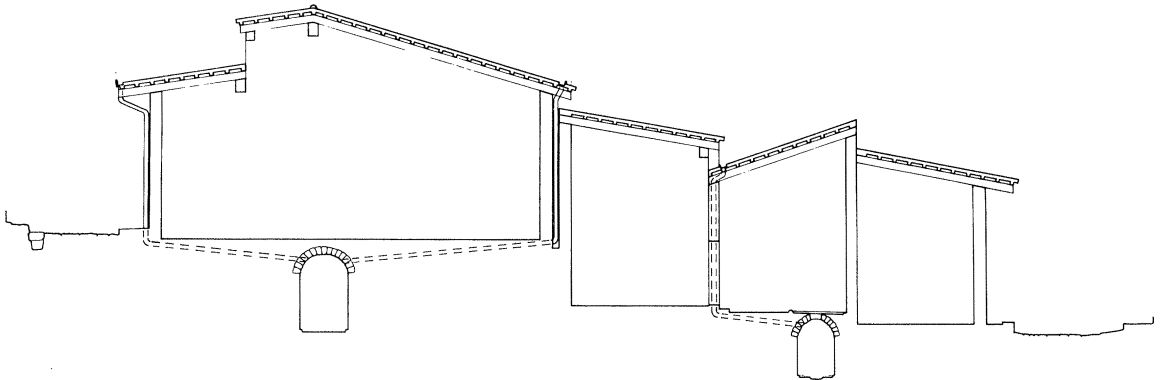


FIG. 31. West Block, Period 1.3: House of the Treasure (Q. Fulvius) and West Quadrant House, restored north/south section/elevation

territory so far known to us by name in this period.¹³ There may be a connection between him and Quintus Fulvius Lippinus of Tarquinia, who achieved notoriety by undertaking large-scale cultivation of snails for profit before the civil war between Pompey and Caesar.¹⁴ After the destruction of Cosa the family of Quintus Fulvius may have established itself in Tarquinia, although the presence of *Quinti Fulvii* in both places independently would not be surprising.¹⁵

13. For the period of Cicero and Caesar there is, of course, the much-discussed Sestius, the bibliography for whom E. L. Will has now collected and reviewed in *JFA* 6 (1979), 339.

14. Sources for Q. Fulvius Lippinus: Varro *Rust.* 3.12.1; Pliny *NH* 8.211, 9.173. He was elevated from equestrian to senatorial rank by R. Syme (*Historia* 4 [1955], 62) solely on account of the existence of a P. Sextius Lippinus Tarquitianus, quaestor of Macedo-

nia in 4 A.C.. He is left with the equites—rightly, I think—by M. Torelli, “*Senatori etruschi della tarda repubblica e dell’impero*,” *DialArch* 3 (1969), 285. But see also I. Shatzman, *Senatorial Wealth and Roman Politics* (*Coll. Latomus* 142 [1975]), 342.

15. On Q. Fulvius’s activities on behalf of the Roman government and his probable equestrian rank, see Buttrey *Coins*, 87.

THE EAST BLOCK, PERIOD 1.3: THE HOUSE OF THE SKELETON

Excavation

The excavation of the House of the Skeleton was begun in the campaign of 1968. The area to be excavated ran along Street M from the south corner of the newly constructed museum compound to the corner of Street 5 and extended southeast into the block along Street M for a distance of 17.50 m (see Fig. 3, page 15). This measurement represented one-half the distance between Streets N and M. The original town plan of Cosa, it will be remembered (page 3), called for a retaining wall dividing the block in half lengthwise, separating the houses built along Street N from their garden plot annexes in the lower part of the block along Street M. In other words, the excavation was in an area that was originally made up of the gardens of older houses.

A sounding made during the course of the 1966 campaign (Pl. 48) produced evidence that in this particular part of the block there had been a departure from the original scheme, and that a building had been built here; eventually a large atrium house was found to occupy the north corner of the block at the intersec-



PLATE 48. East Block, Period 1.3: House of the Skeleton, sounding exposing triclinium pavement, looking NW

tion of Streets M and 5.¹ With its entrance on Street 5, the atrium complex covered two of the original garden lots in the block and part of a third; the remainder of the third garden lot, plus two more, was taken up by one large garden connected with the new dwelling, its orientation, southwest to northeast, at right angles to the original house and garden plots. The overall length of the new property from its entrance on Street 5 to the back wall of its garden was 42.00 m.

Special difficulties encountered during excavation were, first, the recovery of many delicate fragments of a Masonry Style, or First Style, decoration that was

1. The House of the Skeleton has been variously described in earlier reports as an atrium house and as having a courtyard instead of an atrium. See, for example, V. J. Bruno, "A Town House at Cosa," *Archaeology* 23 (1970), 232–41 (courtyard); A. G. Mc-

Kay, *Houses, Villas and Palaces in the Roman World* (Ithaca, N.Y., 1975), 62–63 (atrium). In the final analysis the evidence seems clearly to warrant the conclusion that an atrium was planned, though perhaps never finished (pages 117–19).



PLATE 49. East Block, Period 1.3: House of the Skeleton, triclinium, fallen wall plaster

discovered in the triclinium (Room 11, Pl. 49)² and, second, the recovery of the toppled sections of three rubble masonry columns belonging to a garden porticus, the reconstruction of which would provide a minimum height for reconstruction of the upper parts of the building.

In the sounding of 1966 large parts of the socle of a First Style decoration in the triclinium were found still preserved *in situ* (Pl. 48). These included the lower drafted margins of the orthostats in the main zone of the decoration at a height of 0.70 m above the pavement in the west corner. The uppermost level of the overburden in this room consisted of fallen roof tiles found just below the top-

2. The term "Masonry Style" was first used by C. M. Dawson in his book *Romano-Campanian Mythological Landscape Paintings*, Yale Classical Studies 9 (New Haven, 1944), xiii, 58, 72–75. The older term, "First Style," derived from Mau's classification of mural decorations at Pompeii, in which this system of decoration, involving plaster relief of architectural motifs,

is called "Encrustationstil": A. Mau, *Geschichte der dekorativen Wandmalerei in Pompeji* (Berlin, 1882), 475. Cf. V. J. Bruno, "Greek Antecedents of the Pompeian First Style," *AJA* 73 (1969), 305–17; A. Laidlaw, *The First Style in Pompeii: Painting and Architecture* (Rome, 1985); A. Barbet, *La Peinture romaine* (Paris, 1985), 12–34.

soil, embedded in a hard cap of red-brown earth. Below these, lying helter-skelter, were irregular layers of wall plaster, some facing upward but most down (Pl. 50), mixed with red windblown earth and small unshaped stones, most fist-sized but some larger. The plaster falls were heavier at the northeast and southwest ends of the room, dwindling to 0.27 m above the floor toward the middle of the northwest wall. In many cases relatively large sections had fallen together and were lying in broken but discernible groups up to 0.80 m in length (Pl. 50). A restored section of this decoration is on display in the Cosa Museum. A reconstruc-



PLATE 50. East Block, Period 1.3: House of the Skeleton, triclinium, excavation of fallen wall plaster

tion of the general scheme by A. Laidlaw, who excavated the room, is shown in Figure 34 and fully described by her (pages 133–36).³

The triclinium, when cleared, proved to be connected by a wide doorway to a porticus (Pl. 51). A column stump of rubblework masonry belonging to the porticus was found *in situ* atop a waist-high pluteus separating the garden from the house (Pl. 52). Soon afterward, when column fragments and wedge-shaped stones began to appear in the deposit over the floor of the porticus and adjacent rooms where they had fallen, and later, when two more stumps were found on the continuation of the pluteus, the function of the loggia became clear, and steps were taken for the conservation and reconstruction of the columns.⁴

As the excavation continued northwest over the area of the exedrae and the atrium (Pl. 53), a single large limestone block, 0.65 m by 0.45 m by 0.45 m, was encountered, which later was found to cover the drawshaft of the atrium cistern. When it was removed and the cistern entered, the shattered remains of a human skeleton were found (Pl. 54). This discovery gave the house its name. The circumstances suggest that the body had been thrown into the cistern in antiquity at the time the house was destroyed and the stone set to block the drawshaft when, in the early Augustan period, the area was cleared and leveled to make a kitchen garden and pens for domestic animals in conjunction with the reoccupied houses to the southwest. This was suggested by certain crudely built earth and rubble walls found above the destruction level.

The major rooms had been uncovered by the end of the campaign of 1969. During the next winter the cistern was cleaned and put back into operation, and a fiberglass roof was constructed, supported in part by the reconstructed columns of the garden porticus. The campaigns of 1970 and 1971 were devoted to completing the excavation of the garden, removing the tree barks in Rooms 14 and 17, and clearing the ancient streets along the northwest and northeast sides of the house. Street M was excavated along the northwest flank of the house from the south corner of the museum compound to its intersection with Street 5. In the campaign of 1971 this intersection was completely cleared (Pl. 55).

Street 5 with its sewer was excavated from its intersection with Street M southeastward to the southeast wall of the house founded on the original retaining wall of the site. The pavement of the streets at the crossing is more than a

3. A. Laidlaw excavated this room. In order to keep the groups of related fragments together, she divided the space inside the room into one-meter squares, which were excavated separately. After the top surface of a fall was cleaned, it was photographed and the breaks were outlined on a sheet of tracing paper. The tracing was then reversed and laid on the bottom of a large open box. The fragments were then lifted one at a time and placed on the corresponding part of the tracing. The complete fall could then be taken to the museum and pieced

together. In this fashion Laidlaw was able to recover the basic pattern and dimensions of the various elements of the main zone and the probable positions of the various friezes above. In order to make the final reconstruction shown in Figure 34, the entire pattern was drawn at full scale with the reconstituted parts laid out on the drawing.

4. The method employed in reerecting the columns is described and illustrated by V. J. Bruno (above, note 1).



PLATE 51. East Block, Period 1.3: House of the Skeleton, triclinium and porticus with fragments of fallen columns, looking NE



PLATE 52. East Block, Period 1.3: House of the Skeleton, porticus, pluteus and fallen column, looking NW



PLATE 53. East Block, Period 1.3: House of the Skeleton, reerection of porticus columns, looking SW

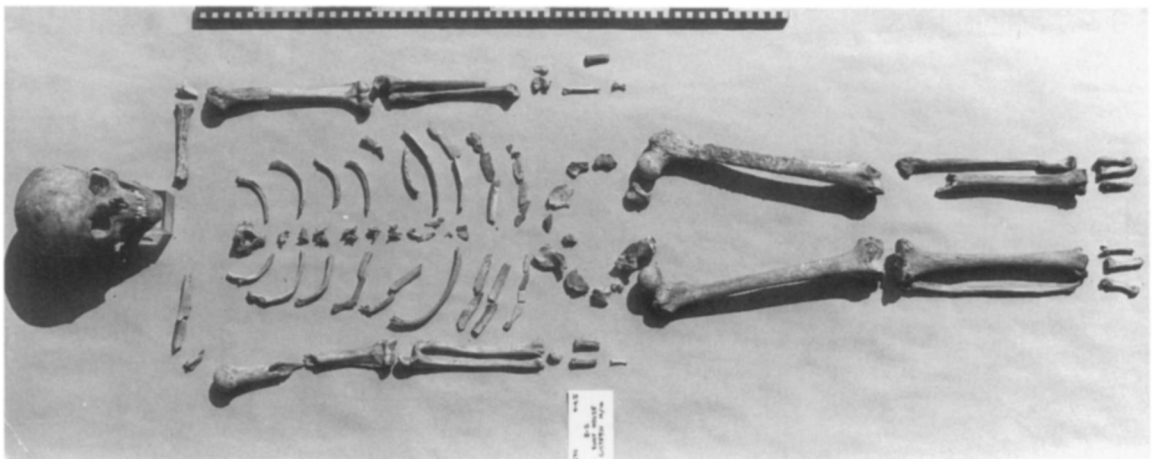


PLATE 54. East Block, Period 1.3: House of the Skeleton, skeleton found in the cistern



PLATE 55. East Block,
Period 1.3: House of the
Skeleton, intersection of
Streets M and 5, looking SW

meter below the level of the pavements inside the house. Here the walls of the house fell outward into the streets and almost nothing remains standing above the foundations. The foundations themselves, however, are well preserved (Pl. 56). Subsequent excavations were limited to small soundings made beneath the pavements of the house to determine its date.



PLATE 56. East Block, Period 1.3:
House of the Skeleton, north
corner foundations, looking SW

Construction

The construction of the House of the Skeleton first required the leveling of the plot by building up a terrace at the north corner and by cutting back the bedrock, which sloped upward from the north to the southeast and south. A sounding in the atrium (Room 19) showed a leveled outcropping of bedrock immediately under the pavement in front of the cubiculum (Room 23) doorsill (Pl. 57). The bedrock was exploited in several ways in the course of construction. The spalled rock provided bedding for pavements, as elsewhere in Cosan houses. In some places it was shaped to make a structural detail. For example, the doorsill be-

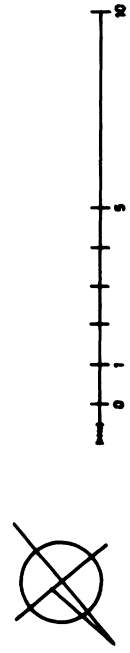
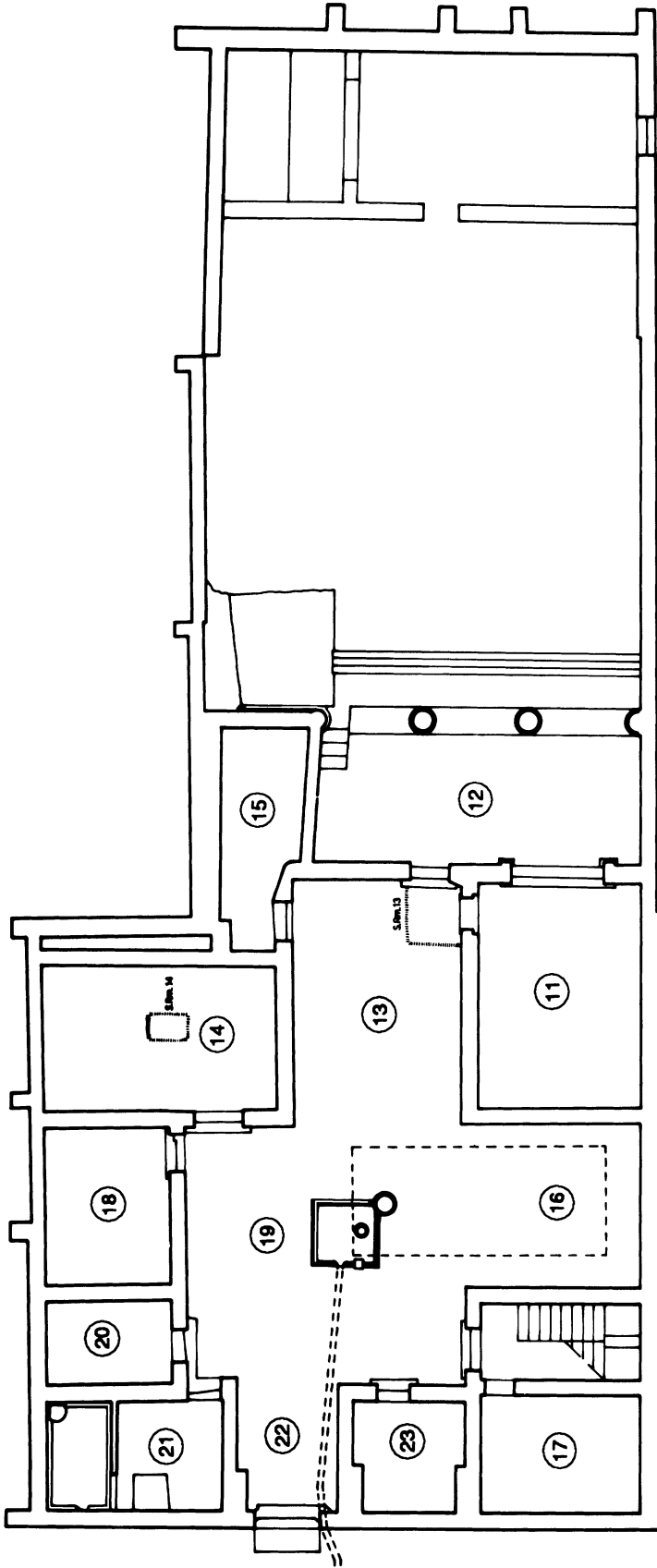


FIG. 32. East Block, Period 1.3: House of the Skeleton, diagrammatic plan

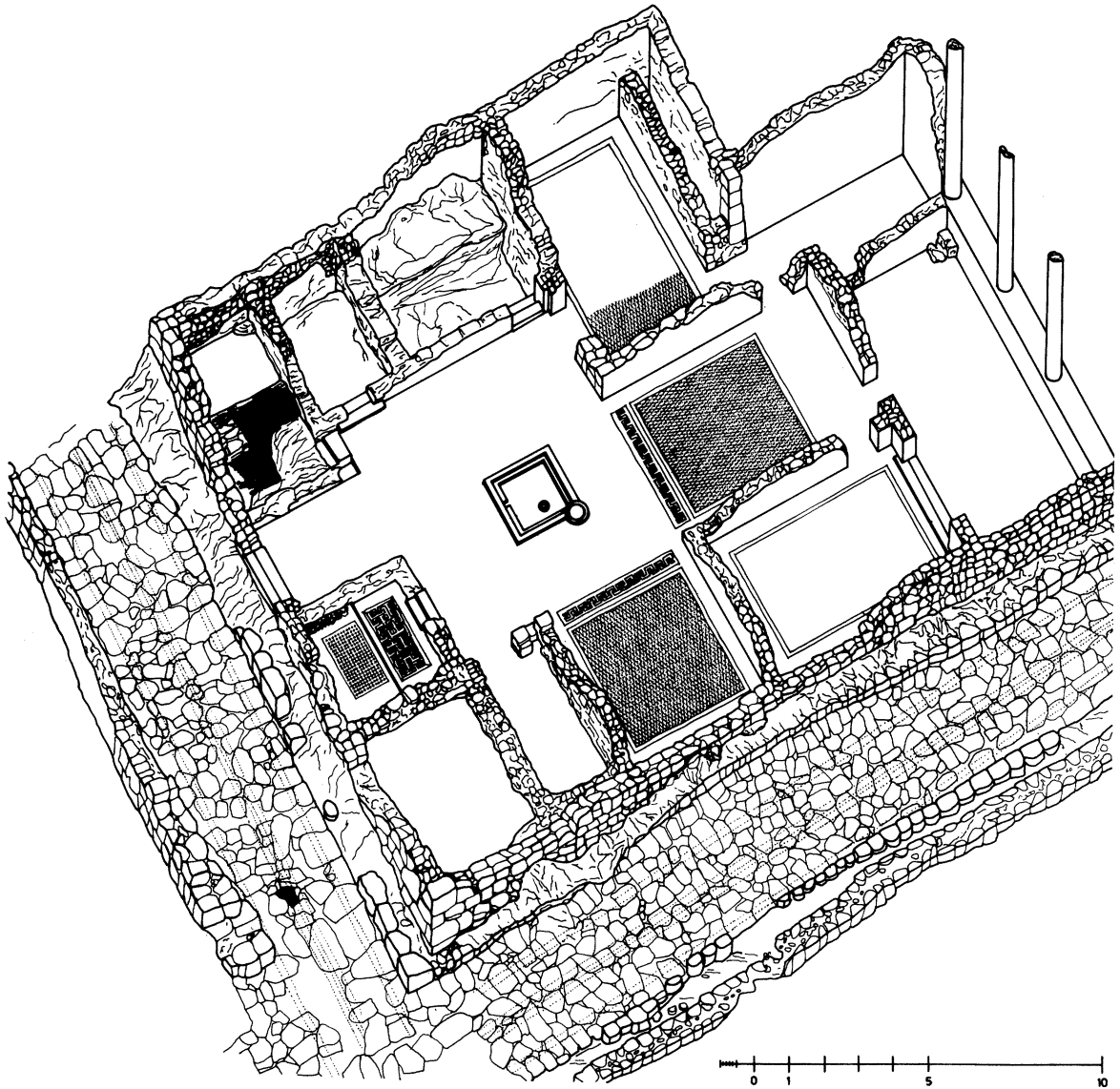


FIG. 33. East Block, Period 1.3: House of the Skeleton, axonometric plan, actual state

tween the *exedra aestiva* (Room 13) and the small *cella* (Room 15) added at the south corner next to the *porticus* is cut in live rock, as is the cold-storage shelf in the larger of the *cellae* (Room 18) between the *culina* (Room 21) and the *oecus* (Room 14). Subterranean features, the cistern and the run-off drain for the *impluvium* were excavated into bedrock and then waterproofed. And outcroppings of bedrock rising above the level of the pavements were allowed to remain wherever they coincided with walls, being actually carved into the shape of wall blocks wherever possible.



PLATE 57. East Block, Period 1.3: House of the Skeleton, sounding in Room 19, looking NE

The walls of the house were constructed in rubble masonry to an average height of about 1.00 m and finished above in mud brick. In his second book Vitruvius describes the type of masonry found in the lower walls of the house in his chapter on wall construction. He is here describing Greek *emplecton* masonry but goes on to say “People nowadays, being eager for speedy building, attend only to the facing, setting stones on end and filling up the middle with broken rubble and mortar.”⁵ This is what is found in the walls of houses at Cosa. Facing stones present an appearance of trapezoidal blocks on the exterior, but within the wall they taper into roughly shaped prisms, leaving large gaps between them that were packed with small rubble and clay. This same clay used as plaster was thickly applied to the surfaces of all interior walls and was then given one or more finishing coats of white lime plaster.

The masonry was different in the quoins, which were strengthened with the use of lime mortar and blocks of stone that are larger and more carefully shaped. In the cold-storage cella (Room 18) the quoins are constructed in a special kind of mortared brickwork, using roof tiles (Pl. 58). On the exterior these roof tiles have the appearance of true bricks, for they were so set that the flanges are flush on the surfaces of the walls, with thick beds of mortar laid up behind the flanges to fill the voids. These quoins afford lightweight but structurally sound support.

On the southeast side of the house the bedrock rose high enough that its outcroppings were either level with the pavements or higher. Where the outcrop-

5. Vitruvius 2.7.7; trans. F. Granger (Loeb Classical Library, London and Cambridge, Mass., 1962), vol. 1, 115.



PLATE 58. East Block, Period 1.3:
House of the Skeleton, Room 18,
quoining in tile, looking NW



PLATE 59. East Block, Period 1.3: House of the Skeleton, north corner foundations,
looking SE

pings were level with the intended pavement, or just below that, the builders simply built directly on it, in some cases working the rock a bit to receive the first course of stones. At the north corner of the house and along the northeast and northwest flanks, where the bedrock falls away, the level had to be raised.

It is at the intersection of Street 5 and Street M that we see this terracing best. The corner is faced with trapezoidal masonry in large blocks, gradually blending into polygonal masonry further to the southwest and southeast. From the corner the trapezoidal masonry extends in both directions for about 2.00 m, the size of the stones diminishing and the shapes becoming more irregular (Pl. 59). The largest block is the one at the base of the corner, measuring 0.78 m in greatest length, 0.45 m in height and 0.42 m in width. The stones in the trapezoidal stretches of the foundation walls on either side of the corner are from 0.55 m to 0.65 m in length and have an average height and width of 0.30 m. The corner block rests on an outcropping of bedrock worked to a level surface.

From this point, following the wall toward the southwest, the bedrock rises gradually, at first replacing the lowest of the four courses of stones, then worked into a series of steps. The blocks that once retained a sidewalk packing are similarly tailored around the conformations of the bedrock and seem to be contemporary with the terracing, although the pavement of the street itself must be earlier, since the vaulted sewers beneath the streets that frame the house evidently antedate the construction of the house.

The use of bedrock in the construction of the house is nowhere more conspicuous than along its southeast flank. Here the old retaining wall dividing the block in half longitudinally was footed on outcroppings of bedrock wherever possible and the outcroppings cut back to bring them in line with the wall above. In other words, the floors and lower walls of the rooms on this side of the building were literally carved out of the rising bedrock shelf. The bedrock portion in the lower walls juts irregularly to heights of up to 1.40 m. The original profile of the bedrock may be seen in the southeast wall of the *culina-lavatio* (Room 21; Pl. 60) and beyond in the southeast walls of the two *cellae* for storage (Rooms 20 and 18; Pl. 61) where the line of the bedrock portion of the wall continues from the *lavatio*, then drops away and reappears again. In Room 18 bedrock was carved into a shelf that was never faced with plaster, as were the walls in Rooms 20 and 21, no doubt because the live rock stays cool in hot weather and would better preserve perishables. Indeed, the floor of this room was dug out to a depth roughly twenty centimeters lower than the other pavements, evidently in order to expose the bedrock throughout the *cella* and increase the cooling potential of the room.

Occasionally the use of the bedrock in the bearing walls must have presented unexpected problems for the builders. The wall between the *oecus* (Room 14) and the cold-storage *cella* has a bedrock face on the *cella* side rising to 1.22 m above the floor, but on the *oecus* side shows a large area of almost pure clay packing, crudely faced with thick storage-ware potsherds pressed into the sur-



PLATE 60. East Block, Period 1.3: House of the Skeleton, lavatio, looking SE



PLATE 61. East Block, Period 1.3: House of the Skeleton, Room 18, rock-cut shelf, looking NE

face. The frequent faults and fissures that characterize the natural limestone often occurred at inconvenient places; here such a fault created a large gap, and the builders took the expedient of filling it with clay.

A special feature of the construction is the thick clay plaster with which the walls are covered. This varies in thickness with the irregularities of the often crudely shaped wall blocks but averages at least five centimeters. Even in the triclinium, with its sophisticated decoration in stucco relief, the undercoat of coarse lime plaster is laid on the same thick layer of clay that covered other walls of the house beneath their final finish.⁶

The masonry of the walls in the House of the Skeleton is preserved in most places to a height of about 0.50 m (Fig. 33). The southeast wall of the *exedra aestiva* with its white plaster finish is preserved to a height of 1.05 m above the floor.

The largest block of stone in the house is the threshold of the main entrance (Pl. 62). A single piece of limestone (2.25 m by 0.65 m by 0.65 m) was set in position in part resting on bedrock, supported at its northwest end on mortared rubblework. A shallow step concealed the lower edge of the leaves. Along this step are the rectangular sockets for the vertical bolts and the circular depressions that would have contained bronze shoes for the pivots of a wide double portal, measuring approximately 1.75 m overall. Thus each leaf of the door measured a little more than 0.875 m. The masonry wall on either side of the doorsill overlaps the sill at the outer corners to secure the timber posts of the massive jambs of the frame.

Behind the doorsill, at the northeast end of the *fauces*, no trace of a pavement was found. A sounding here revealed that a large pit (2.50 m by 1.20 m) had been sunk into the bedrock. The pit was provided with a drain into the street. It seems possible that this was used in the process of construction, perhaps as a vat for mixing plaster and mortar for the walls and floors. At the conclusion of construction this area was finished in all probability with a pavement of stone. If so, this pavement, together with others belonging to the rooms on the northeast side of the house, has disappeared, perhaps reused in the neighboring houses refurbished during the Augustan period (below, Part III).

The columns of the porticus were made of wedges of sandstone with one curved side, like so many slices of pie (Pls. 63, 64), set in lime mortar to form cylindrical shafts. They were then coated with a thick layer of plaster and faceted in octagons that may have been finished with plaster fluting, although no evi-

6. There are examples at Delos of such thick clay plaster as a base for relief stucco decoration in houses of the late second to early first century B.C. Concerning them, Chamonard remarks: "Dans quelques habitations, le mortier de la première couche a été remplacé par un simple mortier de terre, sur lequel était appliqué l'enduit de stuc. . . .

Les décors exécutés dans ces conditions ne comptent pas toujours parmi les moins riches . . . Si surprenant que cela puisse paraître, ces mortiers de terre se sont montrés aussi résistants que les autres." J. Chamonard, "Le Quartier du Théâtre," *Délos* (EAD) 8: vol. 2 (1924), 389.



PLATE 62. East Block, Period 1.3: House of the Skeleton, main entrance, threshold, looking NE



PLATE 63. East Block, Period 1.3: House of the Skeleton, porticus, fragment of column



PLATE 64. East Block, Period 1.3: House of the Skeleton, porticus, fragments of columns, looking SW

dence for this has survived. Faceted columns occur only slightly later at Pompeii in Second Style contexts, as, for example, in the House of the Silver Wedding.

Water Collection and Storage: The Atrium and the Cistern

The presence of an impluvium in the floor of a central space in the House of the Skeleton (Room 19) suggests that it was the intention of the builders to construct an atrium roof, yet no evidence was found for such a roof or for a compluvium. On the contrary, the condition of the pavement in the central space indicated that rainwater had been allowed to fall directly on the floor of what appeared to be a courtyard. When the pavement was cleared, a clearly marked series of drip-lines could be seen defining a large area around the impluvium basin that had obviously been left unroofed, and the area of the pavement thus exposed appeared damaged and rough, in contrast to the pristine polish of the pavement that had been protected by the surrounding eaves (see Pl. 53).

Measurements then revealed that the impluvium, a perfect square, was placed at the exact center of the unroofed square revealed by the drip-lines, and that this in turn was the center of a larger square formed by the plot of land on which the house was constructed. The motif of a square within a square was evidently basic to the conception of the building, and the open area at its center a deliberate part of the plan. Thus an early report on the excavation of the house described Room 19 as a courtyard rather than an atrium.⁷ Our hesitancy to recognize an atrium in this room was the greater because all the other houses of this time in the surrounding area had testudinate, rather than impluviate, atria, and their cisterns were filled by means of gutters and pipes from the eaves. Was there any such thing in Roman architecture as a courtyard house collecting water that was allowed to drip on the floor before being collected in an impluvium? F. E. Brown, describing the house in a lecture, left the matter open, simply saying that, appearances to the contrary, in the House of the Skeleton "the forms of an atrium were not in evidence."⁸

Now in the light of a fuller archaeological picture, the possibility that an atrium was projected for the House of the Skeleton may be reconsidered. As we shall see (pages 146–47), the date for the construction of the house is established by coins of c. 80 B.C. This date separates the House of the Skeleton from the traditional courtyard house of the early colonial period at Cosa by several generations. On the other hand, the construction of this house must have coincided with the first

7. V. J. Bruno (above, note 1).

8. Brown *CMRT*, 68.

appearance in the Ager Cosanus of the classical Roman villa incorporating an atrium and peristyle complex as the core of a residence.

This was the first phase, also dated c. 80 B.C., of what was to become a great “villa schiavistica” at Settefinestre, less than five kilometers from Cosa.⁹ A. Carandini characterized this earliest phase of the villa as the “ideal illustration” of the grandiose *villa perfecta* described by Varro (*Rust.* 3.1.10).¹⁰ It seems very probable that it was such an atrium-peristyle arrangement as that at Settefinestre that inspired a series of drastic alterations in the plan for the House of the Skeleton; its added porticus and enclosed pleasure garden seem to be aiming at the aesthetic of the *villa perfecta* as it was realized at Settefinestre.¹¹

The original plan for the House of the Skeleton was a square, 17.50 m on a side, composed of the garden plots behind two earlier houses whose orientation was toward Street N. The house that was to occupy this square plot was designed with its principal façade on Street 5 at right angles to the orientation of the houses in the original town plan, and it was nearing completion (we know that the floors had been laid and a rear wall started) when three more garden plots behind the original square were acquired to make room for a porticus and garden that had not been part of the original project (Fig. 35; below, pages 138–42; 148–51).

It may have been at this moment that a central space defined by the drip-lines, originally conceived as a courtyard, was to have been converted to an atrium proper to work together with the porticus and garden in a new design. It is equally possible, however, that the atrium was already planned and that the porticus and garden were now added simply to complete the illusion of a splendid villa in the latest cosmopolitan style. This latter possibility seems in fact the more likely, as the impluvium must already have been present in the pavement at the earliest phase in the design. Had the plan been for a courtyard, there would have been no need for it.

Placing the square impluvium in the center of the original square plot was obviously the first thing the architect decided, since everything else in the plan was to be arranged around this arbitrary figure. Before anything else could be done, the excavation of the cistern would have had to be made in the location called for by the impluvium. We may imagine that the design for the atrium roof was set when an interruption in construction was occasioned by the acquisition of the additional plots, for the drip-lines too form the figure of a square, although the walls around the atrium do not. A square frame of beams would have supported the compluvium over the square impluvium, and the fact that the

9. A. Carandini, *Settefinestre: Una villa schiavistica nell'Etruria romana* (Modena, 1985), 15–110. See Figure 55 for a reconstructed view of the atrium-peristyle interior.

10. A. Carandini in *The Seaborne Commerce of Ancient Rome: Studies in Archaeology and History*, ed.

J. H. D'Arms and E. C. Kopff (*MAAR* 36 [1980]), 8.

11. For the importance of Settefinestre in the Ager Cosanus during the first century B.C., see also J. Carlsen, “Considerations on Cosa and the Ager Cosanus,” *Analecta Romana* 13 (1984), 49–58.

drip-lines do form a square is perhaps the strongest proof that an atrium was indeed intended.

Another explanation for the drip-lines is that an attack on the town actually took place while the house was still under construction, with the result that it was, in fact, never lived in at all. The floors and doorsills indeed show very little wear, but they do show some, more perhaps than could be accounted for solely by the traffic of the workmen.

The strongest evidence for a period of occupancy are the indications suggesting a third phase in the construction, certain alterations that could not have been made until the house had been lived in. After the three-columned porticus was finished along the southwest side of the house, the southeast intercolumniation was crudely filled with rubble masonry and a corresponding section of the porticus walled up to create a small, irregular cella (Room 15; Fig. 32). This change must have been in response to some need of daily life pressing enough to override the aesthetic considerations that had inspired the construction of the porticus in the first place. In the final analysis, we may describe the House of the Skeleton as an atrium house, either left unfinished, or completed after an interruption long enough to account for the water damage to the pavement surrounding the impluvium as found. A more detailed account of the evidence is given below (pages 137–46).

As we have seen, the impluvium and its cistern must belong to Phase I of the construction (Fig. 35). A rock-cut outlet drain from the impluvium rim to Street 5, intended to carry off the water used to wash the floors, which would have been swept into the impluvium, resembles analogous drains in the atria of Pompeii. This drain was evidently cut into bedrock along with the impluvium and the cistern as part of the original working of the bedrock that preceded the building of the walls and laying of the floors. The drain, rectangular in section, passed beneath the northeast side of the atrium (Room 19) and under the floor of the fauces (Room 22) and finally under the threshold, emptying into the gutter of Street 5. A sounding in the north corner of the fauces revealed the structure of the drain (Pl. 65). The channel, carved partly out of the bedrock, was lined with a floor and raised collar of signinum and then covered with fragments of roof tile and close-fitting unworked stones. At the impluvium rim the drain was equipped with a draw gate that could be lowered after the impluvium had been cleaned, allowing the water to rise within the basin to the height of a filtered intake that led directly into the cistern below.

The rock cutting for the outlet drain at the basin rim is 0.15 m in width and 0.12 m in depth, and it grows deeper as it approaches the threshold, where it reaches a depth of 0.20 m.¹² A roughly rectangular cutting in the northeast side of the

12. The reading of these features may represent a certain advance on those generally offered for the functions of the impluvium basin with drain to the

street. See, for example, J. Overbeck and A. Mau, *Pompeji* (Leipzig, 1884), 257: "Aus diesem (impluvium) wurde das Wasser in eine Cisterne geleitet,



PLATE 65. East Block, Period 1.3: House of the Skeleton, main entrance, drain to gutter outside at threshold, looking NE

basin near the outlet drain measures 0.25 m on the long side (Pl. 66). It was cut partly into the rim and partly into the pavement of the basin after the basin had been finished and may have been intended for installing some ornament.¹³

The floor of the basin is of herringbone brick, the individual bricks 0.13 m long and 0.035 m thick (Pl. 67). The basin floor is pitched 0.04 m toward the outlet drain, giving it a depth of 0.16 m on the southwest to 0.20 m on the northeast. The atrium floor surrounding the impluvium is also pitched toward the basin rim to facilitate cleaning.

aus der man es zum häusliche Gebrauch schöpfte und welche sich oft unter einen grossen Theil des Atrium erstreckt. Ausserdem aber hat das Impluvium regelmässig einen zweiten Abfluss durch eine bedeckte Rinne, welche unter dem Ostium hindurch auf die Strasse führt. Vermuthlich kam dieselbe nur dann zur Anwendung, wenn unreines, zu häuslichen Zwecken gebrauchtes Wasser entfernt werden

sollte, oder wenn man das Atrium reinigte. Alsdann wurde das Abflussloch zur Cisterne durch einen Stein geschlossen." Our reading is corroborated in part by the other evidence for water filtration in the East and West Blocks, which has already been described (pages 68–69 and 90–92).

13. See, for example, Overbeck-Mau (above, note 12), 320 (House of Vedius Siricus).



PLATE 66. East Block, Period 1.3: House of the Skeleton, impluvium, rectangular cutting and outlet gate, looking NW



PLATE 67. East Block, Period 1.3: House of the Skeleton, impluvium, floor of herringbone brick

At the west corner of the basin on the midline of the cistern at its southeast end is the drawshaft, 0.50 m in diameter. The excavation of bedrock for the cistern was carried to a depth of four meters below the level of the pavement above. The cistern was given a segmental vault of limestone blocks creating a reservoir 2.80 m in depth to the spring of the vault (3.25 m to the keystone), 7.00 m in length, and 3.00 m in width, having a capacity of approximately fifty-eight cubic meters (Pl. 68). The axis of the cistern lies northwest-southeast beneath the atrium and the exedra hiberna. The drawshaft, from the intrados of the vault to the pavement above, measures 0.75 m in depth.

The interior of the cistern is coated with smooth, white, virtually watertight plaster so well preserved that only a little patching was necessary to put it back into use. The fiberglass roof now protecting the building collects rainwater as its



PLATE 68. East Block, Period 1.3:
House of the Skeleton, cistern,
interior

counterpart did in antiquity, and the cistern today provides water for washing the pavements and watering the garden.

The Culina and Lavatio and Related Rooms

The culina-lavatio in the east corner of the house is a typical example of the republican Roman kitchen-bath combination. Although many of the larger worked stones from the walls in this part of the house were evidently carried off for use elsewhere, dressed bedrock outcroppings mark the location of walls and other features where the blocks themselves have vanished.

The overall dimensions of the combined kitchen and bath (Room 21) are 3.00 m by 4.85 m (Pl. 69). The rooms form the east corner of the house on the southeast side of the fauces. Next to them in the same corner of the house is a



PLATE 69. East Block, Period 1.3: House of the Skeleton, kitchen and bath, looking SE

smaller room, a cella (Room 20) that was undoubtedly a second kitchen, an additional work and storage space separate from the heat of the fires in the *culina*. Adjacent to this second kitchen, also on the southeast side of the atrium, is a large *apotheca* with a rock-cut shelf (Room 18), intended as a cold storage for the keeping of perishables. These three rooms provided an appropriately varied sequence of spaces for the culinary needs of the household. The pavement of the *culina* surrounding the hearth platform was of terracotta cubes. The floors of the two cellae are irregular, largely carved from bedrock, and were probably leveled with rammed earth.

The entrance to the *culina* is through a narrow doorway, the doorsill cut in a single L-shaped block with the doorsill of the second kitchen. Along the northeast wall of the *culina* is preserved part of the first course of stones for the hearth platform characteristic of the Roman kitchen, its measurements being 1.00 m in width by 1.60 m in length. The floor paved with tile sawn in cubes is raised 0.25 m above the level of the doorsill, but the stone step between is missing, like so many other stone blocks at this end of the building.

A drain in the north corner of the kitchen area to the left of the hearth platform as we face it lies just above the bedrock beneath the pavement of tile cubes. It is not connected to the sewer under Street 5, as is the bathroom drain, but emptied into the gutter of the street.

The bath area occupied the southeast end of the room, its northwest side abutting on the side of the hearth platform. Although no trace of the partition between remains, its location and thickness are clear from the excellent preservation of the pavements to either side (Pl. 70, where the tile pavement of the kitchen has been restored). On the kitchen side the tile cubes of the pavement end along a line 0.15 m from the edge of the *signinum* cover-joint where the bathroom floor begins. In the intervening space is an unpolished coating of plaster that was covered with a sheet of lead, a fragment of which, 0.08 m wide, was found *in situ*. On this sheet probably rested a screen framed in wood, perhaps with a sliding door giving access to the bath.

The *signinum* flooring of the bathroom, with its cover-joint reaching a height of 0.10 m around the room, is in effect a raised basin that slopes gently toward a drain in the northeast wall (Pl. 71). In the south corner of the room is a broad low ledge five centimeters high, a quarter-circle in shape, measuring 0.45 m in diameter. The ledge is molded into the *signinum* of the floor and the cover-joint (Pl. 72). Since the floor itself slopes toward the drain, this ledge provides a level base on which to set a water jar.

Most of the houses excavated at Cosa have individual soak-away pits for the disposal of wastes. Sometime, perhaps in the mid-second century B.C., a series of public sewers was completed and became available to the houses of the northwest slopes.¹⁴ Thus when the House of the Skeleton was built in the early

14. See Brown *CMRT*, 42 and fig. 50.



PLATE 70. East Block, Period 1.3: House of the Skeleton, kitchen and bath, robbed-out partition wall, looking NE

first century B.C., it could be linked into the public sewer system. For this reason the house has no soak-away pit connected with its bathroom, a fact that seemed surprising until the streets around the house were excavated and the sewers beneath them came to light. The sewers under the excavated portions of Streets 5 and M are rock-cut channels with fitted cover slabs consisting of a heavy key-stone wedged between two broad slanting stones to make a rudimentary vault (Pl. 73). The sewer under Street M is visible in Plate 55, where three of the cover slabs are missing.

Drainage for the bath was through a large, specially molded pipe running through the northeast wall at pavement level and into a rock-cut channel under the street beyond the wall. This channel emptied into the main sewer beneath



PLATE 71. East Block, Period 1.3: House of the Skeleton, bath, looking NE



PLATE 72. East Block, Period 1.3: House of the Skeleton, bath, south corner, looking SW



PLATE 73. Street 5 with sewer under it, looking NW

Street 5. The bathroom pipe has a flaring mouth finished with a rim with a maximum diameter of 0.27 m. The cover-joint and pavement of the bathroom floor are depressed and molded to fit the mouth of this pipe. The pitch of the floor toward the drain is greater around the mouth of the pipe, and water spilled on the floor would drain off rapidly. The pipe, as it passes under the wall, is 0.14 m in diameter, widening to 0.17 m. At the opposite end the pipe has a flange rather than a flaring end, with an outer diameter of 0.27 m.

Beyond the wall the pipe enters the rock-cut channel, a cutting measuring 0.38–0.40 m in width and depth at the house end, widening to about 0.50 m as it approaches the main sewer, which slopes down from southeast to northwest under Street 5. The cover slabs of the channel connecting the bathroom pipe to the sewer are simply the large limestone paving blocks of the street appositely set for this purpose. The channel follows an oblique line to the north following the downward slope of the hill to ensure an efficient flow.

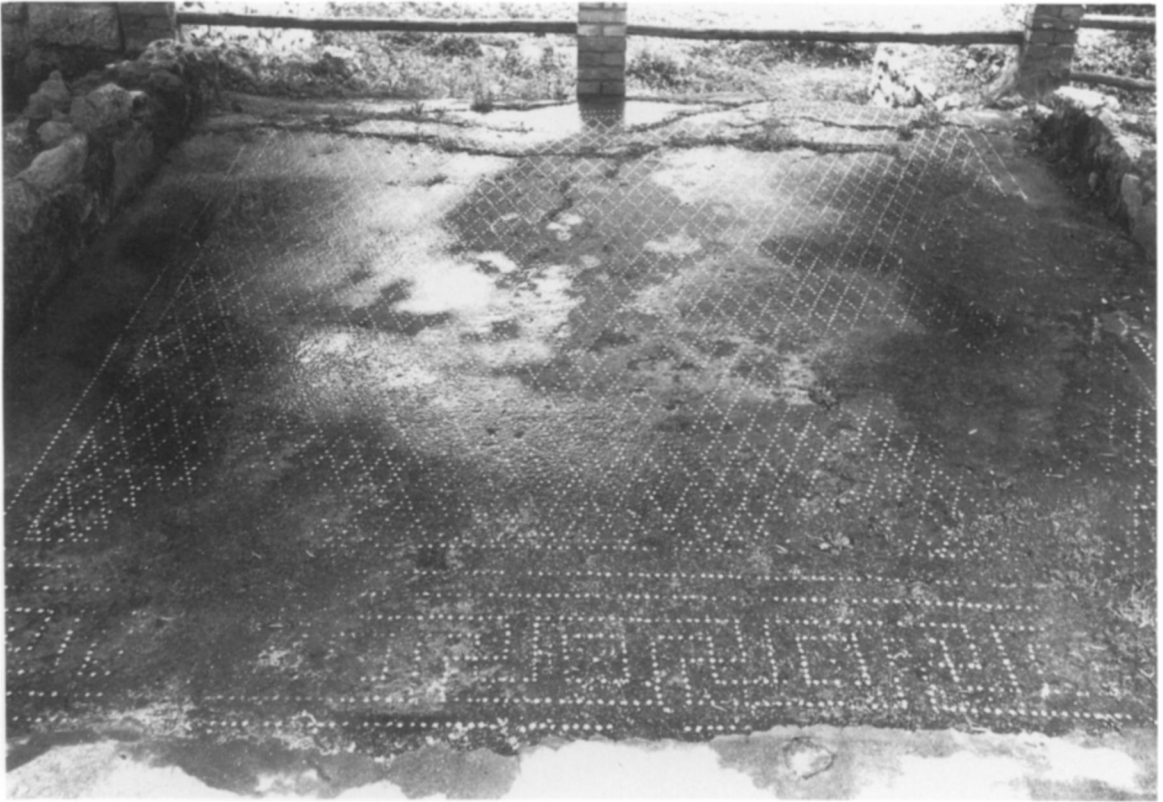


PLATE 74. East Block, Period 1.3: House of the Skeleton, Room 16, pavement, looking NW

Decoration: The Pavements

Except for the utilitarian pavements in the *culina-lavatio* described above, the major rooms in the house are paved in the hard red *signinum* decorated with *tesserae* and polished typical of late Hellenistic houses throughout the Mediterranean (Pls. 74–76). The *signinum* takes its color from the crushed terracotta with which the mortar was mixed. M. E. Blake describes this as “brick aggregate.” Floors of this type are found regularly at Pompeii in rooms with First Style decorations and belong to the earliest group in Blake’s classification of Roman pavements.¹⁵ In some cases, instead of squared *tesserae*, irregular chips of limestone were thickly sprinkled over the surface of the *signinum* to make a kind of *lithostroton*. An example of such a pavement in the House of the Skeleton is found in the *triclinium* (Room 11; Pls. 48, 76) where black *signinum* (“lava *signinum*”) was used in place of red. When *tesserae* are used, the shank of each is set into the mortar base so that only the square end shows on the surface, as in

15. M. E. Blake, *The Pavements of Roman Buildings of the Republic and Early Empire* (MAAR 8 [1930]), 25–31.

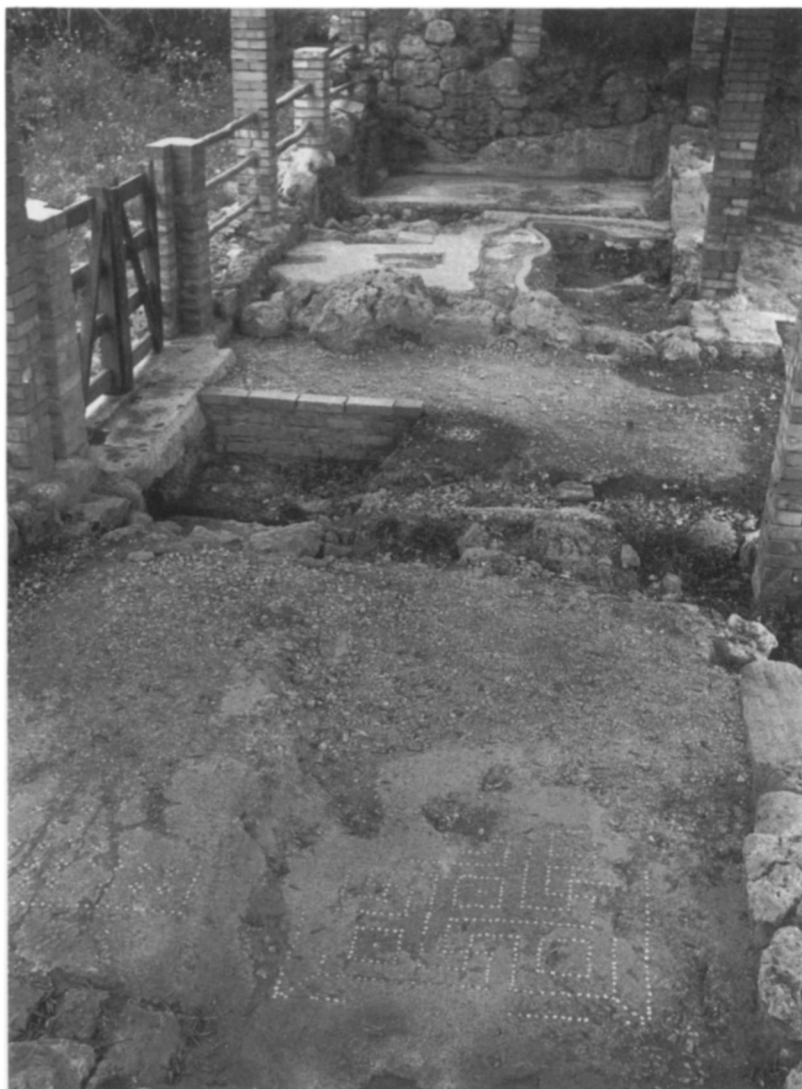


PLATE 75. East Block,
Period 1.3: House of the
Skeleton, Room 23,
pavement, looking SE

mosaic. These tesserae, averaging 0.01 m to a side, are aligned corner to corner to form lines in various patterns.

In the atrium the tesserae do not make a geometric pattern but are an irregular scattering. They are unusually large, some of them as much as 0.02 m square, and they are very widely spaced, from 0.20 m to 0.36 m apart. Between these are sprinkled occasional smaller chips of white limestone and a few black limestone tesserae of the one-centimeter size. In this type of pavement with the large, widely spaced tesserae in nongeometric scatterings, the color in the terracotta aggregate of the signinum is usually also varied with clustering of large and small fragments ranging from the darkest and brightest burnt reds to soft grayish pinks and umbers, giving the floor a rich texture.



PLATE 76. East Block, Period 1.3: House of the Skeleton, triclinium, pavement, looking NE

The porticus has a similar pavement. There we find a haphazard scattering of black and white tesserae following no geometric pattern. The tesserae are smaller, measuring 0.01 m or less on a side, but still rather widely spaced.

In contrast to the porticus and the atrium, the floors of the three major living rooms, the two exedrae (Rooms 13, 16) and the large women's oecus (Room 14), show an ordered geometric design. The main decoration in all three floors is a central panel of lozenges framed by a border, as in the exedra hiberna (Pl. 74). Such floors are found at sites widely separated geographically.¹⁶ In the oecus each lozenge in the network measures 0.11 m wide by 0.23–0.24 m long. In the two exedrae the lozenges are smaller, c. 0.09 m by 0.22 m. The framed networks are placed in the floors so as to leave an undecorated margin between the outer frame and the wall. These margins are approximately 0.30 m wide.

In the two exedrae the margins across the openings to the atrium are filled

16. For example, at Paestum and at Glanum, where opus signinum pavements with designs in tesserae are datable to the second and first century B.C. (C. Goudineau, *Princeton Encyclopedia of Classical Sites* [Princeton 1977], 356 s.v. "Glanum"). Kher-

kouan in Tunisia has pavements with scattered tesserae, as in the atrium and porticus of the House of the Skeleton, but with the tesserae much more thickly clustered so as to form a dense carpet. The Paestan and Kherkouan floors are unpublished.

with a second design, a maeander border, and it is perhaps indicative of the subtlety of approach of the ancient decorators that the maeander borders leading into the two exedrae are not identical. The maeander in the opening of the exedra hiberna (Room 16; Pl. 74) is designed on a special principle with a row of six closed squares around which the continuous interlacing of the maeander makes a series of interlocking swastikas. Such maeanders of squares and swastikas are common at Pompeii (e.g., I 13.2; VI 15.5).

The maeander border in the opening of the exedra aestiva (Room 13) has no closed squares but is a continuous, uninterrupted series of interlocking swastikas ending with half a swastika at either end. Each maeander border measures c. 0.45 m in depth, including the frame, and they extend across the exedra openings like doorsills.

The cubiculum (Room 23), c. 3.00 m square, to the northwest of the fauces also has a decorated signinum pavement (Pl. 75). The pavement is divided into two parts. An inner portion for a bed raised a low step above the rest has a design of crosses, each one formed of four white tesserae around a single black one. The rest of the room has another maeander pattern of interlocking squares and swastikas.

The most unusual floor is that in the triclinium (Room 11), where the ubiquitous red is varied by a handsome pavement of black signinum strewn with a thick scattering of white limestone chips set off by a mosaic band in black and white tesserae with a margin 0.45 m wide between this band and the walls (Pl. 76). This margin is nine centimeters narrower on the side of the room toward the porticus. The mosaic band itself is slightly more than twelve centimeters wide, consisting of double rows of white tesserae enclosing a broader stripe of eight rows of black. The white stripes are 0.02 m wide, the black 0.08 m. The scattering of white limestone chips in the black signinum includes some as much as 0.03 m long, while others are only the tiniest bits, and the dense scatter lightens the black signinum in contrast to the plain black of the mosaic band. Pavements in many respects similar to this are to be found in the Villa of the Mysteries and other houses at Pompeii.¹⁷

Decorations: The Walls

Wall plaster is preserved *in situ* in seven rooms. The largest patches still attached to the walls are in the southwest part of the house. In the large oecus off the

17. See Rooms 46 and 47 and the portico in the Villa of the Mysteries: A. Maiuri, *La Villa dei Misteri* (Rome, 1931), I, 209ff. and figs. 90, 91. Cf. M. E. Blake (above, note 15), 52ff. and fig. 11; E. Pernice, *Pavimente und figürliche Mosaiken* (Die hellenistische

Kunst in Pompeji 4 [Berlin, 1938]), pl. 21.5 (Villa of the Mysteries) and pl. 23.2 (Pompeii VII 6.3). For a parallel for the black and white crosses of the cubiculum (Room 23), see Pernice, *Pavimente und figürliche Mosaiken*, pl. 26.5 (Pompeii VII 2.16).

south corner of the atrium (Room 14) there is a patch preserved to a height of 1.14 m, but its smooth white polished surface is barely visible beneath a heavy lime incrustation. In the cella next to the porticus (Room 15) and in the porticus itself (Room 12), especially the latter, there are considerable areas of well-preserved plaster showing no trace of color. In the porticus between the steps leading into the garden and the center column the plaster is preserved to the full height of the waist-high pluteus (0.82 m), where the ledge on which the columns stand rounds off into the vertical wall (Pl. 52). It is a fair assumption that all these rooms—the oecus, cella, and porticus—were finished in plain white.

The same holds true for the exedra aestiva, where there is well-preserved plaster along both the northwest and southeast sides of the room and along the back on the southwest wall. The preserved patches reach a maximum height of 0.77 m on the southeast wall, 0.92 m on the southwest, and 0.40 m on the northwest. Here again the surface is polished and virtually unblemished in places and must be a wall finish, yet there is no trace of color. In the culina, where no plaster remains *in situ*, the overburden contained fragments of plaster painted red that undoubtedly came from its walls.

In the exedra hiberna, though the average height of preservation of the walls is hardly more than 0.35–0.40 m, there is preserved part of a fine example of an incised-line decoration of the type known from houses at Delos, Colophon, Olynthos, and Pompeii.¹⁸ The preserved portion of this decoration shows a red band along the base of the wall, 0.10 m high, separated by a V-shaped incision from a zone of large white rectangular panels. The panels are defined by incised grooves painted red. The panels vary from 0.98 m to 1.00 m in length. The grooves are skillfully executed, with an effect of fine craftsmanship. The height of the panels is not known.

In the cubiculum next to the fauces (Room 23) were found small fragments of plaster painted purple *in situ* along the base of the northwest wall of the room, which is otherwise totally destroyed. Fragments of this same purple finishing coat were found in the shallow deposit within the room, together with other fragments of a First Style decoration with elements in relief. The purple in one of these fragments was bordered by a red margin, separated from it by an incised groove. In another fragment this combination of elements was in turn combined with raised panels painted with marbleizing. Panels with large blotches of dark red over a yellowish ground alternated with others with similar blotches in two shades of green. Above these ran a string course with no trace of color preserved. Thus we may envisage a richly colored Masonry Style decoration in the

18. For incised designs at Delos, see J. Chamonard (above, note 6), 365ff. and figs. 223–28. Chamonard refers to these designs as “décors à simple refend.” For Colophon, see L. B. Holland, “Colophon,” *Hesperia* 13 (1944), 137–38. For Olynthos, see D. M. Robinson, *AJA* 39 (1935), 229. Cf.

V. J. Bruno (above, note 2), 312ff. For examples at Pompeii and a discussion of the grooved technique itself, see A. Laidlaw (above, note 2), 23 with plates 37a and 88a; A. Barbet and C. Allag, “Techniques de preparation des parois dans la peinture murale romaine,” *MEFRA* (Antiquité) 84.2 (1972) 1052–54.

cubiculum, characterized by dark purple elements contrasting with the bright marbled panels framed in red.

The triclinium (Room 11) had the most elaborate decoration in the house (Fig. 34). Elements of its decoration from the upper wall were preserved in fragments recovered in the overburden; elements from the lower wall are preserved *in situ* to the top of the socle on all four walls and to a height just above the lower double drafting of the orthostats in the main zone in the south and west corners of the room (Pls. 77,78). Thanks to the excavation procedure followed in this room by A. Laidlaw (page 103, note 3) it has been possible to reconstruct the overall pattern to the top of the main zone with precise dimensions; only the height of the orthostats is conjectural. The reconstruction of that height is based on the proportions in a very similar decoration in the Alexander exedra in the House of the Faun in Pompeii. The following description of the reconstruction of the First Style design of Room 11 (see Fig. 34) was contributed by A. Laidlaw:

The pattern of the relief frieze above the orthostats of the main zone was reconstructed by piecing together large numbers of fragments found in the overburden above the floor along the northwest wall and then correlating the distance between its vertical divisions with those still *in situ* in the socle. The relation between this frieze and the orthostats is conjectural but probably correct, as is the location of the string course painted with garlands and erotes above it. The isodomic arrangement of the relief panels in the upper zone above these elements is based on a few fragments with drafted corners painted in cinnabar and on analogy to a number of similar decorations in Pompeii. Although no trace of one was found in the triclinium itself, it is highly probable that the decoration was finished at the top with a dentil molding; this is standard in First Style decorations at Pompeii, and fragments of dentil moldings have been found in context with fragments of First Style plaster elsewhere at Cosa.¹⁹

The socle is divided by vertical grooves into rectangles alternately red and purple, 0.94–0.98 m long by 0.48–0.50 m high. At the ends of the walls these rectangles are half the modular length, appearing to fold around the corner. Above the socle, the main zone consisted of marbled orthostats, 0.85 m wide, centered over the grooved joints of the socle. The marbling is done in an alternating sequence of irregular red and green blotches on a yellow ground (a common pattern in both Cosa and Pompeii) and has double drafts, 0.035–0.05 m wide, the inner one marbled,

19. For example, in the excavation of the Basilica (cat. nos. 1–36, pls. 12–20): A. Laidlaw, "The Painted Decoration of the Cosa Basilica," Ph.D. dissertation, Yale University, 1963; and especially in the deposit south of the Capitolium, which was excavated in 1965–67; A. Barbet, *La Peinture murale*

romaine (Paris, 1985), 26 with fig. 13; V. J. Bruno (above, note 2), 305–6, pl. 68, figs. 3–6; idem, "Fragments of a Temple Decoration from the Arx at Cosa," *AJA* 73 (1969), 232 (summary of a talk at the 70th General Meetings of the Archaeological Institute of America in Toronto).



PLATE 77. East Block, Period 1.3: House of the Skeleton, triclinium, south corner, painted plaster decoration, looking SW



PLATE 78. East Block, Period 1.3: House of the Skeleton, triclinium, west corner, painted plaster decoration, looking SW

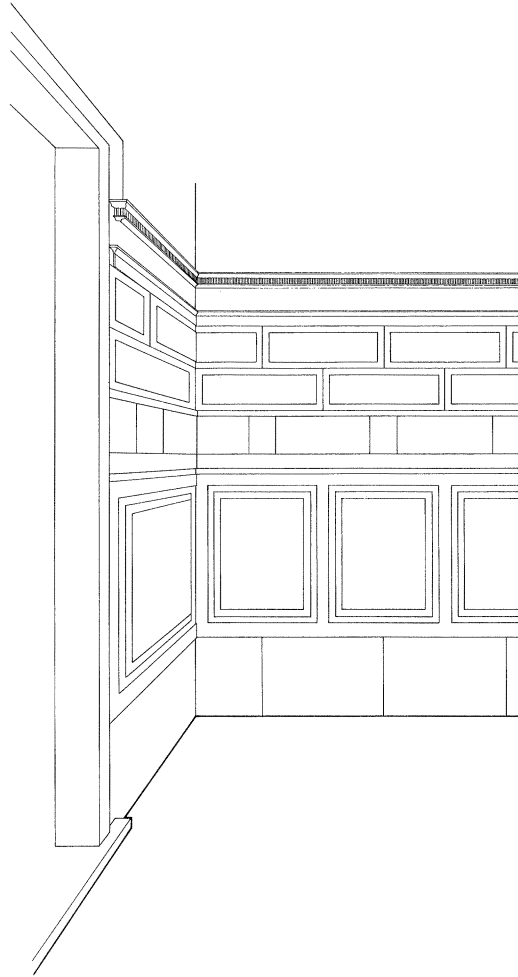


FIG. 34. East Block, Period 1.3: House of the Skeleton, triclinium room 11, decoration in First Style, restored by A. Laidlaw

the outer red. Each orthostat was surrounded by a frame in relief, 0.075–0.085 m wide, decorated with a brightly painted garland colored red, yellow, white, and green on a black ground.

Above the orthostats was a slightly projecting frieze zone, 0.36 m high overall, composed of alternating long horizontal and short vertical rectangles (the short ones 0.14 m by 0.215 m) set off by grooves from a green maeander band 0.08 m high below, and a narrow green fillet 0.02 m high above. The horizontal rectangles were painted in imitation of alabaster and the vertical ones were red, the latter presumably centered over the vertical divisions of the socle to accord with the isodomic pattern. This combination of elements was evidently common in First Style walls at

Cosa, since fragments of similar friezes with green fillet above and maeander below have been found in both the Basilica and a dump excavated on the Arx. In the modern restoration the string course with undulating garland and winged erotes has been put above two isodomic courses of relief panels marbled and framed with red drafts, just below a crowning dentil cornice.

The best parallels for the decoration of the triclinium are to be found in the House of the Faun at Pompeii. The surprising variety of ornamental friezes—garlands, maeanders, winged erotes—is more common in Delos, though garlands and maeanders also occur in Pompeii.²⁰

Of particular interest is the treatment in the south and west corners of the room: in the south, the vertical frame between orthostats is complete on the southwest wall but is omitted on the southeast, and on that side the relief is reduced to grooves; in the west corner, both orthostats are properly drafted, but again the one on the southwest wall is finished with a single narrow vertical red draft in place of the relief frame with the painted garland. This alternation of vertical elements at the corners can be paralleled at Pompeii (for example, in the House of Sallust and the House of the Faun) and seems to be the earliest treatment of corners in the First Style. Its use in the House of the Skeleton in Cosa in the second or third decade of the first century B.C. is late in comparison with the Pompeian examples.

It is worth noting that in the wall decorations of the house we find examples of both incised and relief technique for masonry designs. The incised line decoration of the exedra hiberna must belong to Phase I, but the relief decoration in the triclinium, though it seems to have been a redecoration of the room, could not have been significantly later in date than the incised decoration of the exedra. Thus the evidence here suggests that the two techniques might be employed in fine rooms within a single house and that the incised line technique is not necessarily an earlier version of the relief technique, a theory expressed by F. Wirth in connection with his study of the First Style at Athens, although Chamornard had already shown that the two techniques coexist in the same houses at Delos; the evidence in the House of the Skeleton supports Chamornard's conclusion: "Ces deux catégories de revêtements ne sont que deux variétés d'un même type," for it illustrates the coexistence of the two techniques in adjacent rooms, and further, the manner in which they may be combined in the same decoration,

20. There is a color reproduction of a fragment of the garland with one of the erotes preserved shown in comparison with a similar design from Delos in V. J. Bruno (above, note 1), 236. In the caption, left and right are reversed: the example from Cosa is on the left. See U. Pappalardo, "Il fregio con eroti fra

giralli nella 'Sala dei Misteri' a Pompei," *Jdl* 97 (1982), 251–80, for a general discussion of this type of frieze. The examples at Delos are discussed by V. J. Bruno, *Hellenistic Painting Techniques: The Evidence of the Delos Fragments*, Columbia Studies in the Classical Tradition 11 (Leiden, 1985), 15–21, pls. 1 and 2.



PLATE 79. East Block, Period 1.3:
House of the Skeleton, Room 14,
southwest wall with northwest wall
of neighboring house, looking SW

as in the triclinium, where the socle of red and purple panels divided by means of incised lines supports an unusually elaborate First Style scheme with prominent reliefs.²¹

Design

It has been observed in connection with the evidence for an atrium (pages 117–19) that the House of the Skeleton shows two contrasting styles of construction

21. F. Wirth, "Wanddekorationen ersten Stils in Athen," *Mitteilungen des Deutschen Archäologischen Instituts, Athenische Abteilung* 56 (1931), 35; J.

Chamonard, *Délos* 8, vol. 2 (1924), 359. Cf. V. J. Bruno (above, note 2), 311–12.



PLATE 80. East Block, Period 1.3: House of the Skeleton, earlier garden steps, looking SW

reflecting two major phases of development: first, an unpretentious arrangement of functional spaces around an atrium, based on the figure of a square within a square, and, second, an enlargement of this simple plan by the addition of a garden and colonnaded porticus at the back of the structure, the reportioning of the *exedra aestiva* (Room 13) and the *triclinium* (Room 11) and the redecoration of the latter (Fig. 35, 1 and 2). We must now consider the archaeological evidence that shows there were in fact two distinct phases in order to comprehend the unique character of the finished design, which began as a centralized plan but was changed by the addition of various features to become in effect an axial one.

One of the peculiarities of the design that may strike us as we study the axonometric plan (Fig. 33) is the decoration of the pavements in the two *exedrae* (Rooms 13 and 16). In Room 16, the *exedra hiberna*, the pavement looks correct and normal. The central panel of lozenges has a margin of equal width around the three walled sides of the space, a border 0.30 m wide, as we have seen (page 130). In Room 13, however, while the thirty-centimeter border is maintained along the side walls, the panel of lozenges stops far short of the rear wall, leaving a wide undecorated area that is completely unexpected. If we imagine a line drawn where

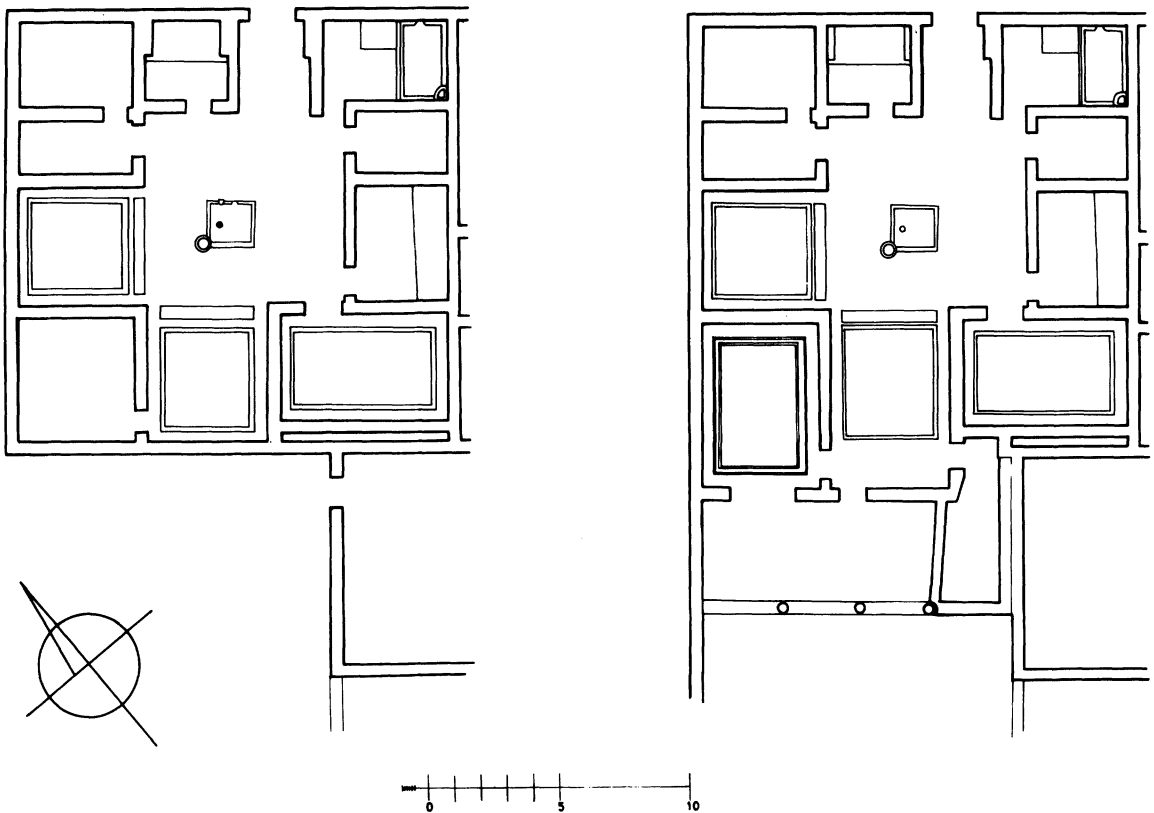


FIG. 35. East Block, Period 1.3: House of the Skeleton, building periods 1 and 2, plans

the rear wall would fall if the thirty-centimeter margin had been maintained, and if we extend that line along the southwest side of the house, we find that we have drawn the original shape of the house. The figure that results is the square, 17.50 m on a side, with which the builders of the House of the Skeleton began, and at the center of which they placed the square impluvium of the atrium. This corresponds to building period 1 in Figure 35. The second plan in Figure 35, building period 2, shows the alteration with the increased space between the end of the lozenge pattern of the pavement and the rear wall of the room as it looks today.

Further proof of this can be clearly read in the pavement of Room 13. Not only does the panel of lozenge design stop short, but there is actually a seam in the pavement, a real line where our hypothetical line was drawn (Pls. 81, 82). On the northeast side of that seam, within the area of the thirty-centimeter margin, the pavement is the ordinary red signinum of the rest of the floor. Southwest of the seam the pavement is of a distinctly different type; here it matches the pavement of the porticus with its scattering of black and white tesserae. Obviously this portion of the pavement in Room 13 was added in the enlargement of the original building, along with the porticus.

A sounding along the seam in the pavement of Room 13 revealed that indeed a



PLATE 81. East Block, Period 1.3 House of the Skeleton, Room 13, detail of pavement and seam along original line of southwest wall, looking SE



PLATE 82. East Block, Period 1.3: House of the Skeleton, Room 13, detail of pavement and seam along original line of southwest wall, looking SW

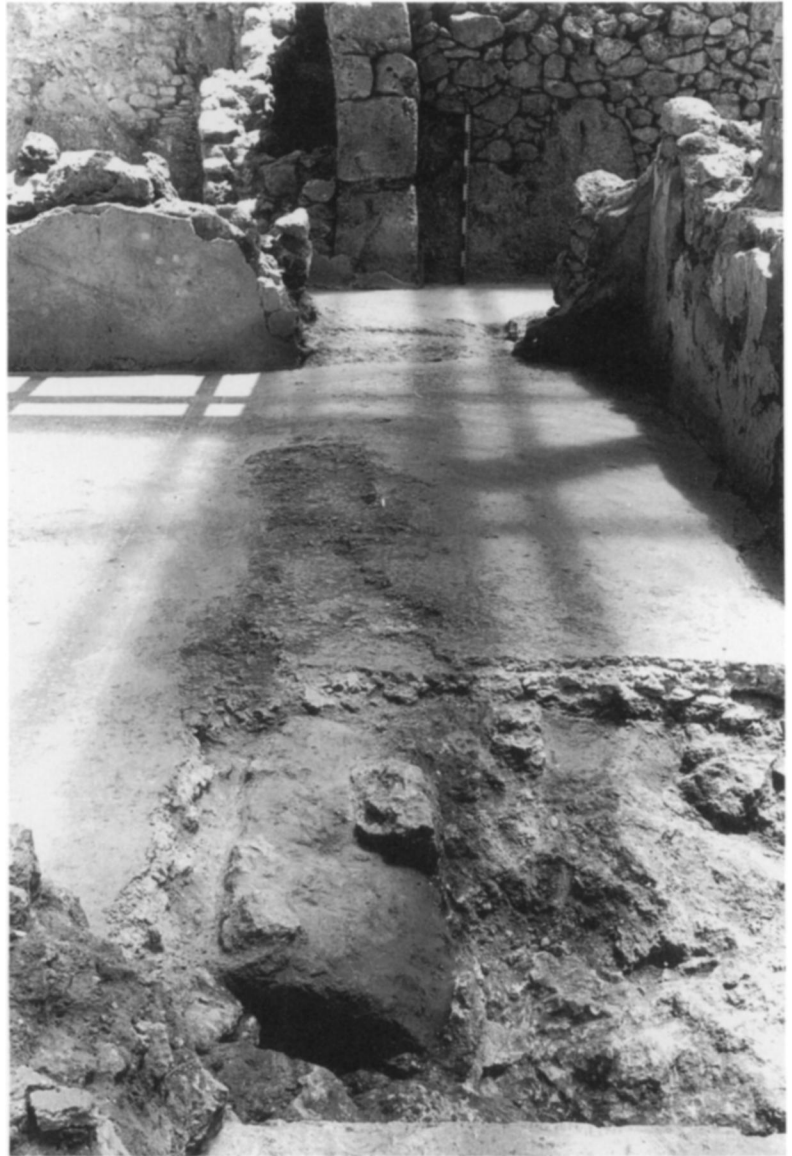


PLATE 83. East Block, Period 1.3: House of the Skeleton, Room 13, sounding under pavement, looking SE

wall had once stood there, for the working of the bedrock under the pavement shows clearly where the wall blocks had been seated in Phase I (Pl. 83). The sounding made along the seam in the pavement was a one-meter square extending across the width of the doorway between the exedra aestiva and the triclinium (Rooms 13 and 11). It was shallow, for the pavement here was laid directly on spalled bedrock. At the left (northwest), however, the rock has been worked to serve as the footing for a wall aligned with the end of a wall that can be seen in the background of the photograph in Plate 83. This is the northwest end of the southwest wall of the original house. Most of this wall was dismantled

to extend the house southwest into the newly acquired garden area, and with the enlargement of the house the exedra was also extended. A strip of new pavement was then laid that covered the old wall footing. In the triclinium (Room 11), similarly enlarged at this time, both the floor and the walls were completely redecorated, the floor receiving its black lithostroton pavement with the mosaic border, the walls their richly colored decoration in plaster relief.

The enlargement of the exedra aestiva and the triclinium and the addition of a deep porticus across the back of the house are Phase II construction (Fig. 35). The porticus colonnade of three masonry columns supported on a waist-high pluteus now separated the house from a garden area. At some time later the southeasternmost intercolumniation of the porticus was walled up and on the garden side a tank was built to hold water for the garden. On the house side a narrow room of very irregular shape was created, perhaps only a storage area. These changes constitute a third phase in the construction.

Thus the evidence suggests that Phase I, a square house designed to fit two of the original garden lots belonging to earlier houses, was already nearing completion, its pavements laid, when the opportunity to acquire additional land presented itself. Then the rooms at the back of the house (Rooms 13 and 11) were enlarged and the porticus added to make a garden front, at the same time raising the level of the garden to the height of the newly built pluteus in order to make the garden beds visible from the interior of the house.

Meanwhile the atrium and its surrounding spaces kept to the original centralized design inspired by the perfect square of the original plot. Only on entering the triclinium and porticus would the importance of the alterations have become apparent. Once in the triclinium, which now had a wide doorway opening out toward the garden, the visitor would realize that the old rusticity of early Cosan houses had been replaced by something quite different.

Because the original plan was centralized rather than axial, it seems difficult to decide which of the major spaces opening from the atrium may have been the tablinum. With the extension of Room 13, the introduction of a doorway in its rear wall and the addition of a porticus behind it, an axial effect from entrance to porticus was to some extent suggested. Thus, it seems probable that the space selected as the tablinum would have been Room 13, the room we have been calling the exedra aestiva, although it is amply clear that the arrangement of living spaces and the assignment of their functions in this particular atrium complex at Cosa cannot be relied upon to follow the academic standards later set down by Vitruvius.

The entrance to the house is 1.00 m to the left of center in the northeast façade on Street 5, so that the axis of the fauces (Room 22) divides the interior into two unequal parts. On the left, along the southeast side of the atrium, are the service rooms: kitchen, bath, cold storage, and a large oecus (Room 14), probably intended for a general workroom, perhaps for weaving, since a great number of loom weights was found in this room. On the right, next to the entrance, is a small bedroom (Room 23), and next to that, in the north corner of the house, is a large room (Room 17) with a floor of beaten earth that must have contained a wooden stair giving access to an upper story (Figs. 32, 33). The existence of an

upper floor above this corner of the house was suggested by the discovery of many large fragments of signinum pavement at a relatively high level in the overburden. How far the upper floor extended across the front of the house or along its northwest and southeast sides must remain conjectural. It might have consisted simply of a single room over the north corner, where the foundations are especially strong, or have extended further, as the drawings of the reconstructed elevation indicate (Figs. 36, 37). The stair was divided from the rest of the room by a partition, shown by a poorly built foundation, and part of the rest of the room evidently served as a storeroom. In this room were also found fragments of a snaffle bit (C69.279) that could have been used for a pony or mule, and this find, together with the fact that the floor was of rammed earth, suggests that part of it might have been a stable for an animal.

As we enter the atrium from the fauces, our attention is naturally drawn not along an axis but at an angle to the right, in the direction of the chief architectural

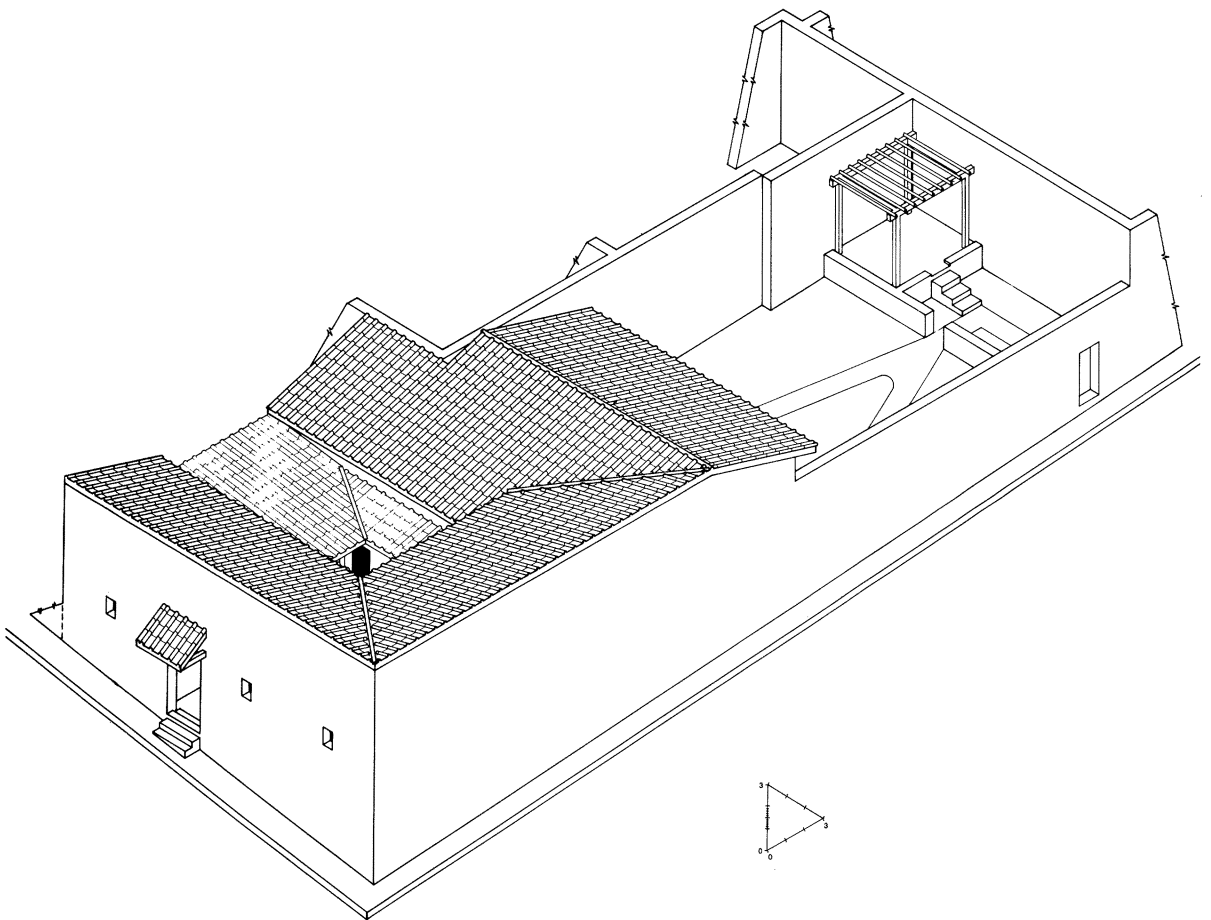


FIG. 36. East Block, Period 1.3: House of the Skeleton, restored elevation, looking south

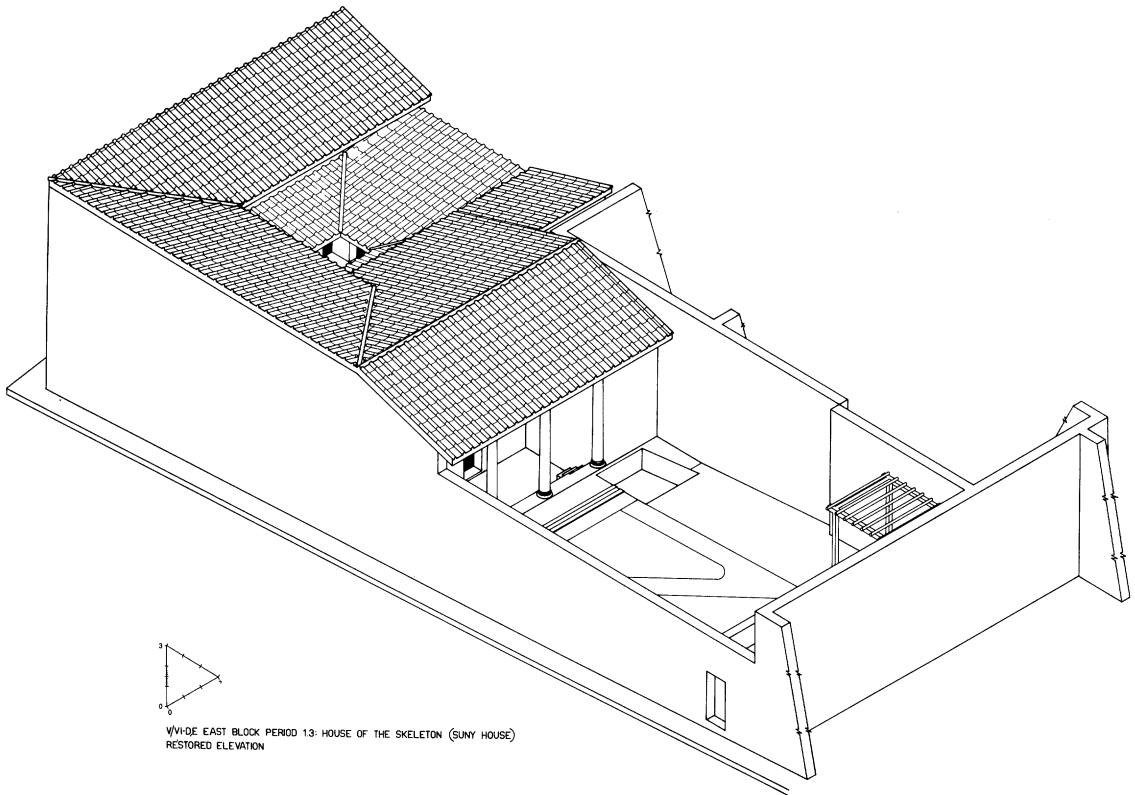


FIG. 37. East Block, Period 1.3: House of the Skeleton, restored elevation, looking east

features of the complex, the impluvium sunk in the atrium floor, the puteal over the drawshaft at its far corner, and the exedra hiberna and exedra aestiva, which present wide and lofty openings, each measuring 4.50 m across, situated at right angles to one another flanking the west corner of the atrium.

At the southwest end of the exedra aestiva as rebuilt in Phases II and III (Figs. 35 and 32, respectively), there are three doorways opening in the strip added when the building was enlarged. On the left, as one approaches from the atrium, is a door leading to a tiny closet, later enlarged by walling up a portion of the porticus. On the right a door opens in the northwest wall to the triclinium. The third door leads out of the west corner through the southwest wall into the porticus. The porticus columns stand on a waist-high pluteus faced with waterproof plaster, protecting the house from the damp of the garden. Four steps in the south corner of the porticus give access to the garden over the pluteus (Fig. 32). The surface of the garden, at this point nearly level with the top of the wall, slopes gradually upward, perhaps partly to ensure that its design would be clearly presented to someone standing in the porticus. In raising the level of the new garden to the top of the pluteus, traces of the old preexisting gardens,

whose paths and steps were oriented differently (Pl. 80), were covered over. See the frontispiece and the addendum on the reconstructed garden design by F. E. Brown (pages 148–51), whose inspiration it was to re-create it.

A review of the main features of the plan will serve to show that the arrangement of interior spaces did not follow standard Roman practice. Most notable is the fact that there is no longitudinal axis, for the main structure, as we have seen, was originally a centralized design. The impluvium in the atrium is not placed on an axis with the entrance and fauces, as in many Roman houses, nor are the principal openings off the atrium arranged in axial symmetry. From the atrium the only view into the porticus and garden would have been a mere glimpse through the narrow door at the back of the *exedra aestiva*, if that door happened to be open. If not, the existence of the colonnade and garden would remain hidden until one entered the *triclinium*, where the full impact of rich decoration and garden plantings would be felt for the first time.

All these features are unusual. In this plan the principle of an axial view, or of a visible progression of features from entrance to porticus, was not considered, and the idea of conventional symmetry seems to be absent, as F. E. Brown has pointed out.²² A different geometric principle, based on the figure of a square within a square, informed the design, and the most interesting point about this is that it would not have been apparent to someone moving through the spaces and volumes of the house. The visitor would have felt only a casual grouping of spaces according to their functions. From each of these one turned back in upon the center, its focus provided by the *puteal* and *impluvium*, in obedience to the principle of centralization, which had been the *raison d'être* of the original scheme.

This lack of ordinary symmetry in the House of the Skeleton is made up for in part by a sense of order that the architect found it possible to create in unconventional ways. From each of the *exedrae*, for example, it became apparent that the *puteal* over the drawshaft of the cistern, situated at the west corner of the *impluvium*, was on axis with these. In other words, when we explore these spaces we find we are repeatedly turned to focus on a central feature, so that we gradually discover a system of geometric relationships that is obvious when the plan is drawn on paper but is not at first clear in the architectural experience of the spaces and volumes as constructed. The house is one in which there are few of the usual symmetries of the Roman atrium house, but one in which the expression of beauty and repose through the use of geometric forms is achieved in a subtle and unexpected manner.

The House of the Skeleton was built long before Vitruvius wrote his treatise on architecture, but it is almost as though the architects of the house were acting on Vitruvius's advice. At the end of his chapter on houses,²³ Vitruvius envisages the

22. Brown *CMRT*, 68, where he speaks of a "localized symmetry and axuality" that "pervaded the central area."
23. Vitruvius 6.3.11.

possibility that certain sites and certain local conditions might make it impossible to carry out the proportions prescribed for the shaping of atria, exedrae, and other architectural units. For example, he writes, "If the windows of a room are obstructed by the narrowness of the street or other inconvenience, then skill and resource must alter the proportions by decreasing or adding so that an elegance may be attained in harmony with the proper proportions." Unable to construct a symmetrical house along conventional lines with an axial view from entrance to garden, the architect here created a kind of hidden symmetry. Perhaps because the porticus and garden became a possibility only after the main structure had been built, he decided to leave most of the original design intact, reserving the sophisticated richness of the triclinium and pleasure garden as a surprise, in contrast to the austerity of colonial tradition.²⁴

Dating

The dates for both the construction of the House of the Skeleton and its destruction not long afterward are suggested by two identical republican coins. One of these (C69.218) was found during the campaign of 1969 a few centimeters above the signinum pavement of the atrium beneath fallen roof tiles and other material produced by the destruction of the building. The fact that the coin was found not actually on the floor suggests that it came there during or after the destruction itself, but before the roof fell in, perhaps from a cupboard or a room in an upper story. The second coin, (C70.448) found in the following season, was discovered in a sealed deposit beneath the pavement of the oecus (Room 14) in the south corner of the house when a sounding was cut through an undamaged portion of the floor in that room.

The two coins are quadrantes of the semi-uncial reduction. According to T. V. Buttrey,²⁵ both—anonymous issues of good style and therefore early in the semi-uncial series—were probably struck in the years 90–89 B.C. The one found under the floor of the oecus can hardly have been in circulation for more than ten years,

24. H. Drerup, "Bildraum und Realraum in der römischen Architektur," *RömMitt* 66 (1959), 144–74, discusses axial views in Roman houses; fig. 2, p. 157, shows a plan of the House of Sallust with sight lines drawn from the fauces to the tablinum (Room 19), which contains a huge window taking up almost the entire rear wall. Through this window one sees a porticus, as in the House of the Skeleton, but at Pompeii the porticus sets off a very shallow garden backed by a wall rather than a deep garden

like the one at Cosa. However, the garden in the House of Sallust had a painting of a garden along the back wall, divided by pilasters corresponding to the columns of the porticus. The painting expanded the depth of the garden illusionistically. See. P. Grimal, *Les Jardins romains* (Paris, 1943), 484ff. and fig. 34.

25. Buttrey *Coins*, 24. Cf. M. H. Crawford, *Roman Republican Coinage* (Cambridge, 1974), 1 nos. 339.4, 350B.3, pp. 340, 366 and 2.pl.46.

since it shows practically no wear. The standard weight for the type is 3.41 gr.; the weight of the coin from the sounding is 3.42 gr. Although the coin shows some slight weakness in the relief of both obverse and reverse at corresponding points of the two faces, this is an indication that it was imperfectly struck, not that it lost detail by wear in circulation. Since this type of coin was struck on the open-cast flan typical of a number of the semi-uncial bronzes, the casting itself might cause variations in the distinctness of the relief or in weight. This is evidently the case for the coin found with the fall of roof tiles on the atrium pavement. The weight of this coin, 2.79 gr., is low, yet, like the one from the sounding, it shows practically no wear, so the difference in weight must be attributed to the method of manufacture. If the coin from the sounding was in circulation for as much as ten years, it seems extremely unlikely that the other could have been in circulation much longer, certainly not more than another decade. For the destruction of the house, then, we come to a date close to the end of the third decade of the first century B.C., which coincides with the cutoff date for the hoard of silver coins found in the House of the Treasure nearby, 71–70 B.C. (page 79).

The coin evidence, then, suggests a construction date after 89 and a destruction date around 70 B.C. Circumstantial evidence to support these dates early in the century is the use of First Style wall decorations rather than Second Style, which had already come into use in Rome by 90 B.C. The fresh condition of floors and doorsills (see especially the doorsill of the cold-storage cella, Room 18, Pl. 84) suggests a very short period of occupation.

A series of small soundings through imperfectly preserved sections of brick or signinum flooring and construction levels in Rooms 13, 14, 17, 19, and 21 produced scant ceramic evidence for dating the building of the house to corroborate that of the single semi-uncial quadrans C70.448. The paucity of the evidence is to a considerable degree due to level contamination observed in some of the soundings in consequence of the Augustan reoccupation of the area adjacent to the House of the Skeleton on the west and south. There was no such contamination, however, in the sounding in Room 14 that produced the coin on which the dating of this house is based.

The ceramic material from the House of the Skeleton included a fusiform unguentarium (C70.457) and a complete profile of Dyson's Class 1 lid-plates (C70.681), which in form is close to those incomplete specimens associated with the West Block houses at the time of their destruction or abandonment. Among the uncatalogued wares may be noted fragments of Class 1 lids and Class 1, 2, and 4 flat-bottomed pans.²⁶ The latest fragment of uncatalogued black-glaze pottery from the soundings appears to be from a plate with offset rim in Campana C (Lamboglia Form 6). Although the fill laid down in the creation of the new garden level behind the House of the Skeleton was not stratified, the

26. Dyson *Utilitarian Pottery*, 68, 77.



PLATE 84. East Block, Period 1.3: House of the Skeleton, Room 18, doorsill, looking NW

range of black-glaze wares in it came down no further than to the end of the second century B.C.²⁷

Addendum: The Garden of the House of the Skeleton

The consolidation of the remains of the House of the Skeleton as an integral component of the Cosan museum complex brought with it the opportunity to restore the back garden which was both a feature and an extension of the triclinium (Frontispiece, Figs. 38–40).¹

From the lower end of the garden two walks starting at either end of the porticus ran southwest on the long axis to converge at an opening in the raised rock shelf defining an upper terrace, whose walled limit on the southwest was

27. A. R. Scott *Black-Glaze*.

1. See also Brown *CMRT*, 68–69.

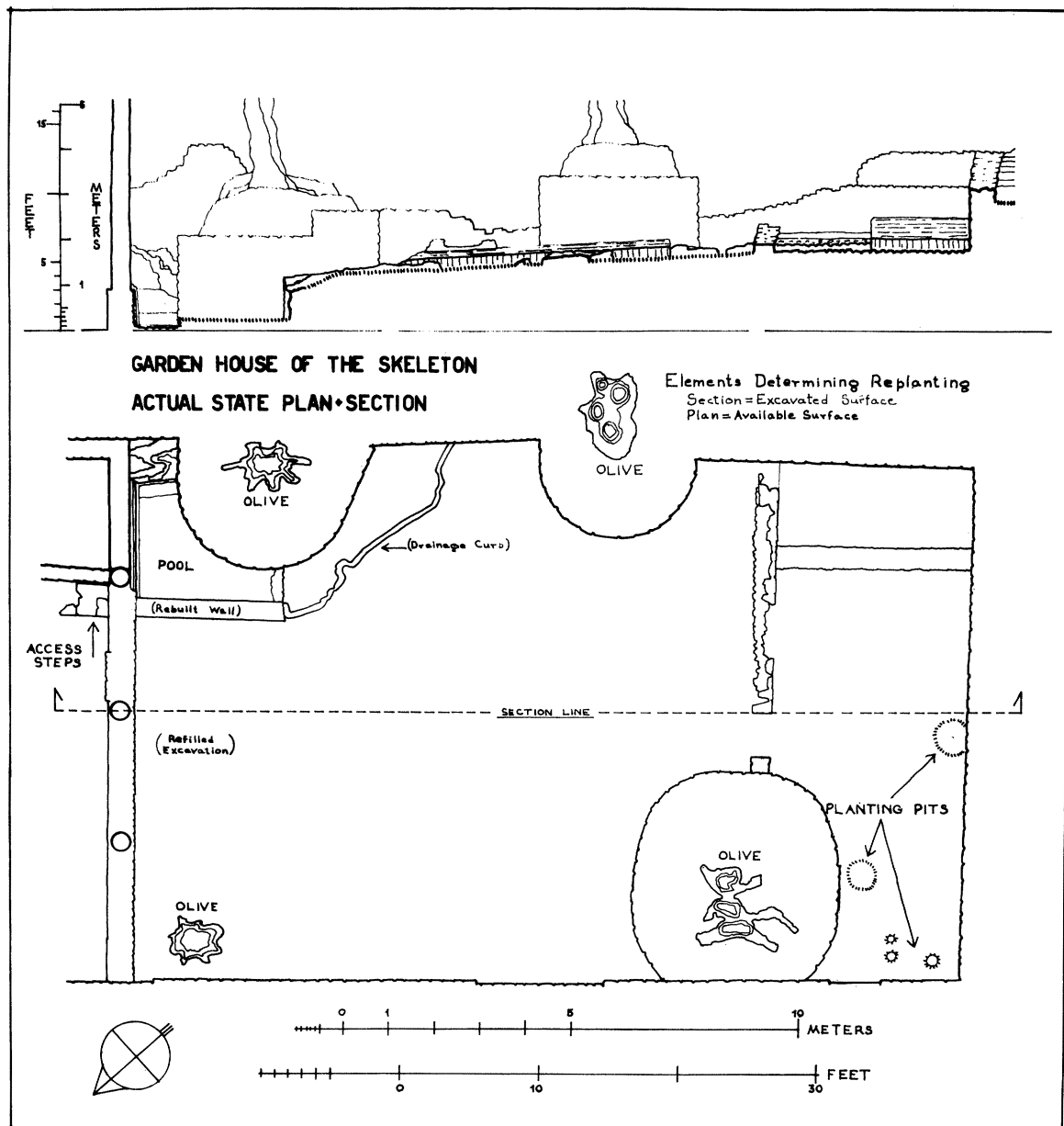


FIG. 38. East Block, Period 1.3: House of the Skeleton, garden, plan and section, actual state

partially screened by trees. The cross axis of this upper terrace had a central path bordered by shrubs leading from a gate giving onto Street M to a pergola on a raised platform set against the opposite wall. A comparison of the actual state and conjectural plans with the garden as it has been restored reveals some small liberties taken in embellishing the latter. The plaster cast of a statue of the young

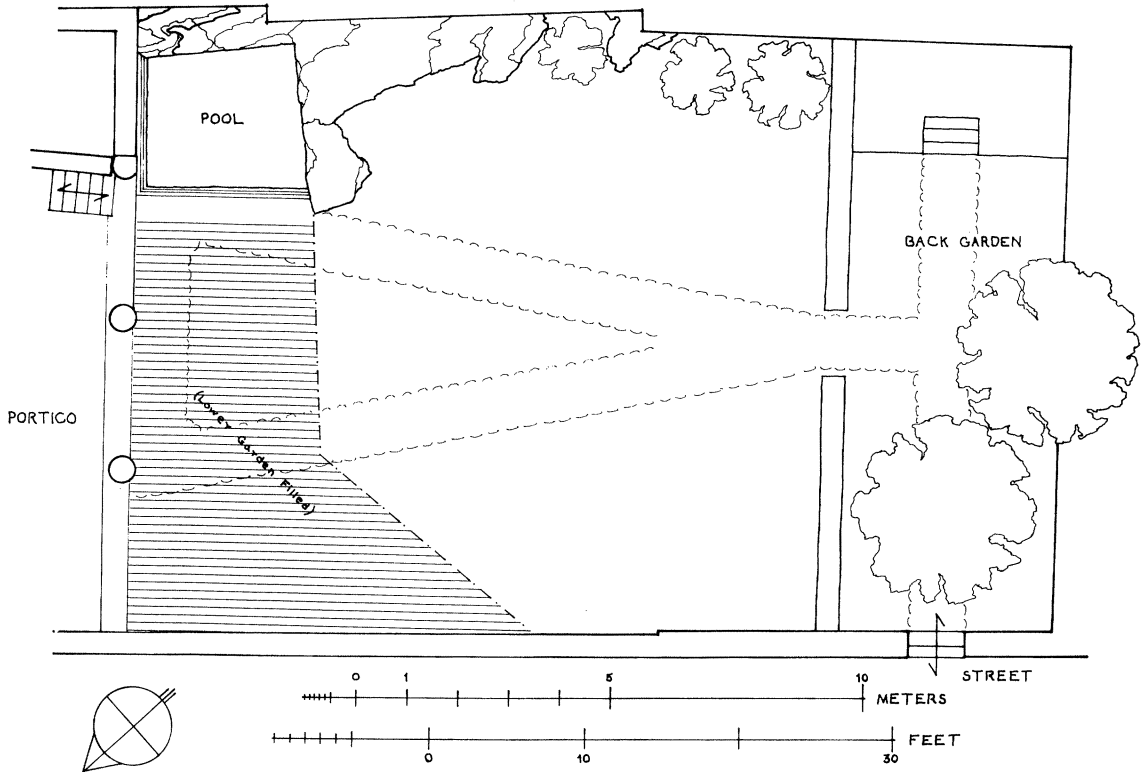


FIG. 39. East Block, Period 1.3: House of the Skeleton, garden, conjectural plan

Dionysus, for example, has been imported from a context of reuse in the forum to accent the intersection of the two transverse paths (Pl. 85).²

The plantings of the borders of the walk are in box, rosemary, and thyme. Beds of verbena extend back from the paths of the lower garden to the walls of the long sides, which are themselves accented with clumps of myrtle. The flowers in the lower garden area are the rosa sancta and the rosa Damascena, while beds of blue, white, and yellow iris lie in front of the raised pergola of the upper area. Fruit trees are represented by single specimens of the cherry and pomegranate.³ All these appointments and their disposition have been made for the benefit of the modern visitor to the ancient town site, but they conform in large detail and small to the evidence of excavation and what is known about Italian ornamental gardens of the first centuries B.C. and A.C.⁴ They are also the fruit of long study

2. See J. Collins-Clinton, *A Late Antique Shrine of Liber Pater at Cosa* (EPROER 64, 1977), 14, 49.

3. W. F. Jashemski, "The Campanian Peristyle Garden," in *Ancient Roman Gardens* (Dumbarton Oaks Colloquium on the History of Landscape Architecture 7, 1981), 29–48; P. Grimal, *Les Jardins romains* (BibEFAR 155, 1943), appendix 2, on varieties of plantings.

4. In addition to the basic study by Grimal

(above, note 3), see especially W. F. Jashemski, *The Gardens of Pompeii* (New Rochelle, N.Y., 1978), 25–55, on garden design and appointments; 89–113, on uses of gardens and activities; 115–40, on divinities. On garden sculptures, see also D. K. Hill, "Some Sculpture from Roman Domestic Gardens," in *Ancient Roman Gardens* (above, note 3), 81–94.

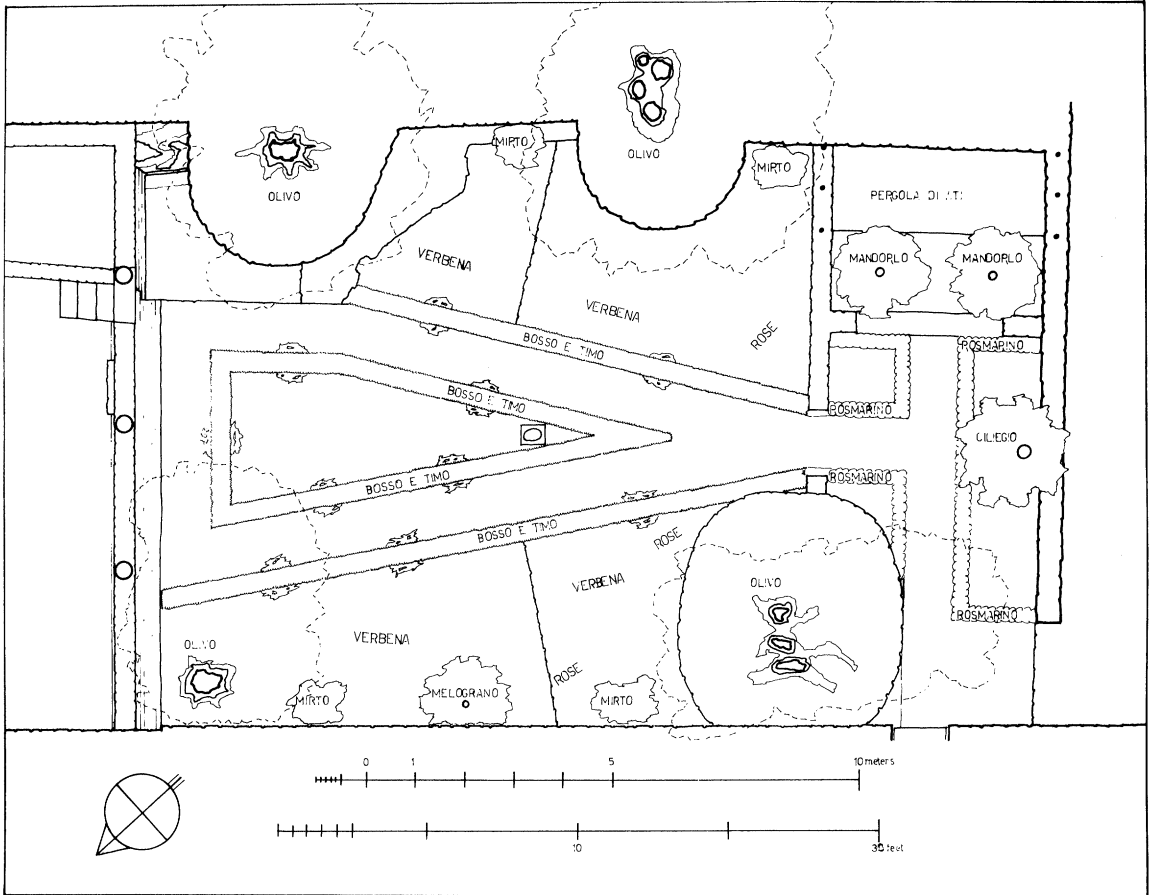


FIG. 40 East Block, Period 1.3: House of the Skeleton, garden, restored plan

by Mrs. Clarissa Gibbs of Baltimore, Maryland, whose reevocation of a Roman garden this is. In her honor and memory a plaque immured in the rear wall of the pergola (Pl. 86) has been inscribed:

HORTVLVS · ILLE
ANIMO · DONVM EST · SENSVQVE · FRVENDVM
CLARISSAE
MANEAT · SEMPER · VTERQVE · VIRENS

F. E. Brown



PLATE 85. East Block, Period 1.3: House of the Skeleton, garden, as restored, looking SW

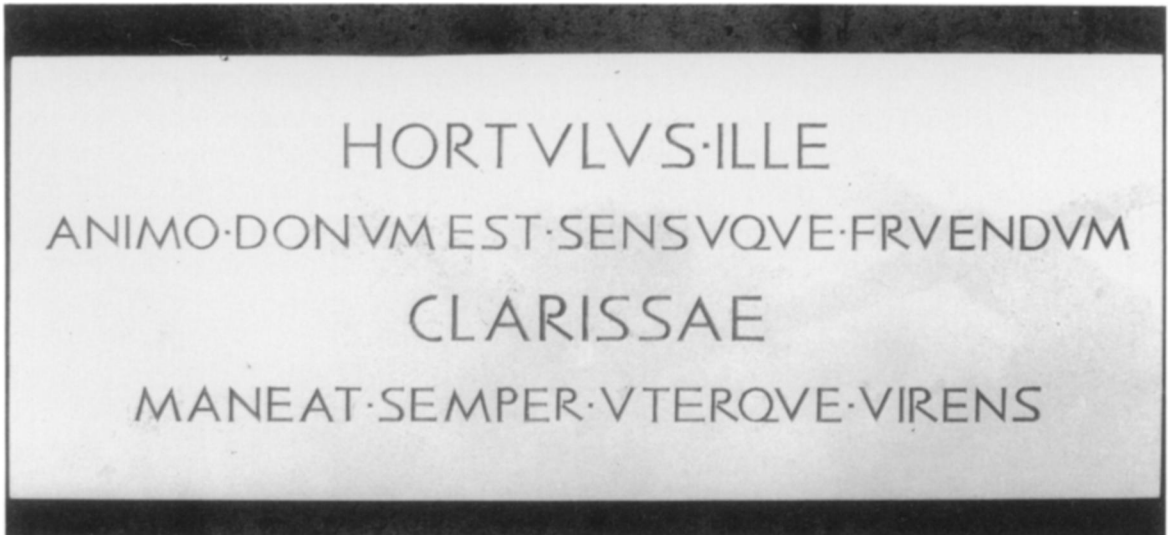


PLATE 86. East Block, Period 1.3: House of the Skeleton, garden, inscription

THE EAST BLOCK: PERIOD 1.3: A NEIGHBOR TO THE HOUSE OF THE SKELETON

The construction of the House of the Skeleton in the northeast half of the block did not seriously inconvenience the owners of the two houses in the area south of it that have already been described. The Salvii in all probability held the undeveloped lot adjacent to their house on the southwest; their neighbor on the northeast kept the back court he had built in his garden lot, thus depriving the House of the Skeleton of a fair area at its south corner. He may also have refused a request to share the northeast and northwest walls of the court with the new neighbor below. The effects of the loss of these two garden lots on his neighbor or neighbors to the northeast cannot be estimated.¹ The northwest-southeast façade line on the southwest side of Street 5 continued southeast above the House of the Skeleton, presumably to the east corner of the block. Nothing else is known.

It seems certain, however, that some garden lots were sold by their owners. The builder of the House of the Skeleton was, in fact, perhaps not the first, and

1. The lot was occupied in the Augustan period, as the casual investigation of one of its floors reveals. It was a signinum paving with a random lithostroton design in small black and white limestone tesserae and chips of soft aquamarine calcium

carbonate, comparable to that in the main atrium of the adjacent House of the Birds (page 173). The house has not been otherwise investigated, and its republican predecessor, if there was one, not at all.

certainly not the only one, to develop land in the northwest half of the block. The southwest wall of its garden became the northeast wall of another house, about which surveying and a landscaping trench along the façade have made it possible to say something.

This house may have fronted on Street M but was more than one original lot wide. There was no sign of a door in this façade through the width of the first lot it covers, though its walls stand 1.02 m above the surface of the southeast sidewalk, which was found intact in spots. The lot is rather narrow, measuring 7.80 m, but unusually long, 18.50 m to the northeast-southwest division wall, and so would seem to require the additional width of a second lot.

This was confirmed by the elements of the house uncovered by a landscaping trench in 1972, namely a kitchen and bath built in its north corner and occupying the whole width of the lot. A cylindrical terracotta drain pipe (inner diameter 0.22 m) was encased in the northwest wall of the bath below floor level. It drained directly to the sewer under the southeast side of the street by a channel partly cut in the rock below the foundations of the façade and the southeast sidewalk. The rock was eked out by small limestones mortared together to even out the sides and floor of the channel. Most of these have now disappeared, but the signinum lining preserves the width, 0.22 m. The depth is unknown, all trace of the cover having vanished (Pl. 87). The street sewer is a rock-cut box drain, 0.48 m wide and 0.38 m deep, roofed with flat limestone slabs. The floor is lined with signinum.

The floor of the bath had an upper surface of sawn lozenge tiles, each 0.12 m by 0.08 m, set in the rudus, and remains of two types of flooring were found in the small room in the north corner: a polished signinum paving and a paving of small rectangular tiles, each 0.32 m by 0.27 m, mortared in the rudus (Pl. 88). The tiles are missing, but their imprint in the mortar remains. Beneath this corner room lies a vaulted rectangular cesspool or soak-away pit, c. 1.80 m by 1.35 m, that communicates with another of unknown dimensions to the southeast. There was no sign of an inlet to it from the corner room. The walls of the room are of mortared rubblework, 0.40 m wide above the offsets.

The depth of the bath and kitchen area is apparently 4.95 m. To the southeast of the kitchen may have been a small pantry or storeroom. Its width is 2.10 m, the length as yet unknown. The position of these rooms recalls that of the similar rooms off the entrance of the House of the Skeleton. No other internal division walls have been located. Nine fragments of a developed First Style plaster decoration were recovered; these showed red and green panels with a groove, blue-black and yellow panels with a red groove, and varicolored marbling, red and yellow with black outlines. No design dimensions could be established.

These scant details have their uses. The bath and kitchen area with the drain to the street sewer invite comparison with the same elements in the House of the Skeleton. Yet the service area of this house is considerably larger, c. 6.80 m by



PLATE 87. East Block, Period 1.3: Southwest House, drain to sewer under Street M, looking SW

4.95 m, as opposed to 4.80 m by 3.00 m in the House of the Skeleton (excluding the pantry).

If the entrance to this house was in an analogous location to that of the House of the Skeleton, it too would appear to have been larger. No trace was found of any wall returning southeast parallel to the lot division wall within the area explored by the shallow landscaping trench. The entrance to the House of the Skeleton measures 1.72 m between the jambs. The presence of what must be a pair of cesspools or soak-away pits under the front of the house, in addition to the drain emptying directly into the street sewer, suggests that there may have been an earlier house on the lot that was lost to the new garden on the northeast. The original southwest limit of the lot is assured by the presence of the division wall projecting a survey line through three blocks (above, page 3).

On the basis of what is now known about the development of the East and West Blocks, the following history *might* be conjectured for this house. Originally it occupied one garden lot in the East Block and was built around the middle of



PLATE 88. East Block, Period 1.3: Southwest House, north corner room, pavement of signinum and small rectangular tiles, looking NE

the second century B.C. It was then expanded and otherwise changed when the House of the Skeleton was built in the first quarter of the first century B.C. After the rebuilding it probably competed in size with the House of the Skeleton. Any rivalry, however, was short-lived, for life ended in all the houses that have been examined in this report with the sack of the town that took place about 70 B.C. Signs of destruction and abandonment were apparent throughout the West Block and in the House of the Skeleton. Its extent may be gauged by the massive fill of debris that was used to repair the south angle of the Arx fortifications some years later.²

So ends this survey of the development of housing at Cosa in the republican period as it has now been revealed by limited excavation in two city blocks (Figs. 41, 42). As with any such investigation there remain both questions of detail and

2. See "Scavi," 40, and pages 204, 206 below.

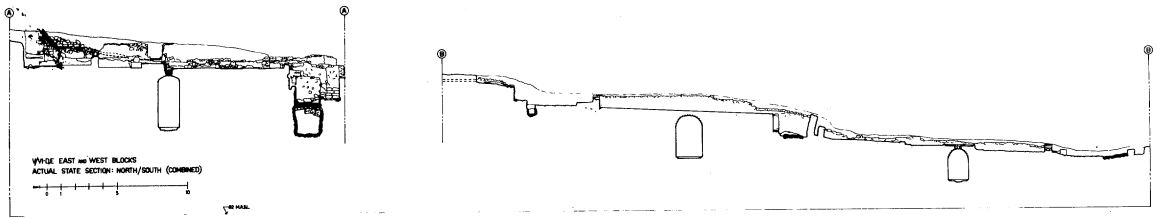


FIG. 41. East and West Blocks, north/south sections, actual state, combined

problems of more general interpretation that cannot be resolved on the basis of the information available. However regrettably, one cannot, for example, draw from the present record conclusions about demographic or historical change in the town and territory of Cosa to advance the state of argument beyond its current limits.³ And the dynamics of development and redevelopment visible in the East Block in the area associated with the *Salvii* and the unknown owner of the House of the Skeleton must remain uncertain. But the survey has added materially to our knowledge of the burgeoning, increasingly Roman prosperity of the town and its territory in the later second and early first centuries B.C., which is underscored by the violent interruption of the life of the town around 70.

As for details, one may also regret that the sample of houses does not include specimens from the earliest period of inhabitation on the site. Nevertheless, the remarkable sequence of block, house, and garden-lot design now known to have persisted at Cosa in the second century is clearly integral to the overall plan for the physical development of the town, and hence the predecessors of the houses making up the present sample must be envisaged as similarly articulated and shaped. Equally clearly, the Cosan house adds to the range of forms in Roman domestic architecture of the republican period, its efficient design the result of increasing urban experience and experimentation to meet the requirements of a given environment in the colonial process, which must in the end be considered its true source. Its value, then, may be seen to lie not simply in its chronological persistence in the life of the republican town but in what it reveals about the colonial process itself.

3. Brown *CMRT*, 63–75, and the use of this by Carandini, *Schiavi e padroni*, 30–34. See also D. Manacorda, "Produzione agricola, produzione ceramica e proprietari nell'*Ager Cosanus* nel I a.C.," in *Merci, mercati e scambi nel Mediterraneo* ("Società Romana e Produzione Schiavistica," ed. A. Carandini

and A. Schiavone, 1981), vol. 2, 3; D. W. Rathbone, "The Development of Agriculture in the '*Ager Cosanus*' during the Roman Republic: Problems of Evidence and Interpretation," *JRS* 71 (1981), 10; and J. Carlsen, "Considerations on Cosa and the *Ager Cosanus*," *AnalRom* 13 (1984), 49.

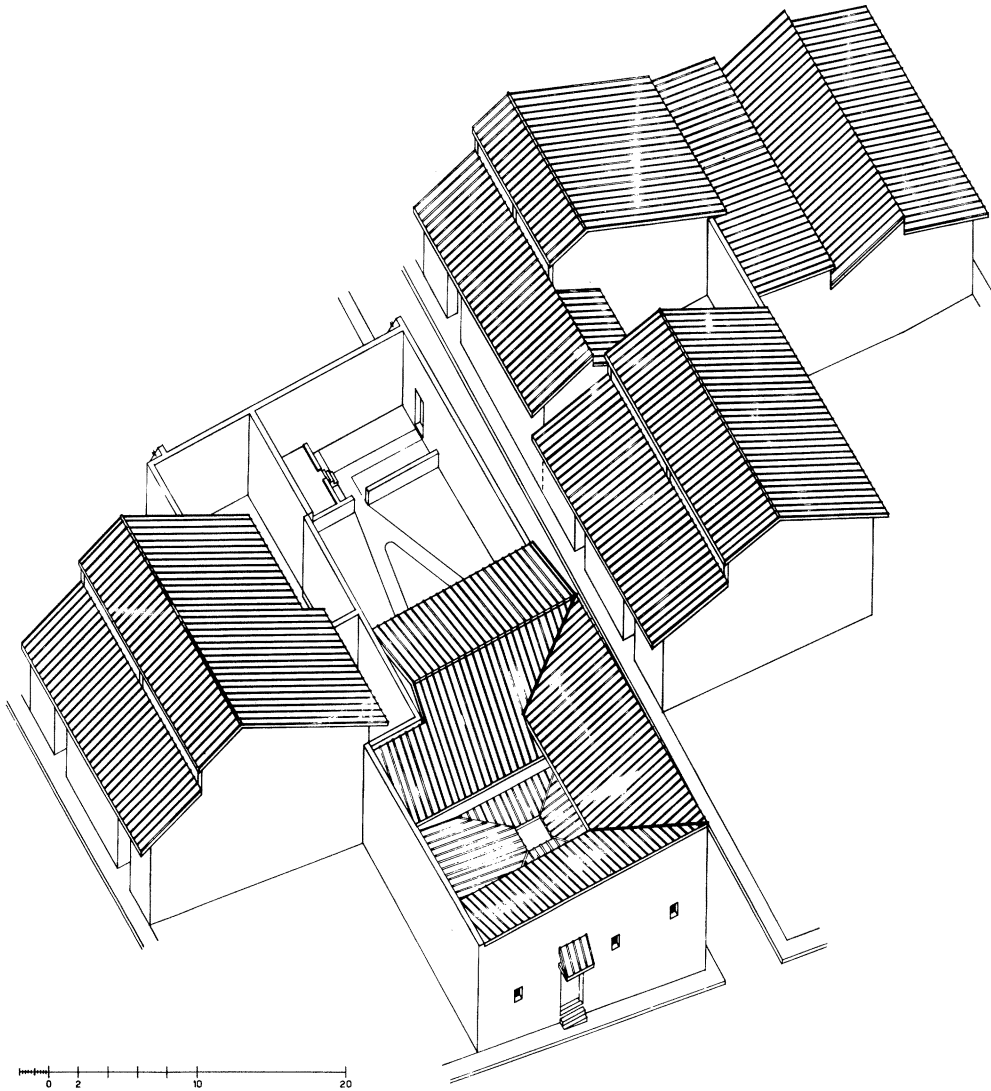


FIG. 42. East and West Blocks, Period 1.3, restored elevations, combined

Part III

A HOUSE OF THE AUGUSTAN PERIOD

THE EAST BLOCK, PERIOD 2: THE HOUSE OF THE BIRDS

The end of republican Cosa anticipated by little the end of the form of government in Rome the colony had served, and its revival under a new order, when it came, was inconspicuous. It received no new title or dignity and is styled only *res publica Cosanorum* in its known imperial inscriptions. The acquisition and assignment of properties in its territory in the period from 70 to 20 B.C. guaranteed such an outcome. The original role of the old colony as an administrative center was, like the ruins themselves, a thing of the past. Very likely *viritim* distribution of land to veterans of Augustus's armies went on here after 30, and the holdings and the veterans of the Ahenobarbi will certainly have been served in the process. Some of these last may have had old associations with the town and others not.¹

In its renascent form Cosa reflects its position as a small town set in the midst of what would become by the later Flavian period a series of imperial and

1. It seems likely that the town site would have been reoccupied or at least garrisoned after 40 B.C., when Sextus Pompey was raiding the Tuscan coast from Sardinia, if not earlier. Sextus's activity should also be seen in relation to economic developments in the territory of Cosa in the first century B.C., on which the sack of the city apparently had little

effect. See, for example, the work of Manacorda, "Produzione agricola, produzione ceramica e proprietari nell'Ager Cosanus nel I a. C.," in *Merci, mercati e scambi nel Mediterraneo* ("Società Romana e Produzione Schiavistica," ed. A. Carandini and A. Schiavone, 1981), vol. 2, 130, and *Arx Supplementary Report*.

senatorial holdings.² The restoration of the great temple on the Arx included a new entrance arch; on the west slope of the Arx below the temple was built a small atrium house, probably associated with the imperial cult.³ The Forum was put back into working order, as was the market, or horreum, which awaits further investigation just inside the northwest city gate.⁴

New housing appears to have been rather narrowly concentrated along Street 6, leading up to the Forum, and on the higher ground found between Streets N and P, running up southwest from the northeast gate to the Forum and Arx. This was to the detriment of the somewhat lower area of Streets M and L. There was no reoccupation of the West Block, nor was much use made of the lower half of the East Block. The upper half was reoccupied; a large double-atrium house with dependencies was built on the lots previously taken up by the pair of republican houses, and this had a neighbor on the northeast that probably occupied the two remaining lots southwest of Street 5. This second house has not been explored, however, except for a patch of paving in the area immediately northeast of the party wall with the double-atrium house (Figs. 8,9).

Construction

Wherever possible, the new house used the foundations and even, occasionally, surviving upper parts of the main walls of the original houses. For its overall length the northwest wall of the back court of the northeast house was taken as a guideline and extended southwest across the neighboring lot. The southwest limit was the line of the southwest wall of the second house. Of its four perimeter walls, those on the northwest and southwest were built of mortared limestone rubble above their footings; the northeast and southeast walls were of mud brick above largely original stone socles. Mud brick was used for the upper portions of internal walls as well. The thickness of the walls remained much as before: foundations measure 0.50–0.60 m, upper parts 0.45–0.50 m. A difference in technique can be seen in the rebuilt and extended sections of the southwest

2. The Wesleyan Archaeological Survey of the Ager Cosanus and the excavations at Settefinestre by Professor A. Carandini of the University of Pisa will help to illuminate this process. See S. L. Dyson in *JFA* 5 (1978), 251, and in *BAR* 102 (International Series, 1981), 269; D. Manacorda in *JRS* 68 (1978), 122; A. Carandini and S. Settis, *Schiavi e padroni nell'Etruria romana: la villa di Settefinestre dallo scavo alla mostra* (Bari, 1979); M. G. Celluzza and E. Regoli, "La Valle d'Oro nel territorio di Cosa," *DialArch* 4 (1982), 31; I. Attolini, P. Cambi, M. G. Celluzza, E.

Fentress, M. Pasquinucci, and E. Regoli, "Ricognizione archeologica nell'ager cosanus e nella valle dell'Albegna. Rapporto preliminare 1981," *ArchMed* 9 (1982), 365; J. Carlsen in *AnalRom* 13 (1984), 49; A. Carandini, ed., *Settefinestre: Una villa schiavistica nell'Etruria romana* (Modena, 1985).

3. See *Cosa II*, 127, and *Arx Supplementary Report*.

4. See *Cosa III*; F. E. Brown, "The Northwest Gate at Cosa and Its Environs," *Studi G. Maetzke* (Archeologica 49, 1984), 493.

exterior wall, where the facing stones are notably smaller than those of the republican phase, averaging 0.10–0.20 m wide and 0.09–0.12 m high.

By and large the floors of the new house are simply a new skin laid over the old pavements, and there are rooms, chiefly in the southwest half, where original floors survived sufficiently well preserved to be used without resurfacing. A sounding to spalled bedrock and hardpan in Room 11, following the lines of an original room in the old northeast house, also revealed the remains of only one floor (page 53). Rooms that were at least partly new received more attention, as will be seen.

The decision to carry the house at essentially the old floor level and to expand it uniformly toward the northwest posed a problem in terracing and filling, resolved in the following way. In the northeast half, the northwest wall and the west and north corner areas were rebuilt in rubblework and strengthened to contain a deep foundation fill of earth and debris collected from the ruins of the republican town.⁵ A pair of tile drains to the underlying soak-away pit and the south corner of the old back court was encased in a sheath of mortared rubblework of rectangular section built into the angle of the stair. The southeast wall was also partially rebuilt with an offset and row of rectangular joist holes (0.25 m by 0.15 m by 0.15 m) 2.05 m above the earlier ground level at the back of the court for the beams and planking laid over the tamped fill to support a new floor at the height of the head of the stair (Pl. 89). The walls of the new room were of mortared rubblework, the hard mortar of lime with an aggregate of sand and red and brown pozzolana. The rebuilt northwest wall had a window of unknown dimensions to provide light to the room at the new level (Pl. 90).

In the southwest half, terracing and filling were not so extensive. The line of the new northwest wall was carried in part on bedrock outcroppings, but, from the return southeast at the west corner to the juncture with the original southwest wall of the republican house, it was carried on earth. A single course of exterior footing blocks was set on a tile leveling course 0.15 m high, and the rubblework wall rose above the blocks. The exterior ground level was level with the top of this foundation course, as the offsets of the light mortared rubble walls in the adjacent work area also show (92.31 m above sea level; Pl. 91). The original northwest wall of the southwest republican house was, of course, footed throughout on spalled bedrock (Pl. 92).

The extension of the northwest wall in the southwest lot seems to have required the destruction of the corresponding section of the southeast garden wall of the House of the Skeleton, which is preserved beyond the west corner of the new house and apparently served to mark the northwest limit of the work yard associated with it (page 167). The new wall stood until the end of the third

5. That filling went on is demonstrated by the fact that joins in pottery were found between fragments recovered from beneath the floor level of the new

west corner room (6) and others found in the garden and pool of the House of the Skeleton.



PLATE 89. East Block, Period 2: House of the Birds, triclinium with joist holes, looking SW



PLATE 90. East Block, Period 2: House of the Birds, triclinium, fallen northwest wall with window frame



PLATE 91. East Block, Period 2: House of the Birds, work yard, ancient ground level, looking NW



PLATE 92. East Block, Period 2: House of the Birds, northwest wall and west corner of original republican house, looking SE



PLATE 93. East Block, Period 2: House of the Birds, fallen northwest wall, looking SE

century, when a section fractured and pitched down onto the accumulated debris of three centuries in the ruins of the House of the Skeleton (Pl. 93). A fresh *Antoninianus* of Probus (C68.628) was found under the fallen section of masonry.⁶

The party wall between the two original houses was broken through at several points to connect the two halves of the house and to create new rooms for the northeast half. The first purpose was achieved by a doorway midway along its length. The mortared tile and stone bedding for the sill block survives; the width of the opening is 1.26 m, the depth 0.40 m. Immediately southeast of this was another, the travertine sill of which survives in place (0.94 m by 0.40 m). It gave access to a small square room, next to which an ala-like exedra off the south corner of the atrium was made by razing a section of the party wall 2.30 m long. Finally, 6.00 m northwest of the main doorway connecting the two halves of the house, another door provided access to the bath unit that served the northeast half briefly. The travertine sill survives, 0.68 m by 0.40 m.

The exterior walls underwent little modification. The southwest wall as rebuilt had a doorway midway along its length connecting the house with work areas to

6. Buttrey *Coins*, 52, no. 273.



PLATE 94. East Block, Period 2: House of Birds, southwest wall, doorway, looking NE

the southwest. The travertine bases for the frame survive; the sill does not. The width is 1.16 m, the depth 0.40 m (Pl. 94). The southeast wall was rebuilt in mud brick and the original entrance to the southwest house walled up. Much of the original stone socle of the southeast wall survived and was used again in the new house. Where it returned northwest to make the recessed entrance, a stretch of mud brick, rising from a single tile leveling course on spalled bedrock, closed the gap. The original entrance to the northeast house was kept but modified. The northeast wall of the house continued to function as a party wall with the neighboring house there (Figs. 43, 44).

Work Yards

While the plan of the new house seems reasonably complete, less is known about its dependencies, elements of which appear in both the upper and lower lots adjacent to the house on the southwest. As a result they can be only very generally sketched. A lower rectangular yard, 8.45 m by 6.80 m, occupied the area defined by the southeast garden wall of the House of the Skeleton and the

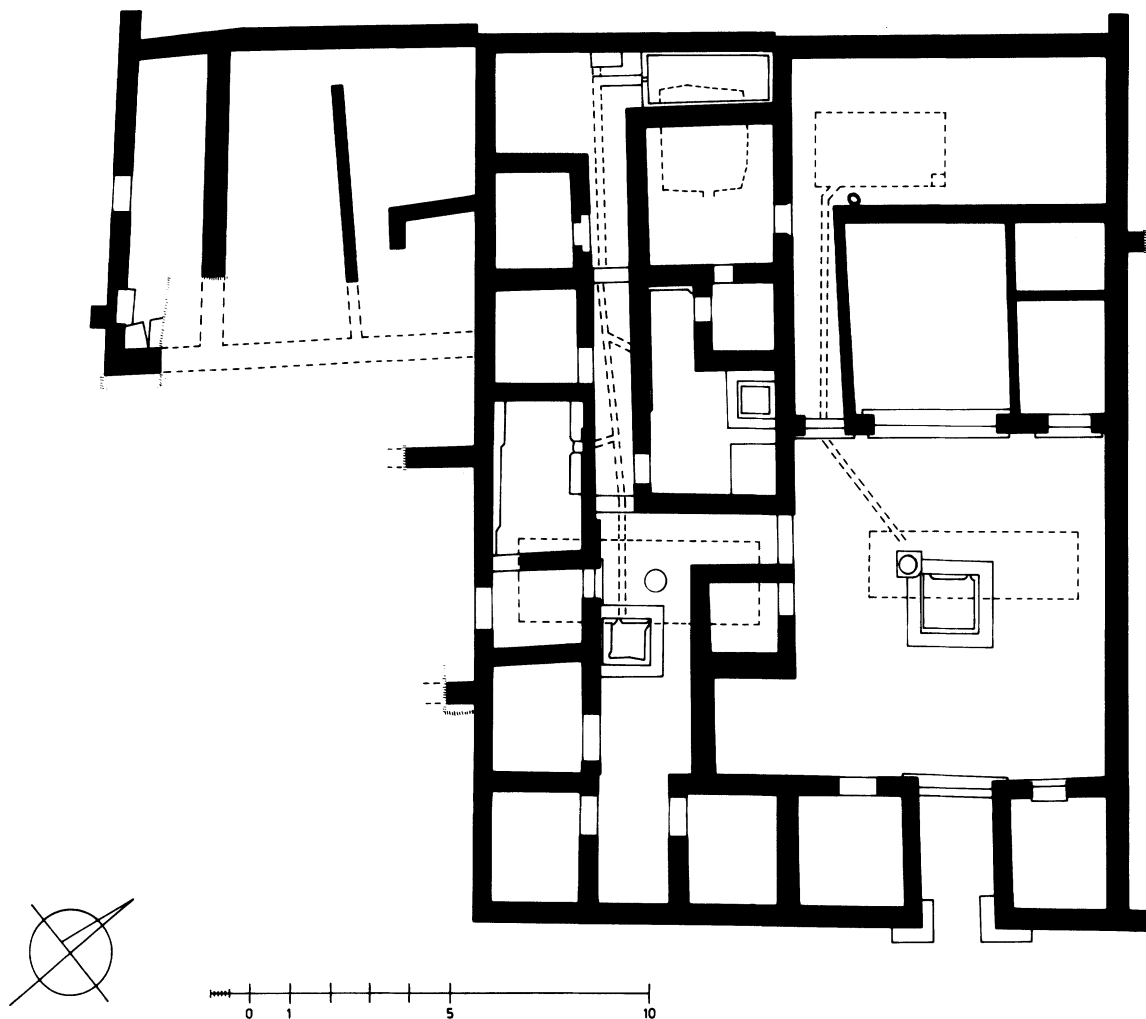


FIG. 43. East Block, Period 2: House of the Birds, restored house plan

northeast wall of the neighboring republican house that seems to have fronted on Street M. The line of this wall was now extended southeast about a meter beyond the southeast wall of that house and then returned northeast to close the yard on its southeast side. The ground level falls 0.90 m from southeast to northwest in the yard. There is a door one step up midway along the southwest wall of the yard. The mortared tile and stone bedding for a sill block is preserved; the width of the opening is 0.90 m. Communication between the lower and upper yards might have been from this direction.

The only readily intelligible feature found in the lower yard is a tile platform, perhaps ruins of a hearth or oven, set in its south corner 0.26 m above the

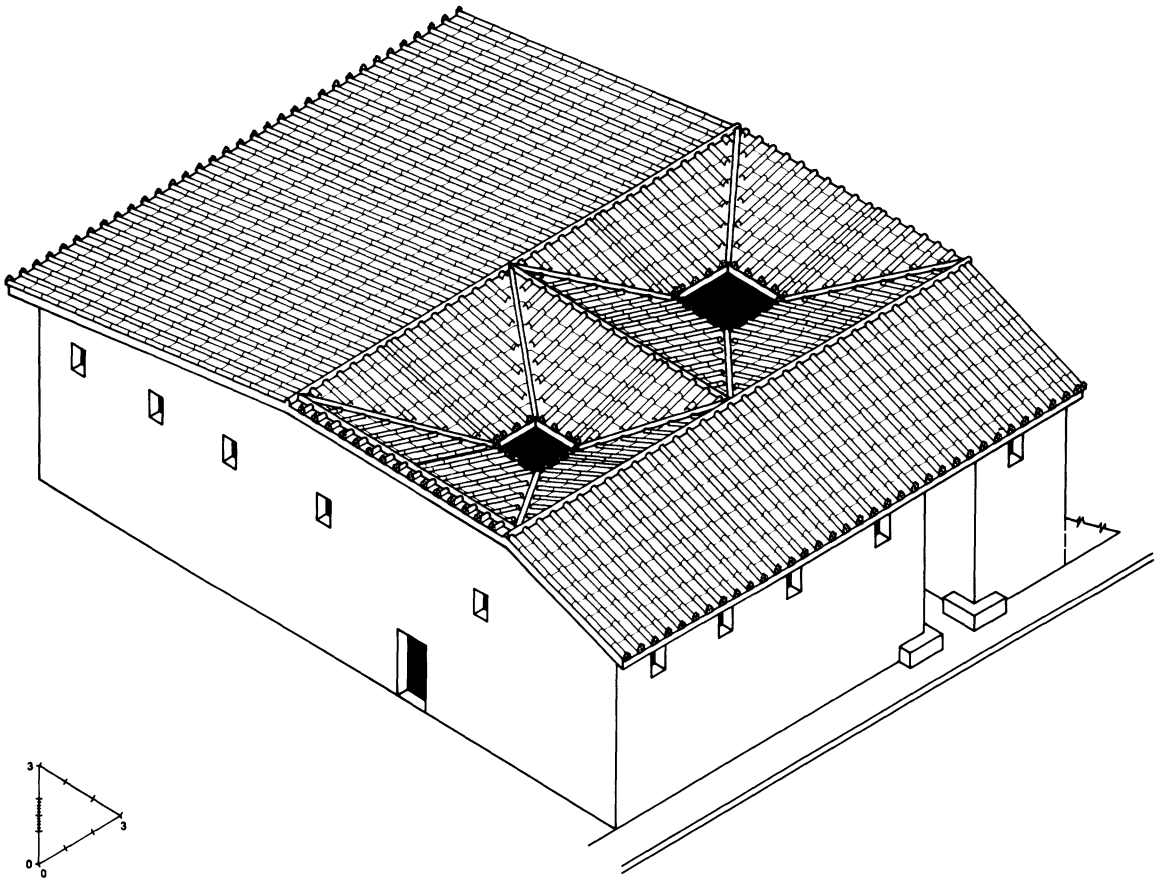


FIG. 44. East Block, Period 2: House of the Birds, restored elevation

ancient ground level, framed by the yard walls on two sides and by mortared stones on the others (Pl. 95). The thin mortared rubble walls that were found in the yard are too insubstantial to have served to support weight or any other purpose than to divide off working places and operations (Pl. 96).

From the lower, or northwest, yard an upper area to the southeast that communicated with the house may not have been accessible. Only the scantiest traces of this upper yard have been uncovered. The ancient ground level was 0.45 m higher than that in the northwest yard, and it is not clear now that the two were connected. There may have been a door in the unexplored southeast wall of the lower yard, or there may have been a more roundabout way from the exit in the southwest wall of the lower yard to the upper.

The only features of the upper yard that can confidently be identified are the rough metaling of the ancient surface of rammed earth with tile, lamp and pottery sherds, and small limestone detritus, and a wall in mortared rubble, 0.45 m wide, that runs northeast-southwest from the southwest wall of the house but



PLATE 95. East Block, Period 2: House of the Birds, lower yard, oven, looking SE



PLATE 96. East Block, Period 2: House of the Birds, lower yard, division walls, looking SW

is not in bond with it. Another stump of construction was found 5.20 m south-east of the first. The full extent of these dependencies is unknown.

Entrance

The main entrance of the house corresponds in location, but not in design, to that of the original northeast house on Street N. It measures 1.68 m in width. The sidewalk in front was repaired with a metaling of earth, small stones, and potsherds and given a finishing coat of signinum. It makes an apron, 1.15 m wide, before the entrance. Two small L-shaped benches of mortared tile and limestone revetted with hard plaster painted red flanked it. The west bench is 1.10 m long along the façade, the east 1.20 m. Along the entrance corridor they measure 1.29 m and 1.18 m, respectively. They are one foot deep and one and one-half feet high (0.295 m by 0.45 m; Pl. 97).

The signinum apron of the sidewalk ends on the line of the façade; the begin-



PLATE 97. East Block, Period 2: House of the Birds, main entrance from Street N, benches flanking the door, looking SE

ning of the entrance throat is cobbled with fragments of tile ending on a line 1.50 m further along. There is then a gap of 0.50 m between the end of the cobbling and the beginning of a signinum pavement where the sill for the front door would have been. A second sill block, 0.50 m deep, remains in place at the inner end of the entrance corridor. The sill is of travertine, a step above the atrium floor (0.20 m).

Water Collection and Storage

The atrium is squarish, $27\frac{1}{2}$ by $26\frac{1}{3}$ feet (8.16 m by 7.80 m), with its impluvium centered on the axis of the entrance. The impluvium was surrounded by a pluteus, 2.10 m by 2.00 m, with an interior measurement of 1.44 m, just under five feet; it is preserved to a height of 0.38 m above the floor. It is built of mortared tile and limestone, revetted with hard plaster and painted red. The impluvium floor is of bricks of sawn tile in a herringbone pattern with a cover-joint of signinum, 0.08 m thick, at the juncture of sides and floor. There are two inlets to the cistern, each 0.08 m in diameter, from the northwest side of the impluvium. The drawshaft is at its west corner; the collar is of travertine, 0.62 m square; the diameter of the drawshaft is 0.52 m. An overflow drain runs beneath floor level toward the west corner of the atrium, then passes below the sill of the corridor (1), runs its length, and empties into the vertical rubblework shaft above the soak-away pit under the floor of Room 4.

The sides and cover of the conduit are made of mortared limestones, the floor of tile fragments and stones with a signinum lining. The channel is 0.18 m wide. Where it enters the rubblework shaft, it becomes a pipe made of sleeved sections of imbrices. It did not drain to the pit under Room 4, however, but discharged its waste through an opening 0.20 m square in the northeast side of the shaft into the fill under the floor of the room.

Rooms off the Main Atrium

The tablinum (Room 5), $15\frac{1}{2}$ by $13\frac{1}{2}$ feet (4.60 m by 4.00 m), is on the main axis of the atrium, open across the front with a broad travertine sill, 2.88 m long between the jambs and 0.70 m deep. There are four rectangular slots for its gate. The side walls of the tablinum are thin mud-brick partitions, 0.24 m thick, and likely the result of a desire to have a tablinum of satisfactory proportions without sacrificing the corridor (1) on the west or a bedroom (2) on the east.

The corridor (1) preserves the orientation of the original house but communicates with the bath unit (3, 12) and a large rectangular triclinium (4). Because of the collapse of the triclinium floor, it is not possible to determine its length. The second of the two drains enclosed in the rubblework shaft is set at floor level behind the northwest wall of the tablinum toward its west corner, which suggests that it was only for the water with which the floor was washed. The conduit is a cylindrical terracotta pipe, its inner diameter 0.25 m, that drained to the soak-away pit under the room. The width of the triclinium would have been c. 12 feet (3.50 m).

The room to the northeast of the tablinum was probably the master bedroom (2) and is divided into two parts. The outer, beyond a raised travertine sill (1.10 m between the jambs, 0.56 m deep), measures 2.75 m by 2.18 m; the inner measures 2.18 m by 1.70–1.90 m. The signinum floor ends on a line between them, and the wall plaster returns northeast just above the floor to mark the division. Beyond this point no floor was found, only fragments of painted plaster fallen from the walls. It is possible that the outer part was an antechamber, the inner part the bedchamber proper, screened off by a thin partition wall in mud brick or simply an elevated platform a step above the level of the antechamber floor. Or it may be that the outer room was the bedchamber and the inner room was accessible from the tablinum. But the evidence of excavation favors the first alternative. The bedchamber on this reading would be comparable in size to a cubiculum (23) in the southwest half of the house.

The other rooms in the northeast half of the house are a tiny cubiculum (13) and ala (15) on the southwest side of the atrium and the small rooms (11, 22) flanking the entrance corridor (24) on the southeast side of the atrium. It is clear from the decoration of these rooms and the principal rooms already described that the northeast half of the house was the more important part.

Decorations: Pavements and Walls

The atrium floor was bordered on all sides by a continuous maeander, 0.53 m wide, made of small black and white limestone tesserae set corner to corner. In addition, the rest of the pavement had a tessellated design of white limestone tesserae laid on their sides and chips of a soft aquamarine calcium carbonate scattered randomly (Pl. 98).

In the tablinum (5) the maeander motif was repeated in a rectangular mosaic panel, 1.70 m by 1.20 m, a continuous perspective maeander design in red, yellow, green, and white tesserae (Pl. 99). The design in the antechamber of Room 2 is in three panels: (1) within two bands of white limestone tesserae, 0.10 m wide, a lozenge network, 0.95 m deep, of small white limestone tesserae set



PLATE 98. East Block, Period 2: House of the Birds, atrium pavement, tessellated pattern



PLATE 99. East Block, Period 2: House of the Birds, tablinum, mosaic panel

corner to corner; (2) a continuous maeander border, 0.53 m wide, made of small black and white tesserae set in the same way; and (3) a random embellishment of black and white limestone tesserae laid horizontally and mixed with chips of the aquamarine calcium carbonate.

The small cubiculum (13), 1.75 m by 1.70 m, was not neglected on account of its size. Beyond its raised travertine sill (0.80 m long between the jambs, 0.40 m deep), the floor is completely covered by a lozenge network panel within two framing bands of small black and white tesserae set corner to corner. The surface was further embellished with random chips of aquamarine and purple stone. In Room 15 the floor was covered with a lozenge network of small green and black stone tesserae within two framing bands of white limestone tesserae 0.10 m wide. (The variation in color is related to the decoration of its walls; see page 176.) It was possible only to determine that there had once been signinum floors in Rooms 22 and 24. That in Room 11 was too badly ruined to permit description.

The small fragment of flooring preserved around the circular drain in Room 4 had a simple design: white limestone tesserae 0.02 m square set corner to corner in rows 0.05 m apart. Fragments of a Second Style painted plaster design recovered at the same time showed that the triclinium had a colorful decoration. Design dimensions could not be established, but various elements can be described. Above a socle of unknown height and color were red orthostats framed by two decorated bands and crowned by a deep cornice. The orthostats show light and shadow lines to indicate drafting, 0.03 m apart, inset 0.055 m from the edge of the panels. The first framing element is a green band, 0.025 m wide, with black outline and white highlight line. The second element is composed of architectural moldings in pavonazetto, 0.035 m wide on the horizontal, 0.065 m wide on the vertical. The top horizontal molding is a row of deep, narrow dentils colored lavender with white and dark purple vertical lines to suggest relief. The bottom horizontal molding is an ovolo with dark purple veining, lavender midground, and white background. The vertical molding is a cyma reversa with dark purple veining, lavender midground, and white background. The division between the curves is marked by a red stripe 0.01 m wide with black outline and white highlight line (Color Plate IIa, b, c).

The dimensions and surroundings of the orthostats are unknown. Some fragments preserve two red stripes framing a central black line, each 0.02 m wide, below the horizontal ovolo molding. Below the central stripe appears blue-black color. Above the top horizontal molding is a deep marble cornice in tones of purple, c. 0.20–0.25 m high, with highlights.

There followed a transitional band succeeded by Second Style running ashlar blocks two courses high, each c. 0.085 m high, the lower a stretcher course, the upper a header course. Two header blocks equal the length of one stretcher. The color scheme is green, purple, and yellow; above the green stretcher were a yellow and a purple header, above the purple stretcher a green and a yellow

header, and above the yellow stretcher a purple and a green header. The panels have black and white shadow and light lines.

The transitional band is of unknown height. From bottom to top it consists of horizontal bands of different dimensions in lavender, black, red, yellow, black, and red. Above the second red band appears a purple stretcher panel. The bands of dark color have highlight lines.

From the tablinum (5) came fragments of a red socle of unknown height and a string course 0.12 m wide composed from bottom to top of green, yellow, red, yellow, and green bands with black outlines and white highlight lines. The ground color above and below the string course is red.

Another group of fragments shows small Second Style running ashlar blocks in header and stretcher courses. Preserved are two red headers over a green stretcher. The panels are 0.085 m high and have interior light and shadow lines. The red headers are framed by purple bands 0.02 m wide with black outlines and white highlight lines. The green stretcher is framed by a red stripe 0.01 m wide. Below the frame is a purple band 0.015 m wide. From Room 2 came fragments of purple, yellow, and green plaster, which reproduce the colors of the floor but cannot be assigned to a particular place in the wall decoration.

The small cubiculum (13) preserves fragments of a yellow socle on its walls to a maximum height of 0.32 m above the floor. Scattered over the floor were found fragments of small header and stretcher panels in green, purple, and yellow.

The southwest side of the atrium may have had a yellow socle. The ala (15) has yellow plaster preserved on the lower parts of its three walls to a maximum height of 0.70 m above the floor. A black vertical band framing the opening to the atrium on either side finished a lively decoration that ran around the walls of the ala. The decoration is a frieze of red, white, and brown birds (thrushes) perched in green vine scrolls spreading from a central clump of acanthus, presumably from the center of the southwest wall of the ala. The background is yellow, the height of the frieze probably two to three feet. The frieze ran above a deep horizontal cornice probably 0.20–0.25 m high and stood high on the wall, as the perspective of the painted cornice indicates. There may have been a zone in blue above (Color Plate I).

The motif is familiar from molded Arretine bowls of the Augustan period but less common in painting, although Pliny the Younger attests to the enduring popularity of the theme and its variations in the description of his Tuscan villa: *Est et aliud cubiculum . . . marmore excultum podio tenuis, nec cedit gratiae marmoris ramos insidentesque ramis aves imitata pictura* (Ep. 5.6).⁷ In the pottery the influence of contemporary carving and stuccowork is clearly to be seen, as Oswald and Pryce

7. One may cite from Cosa C68.575 an early molded bowl with this design from the workshop of P. Cornelius (Oxé-Comfort CVA, nos. 478, 479) and

the landscape paintings from the Villa of Livia at Prima Porta in the Museo Nazionale Romano (Terme).

observed long ago.⁸ Yet while vine scrolls recur in Second Style wall decorations, from the House of the Griffins on the Palatine to the House of Vedius Siricus in Pompeii, there does not, to my knowledge, survive an example with which the Cosan decoration overall can be closely compared.⁹ I consider a stucco motif its most likely inspiration and note as well that the warm yellow and bright green tones of the painting are complemented by the color scheme of the pavement in the ala and by its setting on the southwest side of the atrium, where it was favored with morning light.

Limited excavation in Rooms 22 and 24 on the southeast side of the atrium produced elements of other decorations. Notable are fragments of a flat red orthostat with interior light and shadow lines to suggest drafting inset 0.037 m and 0.03 m from the panel edge. The panels are elaborately framed. First is a simple marble (?) cavetto molding with light and shadow lines 0.04 m wide. Then comes a flat purple band 0.02 m wide on the vertical, 0.018 m wide on the horizontal. Next is a polished bronze bead and reel rendered plastically 0.02 m wide on the vertical, 0.018 m wide on the horizontal. Above the bead and reel runs a horizontal Lesbian leaf, also plastic, 0.03 m high. This molding ran above at least two panels before cornering and was probably simply continuous on the horizontal. Between the orthostats the frames show a second purple band 0.03 m wide framing the bead and reel.

Above the Lesbian leaf appears a row of colored marble panels 0.08 m high, drafted and framed by red bands 0.015 m wide. The width of the panels is unknown. The color scheme alternated purple, green, and yellow marbling imitating freely alabaster, verde antico, and giallo antico. Above the course of the panels is a deep white marble cornice, perhaps 0.20–0.25 m high, finished with an egg and dart under a cavetto (Color Plate II*d*). Above the cornice is a red and yellow string course of unknown dimensions, above which were small running ashlar blocks probably two courses high and alternating solid colors with marbled colors. The colors are purple, green and yellow.

Fragments of three upper-zone decorations may also be mentioned. One is a frieze of delicate golden brackets edged with white that cast shadows on the violet background and seem to carry a deep coffered cornice, perhaps 0.20–0.25 m high. The brackets are 0.10 m high; the intervals between them may have been c. 0.15 m wide. They spring from individual little modillions. The background is violet, the shadows dark purple (Color Plate II*e*).

The second group of fragments shows white half-palmettes as acroteria crowning piers or pilasters. The background is sky blue, the height of the half-palmettes 0.07 m. The third group of fragments shows a cornice in perspective in red, purple, and white on a yellow background with black shadow bars. No

8. See F. Oswald and T. Pryce, *An Introduction to the Study of Terra Sigillata* (London, 1920), especially pl. 25.7.

9. Cf., for example, H. G. Beyen, *Die pompejanische Wanddekoration vom zweiten bis zum vierten Stil* 2 (The Hague, 1960), Abb. 180–84.



COLOR PLATE I. East Block, Period 2: House of the Birds, ala, frieze of scrolled vines peopled with birds

COLOR PLATE II. East Block, Period 2: House of the Birds (a, b, c), triclinium, painted decoration of Second Style; (d) Rooms 22/24, painted decoration of Second Style; (e) painted decoration of Second Style with brackets



b



a



c



d



e

design dimensions could be obtained. The last group may belong on the southwest side of the atrium.

Finally there are elements of First Style panels from the atrium and possibly the corridor connecting this with the small atrium in the southwest half of the house. The panels measure one by two feet (0.31 m by 0.60 m) and were set vertically, separated from one another by drafted margins 0.035 m wide. The color sequence of the panels was green, white, marbled purple, white, yellow, white. The margins are green, red to purple, and yellow for those of other colors, and red around the white panels. Above the panels the plaster is white and there is an incised groove 0.12 m above the panels marking a string course.

The overall harmony of wall and floor decoration in these principal rooms of the house is worth remarking. Only one room in the southwest part of the house seems to have been favored with a comparable wall decoration, although the other rooms were certainly plastered. From Room 23 came fragments of Second Style running ashlar header and stretcher courses in green, yellow, and purple. The main service rooms, the bath (3, 12) and the kitchen (14), had utilitarian tile floors. The walls of the kitchen and of the bath were painted flat red, presumably to the height of a high socle, as is usual, for example, in Pompeii.

The only other remains of architectural decoration are the terminal cover tiles with antefixes from the roof. A raised sword and pruning-hook palmette antefix with plain calyx, perhaps a blurred pressing of a shell (C68.444), was found behind the main atrium. It had four blades springing to either side of the central one, the lowest curling down, the others up. The height of the antefix is 0.23 m, the width 0.17 m. No trace of paint is preserved. As no fragment of a compluvium sima was found within the house, it is assumed that the same type of antefix decorated the compluvia (Pl. 100).

A fragment of another antefix (C70.639) was found below the back wall of the house. It is identical in design with other fragments recovered from the porticoes along the northwest and southwest sides of the Forum. The antefix type is a raised sword and sickle palmette, its calyx decorated with a classicizing female head. The Forum antefixes are dated 175–170 B.C.; hence the fragment found below the House of the Birds is unlikely to belong to its decoration.¹⁰

Rooms off the Secondary Atrium

The bathing rooms have already been discussed in some detail (page 38). The probable cause of their abandonment seems to have been the collapse of one of

10. See *Cosa III*.



PLATE 100. East Block, Period 2:
House of the Birds, compluvium
antefix

the floors (Pl. 101). Its upper surface was made of sections of tegulae embedded flange down in the rudus. The reason for the collapse was the settling of the underlying fill, which overlay part of the original soak-away pit of the southwest republican house. The fill was 0.65–0.70 m deep and consisted of earth mixed with stones of various sizes, potsherds, and fragments of tile. The rudus is 0.10 m deep over a stratum of sand of the same thickness laid over the fill.¹¹ It cannot be determined whether the rinsing room (12) communicated with the kitchen through its southwest wall. It drained to the soak-away pit under the floor of the bath (3) through a cylindrical conduit 0.18 m in diameter in the northwest wall. The floor originally would have sloped toward this from southeast to northwest.

The kitchen (14) had a pavement made of tiles sawn in lozenges and rectangles set in the rudus. The lozenges (0.13 m by 0.08 m) cover the northern half of the floor, the rectangular bricks (0.10 m by 0.06 m) the southern half. A raised signinum cover-joint 0.08 m high runs around the room at the juncture of wall and floor. The floor slopes from two directions toward a drain in the southwest wall a little northwest of center. The conduit was 0.20 m wide and sheathed in

11. For the abandonment of the bath, see page 39.



PLATE 101. East Block, Period 2: House of the Birds, Room 12, looking NE

lead where it passes under the wall. It joined the overflow conduit from the small atrium below the floor in Corridor 2 and so eventually drained to the soak-away pit under Room 3. The kitchen hearth is in the east corner of the room and next to it is a small, shallow signinum basin 0.22 m deep, the interior of which measures 1.00 m square. The mortared tile and stone bedding for the doorsill is preserved at the southeast end of the southwest wall and measures 0.90–1.00 m. The kitchen communicated with both halves of the house through Corridor 2 and the door between the atria.

The second atrium has an impluvium identical in construction and finish with the first. Its location is different, as its southwest side abuts on the northeast wall of Rooms 18 and 19, so there was no pluteus on this side. It is preserved to a maximum height of 0.30 m above the floor and has two circular inlets (0.06 m in diameter) to the cistern in its northwest side. There is a thick signinum cover-joint 0.08 m high at the juncture of the sides and floor of herringbone brick. The interior measures 1.20 m by 1.10 m. The sides are painted red.

The drawshaft of the cistern is 0.61 m in diameter; no fragment of a puteal was found. The drain for overflow ran from the impluvium below floor level the length of Corridor 2, joined along its course by two other conduits, and origi-

nally discharged beyond the northwest wall of the house into the remains of the garden of the House of the Skeleton below. But perhaps after the abandoning of the bath in Room 3 it was diverted into a shallow rectangular signinum basin filling the ell at the northeast end of Room 6, from which it drained into the soak-away pit below that room and Room 3.

The sides of the drain are made of fist-sized limestones mortared together, and the floor of sherds of storage vessels faced with signinum. The cap is made of fragments of tiles, potsherds, and flat slabs of limestone and mortared. The width of the channel is 0.28 m, its depth 0.33 m. The basin in Room 6 measures 3.00 m by 1.10 m on the interior. The floor is made of tiles sawn square, 0.20 m on a side, mortared in the rudus. The raised signinum cover-joint at the juncture of the sides and floor is 0.06 m high. It is possible that Room 6 became a replacement for the bath and rinsing room unit (3 and 12), although nothing to support the hypothesis was found in the western part of the room.

There were steps at two locations reflecting changes in floor level along Corridor 2; a step on the line of the northwest wall of the original republican house and a step on the line of the southeast wall of Room 14. Only the mortared tile and limestone bedding for the steps survives (Pl. 102). The widths are 0.95 m and 1.00 m, respectively, the depths 0.32 m and 0.40 m.

One other room in the southwest half of the house where water was used is the washing room (17) adjacent to the entrance to the house from the work areas outside (18). The juncture of the plastered walls and signinum floor was protected probably on all sides by broad signinum cover-joints 0.10–0.20 m high. The settling of the floor and the erosion of the cover-joints now make their efficacy appear parlous, but there is a circular inlet leading to the drain in Corridor 2, 0.42 m in diameter, against the northeast wall of the room, 1.00 m from its east corner. The interior measurements of the room are 3.80 m by 2.10 m. The mortared tile and limestone bedding for its sill block (0.80 m wide, 0.34 m deep) is preserved in the south corner of the room. Its situation and design find ready parallels in the Casa delle Volte Dipinte at Ostia of presumed Hadrianic date (*Ostia 2: Topografia generale* [Rome 1953] 137 and plan 6), but the type is common and persistent in domestic architecture of the first two Christian centuries. The location suggests that the room was especially for the use of persons coming from the dependencies outside.

For the rest the southwest half contains five small rooms with plastered walls and signinum floors arranged along Corridor 2. The interiors of three of them (16, 19, 20) measure 2.70–2.75 m by 2.25–2.30 m; the interiors of two (1, 23) measure 2.28–2.30 m by 2.04–2.08 m. All would be suited to use as bedrooms or store-rooms. The larger might conceivably accommodate two persons, the smaller probably only one.

The division of the house into halves is not simply the result of reworking the original pair of houses; the utilization of the space available evokes on a small scale the shape of such Pompeian houses as those of Menander and the Cente-



PLATE 102. East Block,
Period, 2: House of the Birds,
Corridor 2 with step, looking
SE

nary, in which a clear division exists between the family and service areas.¹² This is not to say that only servants and services occupied the southwest half of this house, but that the two halves served different purposes. This emerges from the plan and from the contrasting states of preservation and their decoration. From only one room in the southwest half (23) were any fragments of a painted Second Style decoration recovered. The other rooms preserve plaster to various heights on their walls, but there is no trace of color. Nor was much attention paid to the floors, whether new or old, so that they are far more ruinous than those in the northeast half (Pl. 103).

12. House of the Menander, 1 x 4; House of the Centenary, ix viii 3/6. Cf. A. Maiuri, *La Casa del Menandro* (Rome, 1933), 1.186.



PLATE 103. East Block, Period 2: House of the Birds, secondary atrium, looking NW

Date

The organization and use of the house are intelligible enough. The questions that remain involve its history. The soak-away pits took only waste water and so offer no clue to how long the house was inhabited.¹³ The excavation of the cistern in the large atrium, however, produced a fine assortment of first-century A.C. pottery, chiefly jars and pitchers (Figs. 45, 46).¹⁴ The material suggests a *floruit* for

13. No fragment of *sigillata chiara* was found in either one; the catalogued fragments of Arretine are early, for example C68.572, base fragment of a plate with four rectangular stamps AV radially disposed impressed on the floor. The same stamp appears on a black-glaze base from Bolsena (MEFRSupp 6.1.333; cf. Oxé-Comfort CVA, no. 2317). C68.532, a shallow carinated cup with a stamp of a single central rosette impressed on the floor, looks to be earlier than a similar cup from Bolsena dated to the last decade of the first century B.C. (MEFRSupp 6.1.303). The latest piece of Arretine is an uncatalogued body fragment

from a molded crater. The latest uncatalogued sherds of fine ware are of Augustan-Tiberian Form 36, hemispherical bowl (Moevs *Thin Walled Pottery*, 106–7).

14. The smaller domestic ware shapes from the sediment layer of the cistern have parallels at Sutri (G. C. Duncan in *PBSR* 32 [1964], 38). C70.425, a Class 17 jar (Dyson *Utilitarian Pottery*, 132) =Sutri Form 29 (Pl. 107). C70.451 is probably the complete form of Dyson's Class 3 pitcher (Dyson *Utilitarian Pottery*, 106) and the equivalent of Sutri Form 30, but

the house in that period. A somewhat longer span is suggested for the area just above Street N to the southeast by the material recovered from the excavation of Street N itself.

The date of construction may be fixed generally as Augustan, since so much of the debris of the republican period was used as fill. A sounding to examine the foundations of the northwest and southwest walls of Room 6 produced the same spectrum of material encountered in other areas, in Room 4, the lower work yard, and over the abandoned garden of the House of the Skeleton. Some useful material did appear in the construction level relating to the rebuilding of the southwest wall of the house and the creation of the upper work area (Pls. 104, 105).

In addition to single fragments of an Arretine Haltern Service 1 plate and cup, fragments of another red-glaze plate were found that joined with others that had been mortared into the top of the drain in Corridor 2 (Pl. 106). The plate (C71.150) imitates an eastern sigillata form (Kenyon A.1) but was made in

it was given a corded surface treatment on the wheel.

C70.471 and 483 are whole specimens of Dyson's Class 10 pitcher (Dyson *Utilitarian Pottery*, 134) =Sutri Form 30/32. C70.495 is a complete specimen of Dyson's Class 9 pitcher (Dyson *Utilitarian Pottery*, 154–55) =Sutri Form 32. C70.554 combines Dyson's Class 3 base and Class 20 jar (Dyson *Utilitarian Pottery*, 136, 155) and is a two-handled version of Sutri Form 30. C70.555, another Class 17 jar (Dyson *Utilitarian Pottery*, 132) =Sutri Form 29. C70.558 =Sutri Form 34, while C70.559 is a whole specimen of Dyson's Class 4 jug (Dyson *Utilitarian Pottery*, 110) =Sutri Form 30. The body was given a corded surface treatment. C70.562 a/b =Sutri Form 38. C70.563 =Sutri Form 1, and C70.566 is a Dyson Class 1 lid (Dyson *Utilitarian Pottery*, 100). C70.655 a/b has no parallel either at Sutri or at Cosa. It is a globular, flat-bottomed jar with prominent neck and flaring rim and two broad, thin strap handles. Comparanda exist in pottery and glass for the individual features, but to my present knowledge, none for the whole vessel in Italy.

There were two Arretine stamps: C70.444 LNONPI (crescent) and C70.445 SEX.M (p.p.). Cf. Oxé-Comfort CVA, nos. 1139, 1054. A fragment from the base of a small sigillata chiara Type B cup or bowl was also recovered. It may be noted that C70.451 from the sediment layer and C71.217 from Room 23 are a pitcher and bowl exhibiting the same surface treatment.

The catalogued amphorae (C70.468 and 645–653) in type and fabric are all small African examples (Will *Storage Ware*, Type 21A) and were recovered from the heap of dump material introduced into the cistern at a later date (see below, note 17, and Pl. 108). One of them, C70.646, has the stamp PAS in raised letters on its rim. While the figlinae Paserari of Corduba in Spain are known in Rome from the mid-second century A.C. (CIL 15.3084a and the titulus pictus 4026c), the Cosan stamp will hardly suffice to link them to Africa, despite the well-known inscription of Antonine date (CIL 2.1180) connecting Spanish and African oil production in the administration of the *annona* and other evidence for relations between the two areas; see M. Beltran Lloris, "El aceite en Hispania a traves de las anforas: la concurrencia del aceite italico y africano," in *Produccion y comercio del aceite en la antigüedad* (Madrid, 1983), 515ff. It can, however, add to the growing body of evidence bearing on the distribution of the African types in Italy. See now, with bibliography, E. Rodriguez-Almeida in *BCom* 84 (1974–75, published 1977), 199ff. and especially 238–44. Moreover, the form and placing of the Cosan stamp—raised letters on the rim of the amphora—suggest an early specimen of the African type. Cf. C. Panella, "I contenitori oleari presenti ad Ostia in età antonina: analisi tipologica, epigrafica, quantitativa," in *Produccion y comercio*, 225ff. and especially 235.

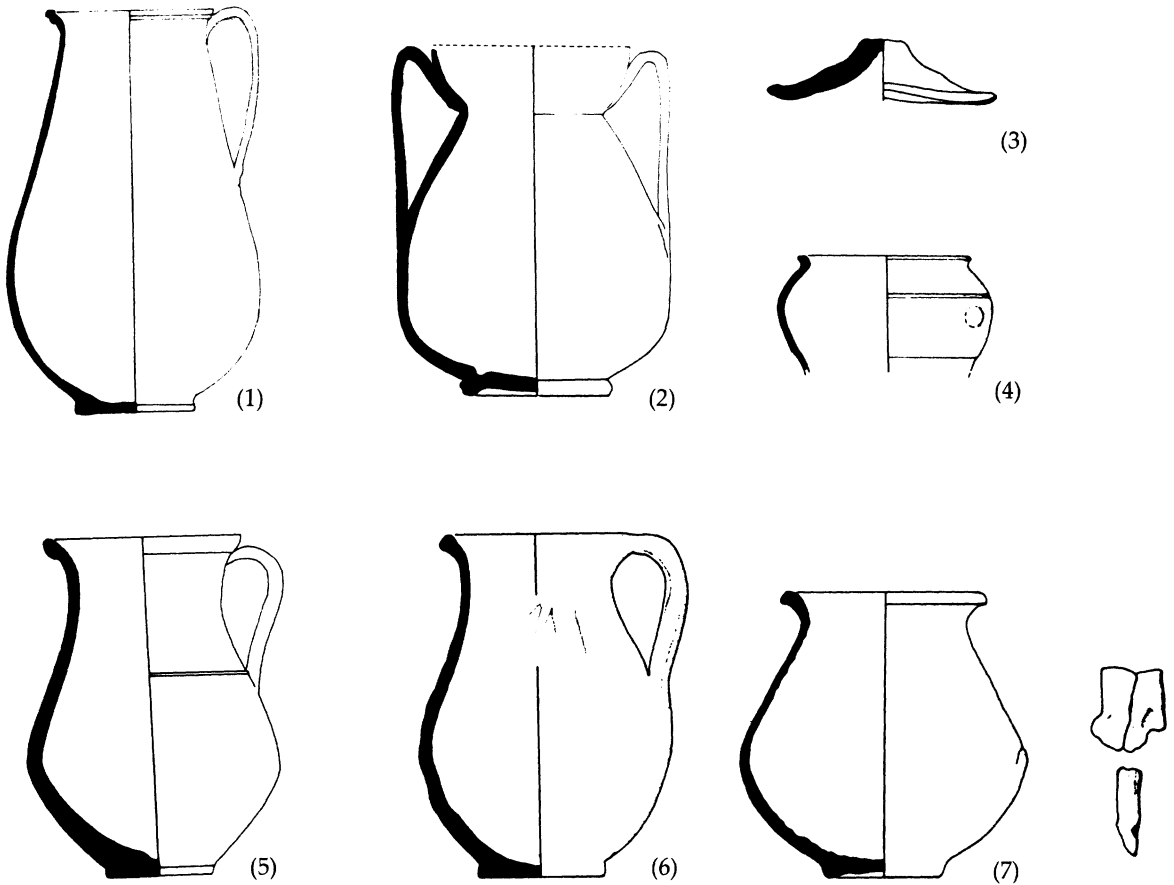


FIG. 45. East Block, Period 2: House of the Birds, pottery from the cistern. Upper row: (1) C70.559, (2) C70.555, (3) C70.566, and (4) C70.563. Lower row: (5) C70.495, (6) C70.483, and (7) C70.471

Arezzo.¹⁵ It and the Service 1 fragments represent forms that appeared before 40 B.C.¹⁶ The construction of the house as part of the Augustan reoccupation of Cosa can be set in the years 40–20 B.C. It probably remained in use into the Flavian period. But even after it was abandoned, some occupation may have continued here until late in the third century A.C.

At a later date the stumps of the southeast and southwest corridor walls were reinforced, the door in the southeast wall was blocked, and efforts were made to fill the cisterns with debris gathered from the Forum. The specific date and

15. Cf. *Samaria-Sebaste 3: The Objects* (London, 1957), 284–89. From the fill at the south angle of the Arx came a fragment of another plate (sample 14) that may be an import. The clay is fine, cream to

yellow; the glaze is thick, firm, lustrous red-brown. These details correspond to Kenyon's description of an A fabric.

16. Cf. *MEFRSupp* 6.1.278.

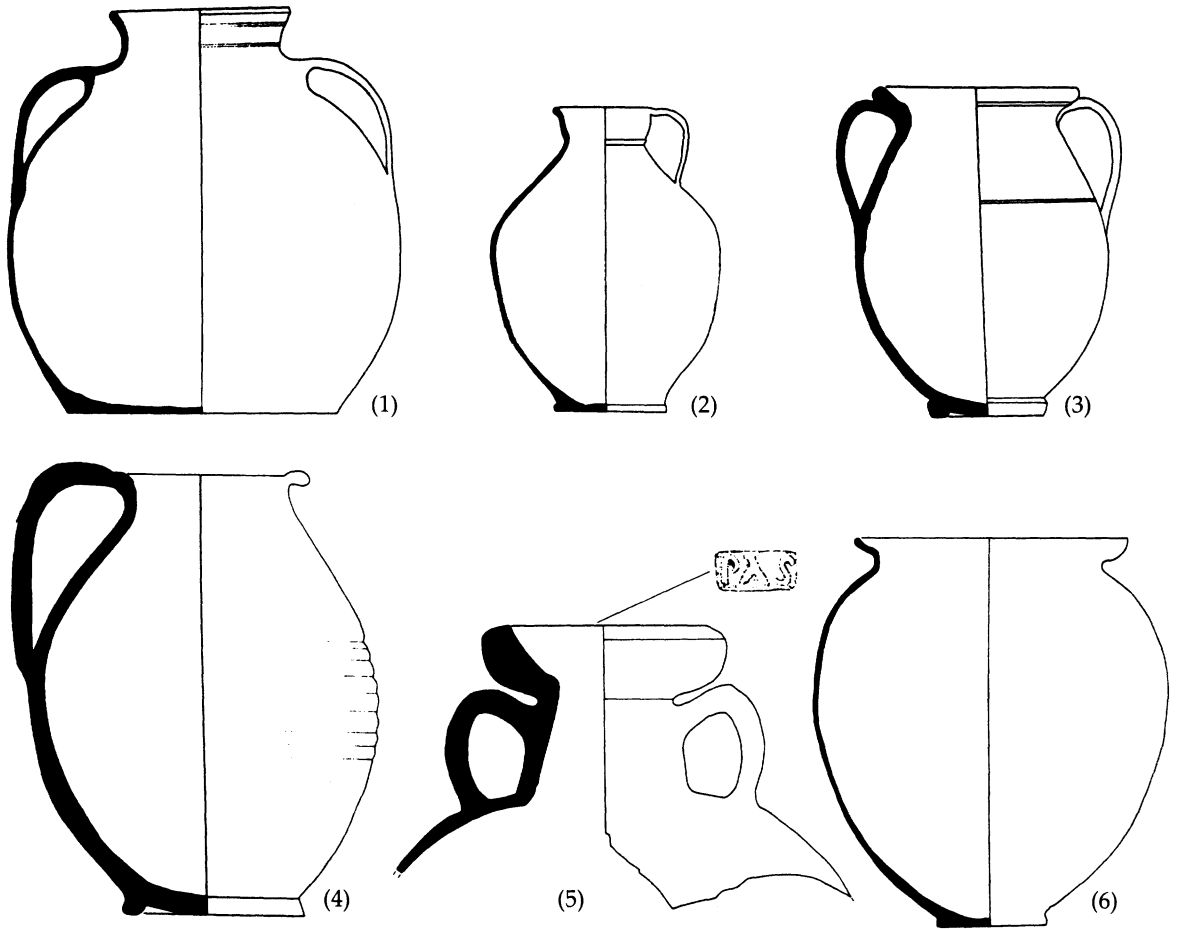


FIG. 46. East Block, Period 2: House of the Birds, pottery from the cistern. Upper row: (1) C70.655, (2) C70.562, and (3) C70.554. Lower row: (4) C70.451, (5) C70.646, and (6) C70.558

purpose of this activity are unknown, but it is recorded here as the last evidence of construction in the East Block.¹⁷

17. In this fill was found the inscription of the emperor Maximinus commemorating repairs ordered in the Forum of Cosa at the town's expense. It

is in itself something of an epitaph for the Augustan town. See R. T. Scott, "A New Inscription of the Emperor Maximinus at Cosa," *Chiron* 11 (1981), 309.



PLATE 104. East Block, Period 2:
House of the Birds, foundation
trench, looking NW



PLATE 105. East Block, Period 2: House of the Birds, sounding along southwest wall,
looking NE



PLATE 106. East Block, Period 2: House of the Birds, Corridor 2, drain, looking NE



PLATE 107. East Block,
Period 2: House of the Birds,
two-handled jar from cistern



PLATE 108. East Block, Period 2: House of the Birds, amphora from cistern

APPENDIXES

Appendix 1. I Resti Faunistici Provenienti dalle Case Romane di Cosa (Ansedonia) by Dott. Salvatore Scali (Museo Nazionale d'Arte Orientale)

Oggetto della presente nota sono i resti animali rinvenuti nella discarica della casa repubblicana dell'Isolotto EST, che coprono un arco di tempo di circa venticinque anni (dal 200 al 175 A.C.).

Sicuramente questa discarica è stata più volte svuotata e il materiale in esame testimonia l'ultimo periodo di occupazione prima dell'abbandono della discarica. Queste considerazioni, avallate con lo studio della ceramica trovata insieme ai resti ossei, sono avvalorate dallo stato di conservazione delle ossa.

In generale, le ossa inglobate in terreni ricchi di acqua, la decomposizione batterica si può arrestare quasi completamente ed il deterioramento si prolunga per tempi maggiori e le ossa si presentano con un aspetto di freschezza e conservano buona parte della materia organica. La fauna in studio si presenta in buono stato di conservazione, ciò ha contribuito ad un'alta percentuale di determi-

nazione, circa 82% dei 142 resti che compongono il campione faunistico in esame.

Dal totale del campione (142), 117 sono stati determinati e il risultato di questo lavoro di determinazione ed attribuzione con relativi dati desunti dallo studio osteologico è descritto negli elenchi allegati e riassunti nella tab. 1. Negli elenchi sono state descritte le ossa tenendo conto l'appartenenza alla specie, l'elemento anatomico, il lato dex. o sin. della regione anatomica, indicazioni riguardanti l'integrità dell'osso e se rappresenta una parte di esso (prossimale, diafisi, distale), tenendo conto delle epifisi se sono saldate, mancanti, o in fase di saldatura; questo per poter ricavare i dati inerenti all'età di macellazione. In particolare, per il cranio e le mandibole, questi dati sulle classi di età si ricavano dall'eruzione dei denti e dall'usura degli stessi. Altre informazioni, deducibili dallo studio osteologico, e riportate negli elenchi, sono le eventuali tracce di utilizzo da parte dell'uomo come scarnificazione, tracce di segature e bruciature.

Da questo quadro descrittivo, riportato negli elenchi, si può notare che i resti appartengono quasi tutti alla fauna mammologica domestica, da tempo affermata e utilizzata come fattore economico in tutta la penisola, quindi comune per questo periodo romano. Gli animali più rappresentati sono nell'ordine gli ovicapri e il maiale, rispettivamente con 62 resti, pari al 52,9% e 43 resti pari al 36,8% del totale della fauna. Questi resti rappresentano gli animali in quasi tutte le parti anatomiche che compongono lo scheletro, con percentuali diverse per ogni singolo elemento anatomico riportato in tab. 1.

Al terzo posto si inserisce il bue, con 6 frammenti, pari al 5,1%, si può ipotizzare che la macellazione di questo grosso mammifero avveniva fuori dal contesto archeologico in esame e solo alcune parti di esso venivano introdotte, al contrario degli animali prima trattati che indicano un utilizzo dell'intero animale, nonchè la macellazione nei pressi della discarica. Una simile considerazione merita l'unico resto attribuito al cavallo.

Dalle classi d'età, ricavate dalla saldatura delle epifisi e dalla eruzione dei denti, si deduce che gli ovicapri venivano in maggioranza macellati in età giovane (sotto i due anni), i maiali, in parte in età giovane, ma i più in età adulta (dopo i 24 mesi), mentre i resti di bue appartengono a individui macellati attorno al 30° mese di vita. Dall'analisi osteologica si ricava che i resti rappresentano avanzi di pasto, lo testimoniano le tracce di scarnificazione, le ossa segate e bruciate.

L'esiguità del campione in oggetto non permette di fare considerazioni di ordine economico, ne indagini particolari come il numero minimo, resa in carne, pratiche di macellazione e sfruttamento ecc. Ciò si potrà fare in futuro se si dispone di una maggiore quantità di materiale dello stesso contesto archeologico. Tuttavia l'importanza di queste faune è considerevole, perché ci permette di affacciarsi in quel quadro storico della Roma repubblicana, sino ad oggi nota solo in base alle fonti antiche e a pochissimi lavori di zooarcheologia.

ELENCO DEI REPERTI OSSEI C71 VI D.E Room 12 L.II

Bos taurus

- Vertebre: 1. Framm. di vertebra lombare. Segato.
- Bacino: 1. Framm. di coxale destro, ileo e parte della cresta ischiatica.
2. Framm. segato: ileo.
3. Framm. della cresta ischiatica.
- Metapodi: 1. Framm. di metapodio, estremità distale priva di apofisi, appartenente ad individuo giovane di età inferiore ai 30 mesi.
- Falangi: 1. II falange.

Ovis vel capra

- Cranio: 1. Parte destra di cranio segata sagittalmente. Comprende l'arcata sopracciliare, il frontale, il temporale e il parietale. Giovane.
2. Parte sinistra di cranio segata sagittalmente, comprendente: l'arcata sopracciliare, il frontale e il temporale.
3. Parte sinistra di cranio segata sagittalmente, comprendente: l'arcata sopracciliare, frontale, temporale, occipitale e collo della cavicchia ossea del corno. Adulto.
4. Parte sinistra di cranio. Frammento dell'arcata sopracciliare e del frontale.
5. Framm. di frontale destro segato sagittalmente. Giovane.
6. Frammento.
7. Frammento di frontale con parte dell'arcata sopracciliare.
8. Condilo dell'occipitale sinistro e parte del processo giugulare.
9. Condilo dell'occipitale sinistro.
10. Condilo dell'occipitale destro.
11. Framm. dell'arcata zigomatica destra.
12. Framm. dell'arcata zigomatica sinistra.
13. Framm. dell'arcata zigomatica destra.
14. Framm. di frontale sinistro.
15. Framm. di cresta temporale sinistra.
16. Framm. di cresta temporale sinistra.
17. Framm. del processo zigomatico del frontale e base del corno destro.
- Mascella: 1. Framm. di mascellare sinistro con: P2, P3, P4, M1, M2, M3. Adulto.
2. Framm. di mascellare sinistro con dentatura da latte appartenente ad individuo di età inferiore alle 6 settimane.

3. Framm. di mascellare sinistro con dentatura da latte.
Appartiene ad individuo di età inferiore alle 6 settimane.
- Mandibola: 1. Ramo mandibolare sinistro, privo del diastema e della porzione incisiva.
2. Porzione molare sinistra con: P2, D1, D2, appartenente ad individuo di età inferiore ai 12 mesi.
3. Framm. di porzione molare sinistra con P2, P3, D1, D2, appartenente ad individuo di età inferiore ai 12 mesi.
4. Framm. di ramo mandibolare con: P2, P3, D1, D2, appartenente ad individuo di età inferiore ai 12 mesi.
5. Framm. di ramo mandibolare destro con: P2, P3, D1, D2, appartenente ad individuo di età inferiore ai 18 mesi.
6. Framm. di ramo mandibolare destro.
7. Framm. di ramo mandibolare destro.
8. Framm. di ramo mandibolare sinistro, giovane.
9. Frammento.
- Denti: 1. Dente inferiore da latte
2. M1 superiore.
- Vertebre: 1. Framm. di vertebra cervicale.
2. Framm. di vertebra lombare. Segato.
3. Framm. di vertebra lombare. Segato.
4. Framm. di vertebra lombare. Segato.
5. Framm. di vertebre lombare. Segato.
- Scapola: 1. Scapola destra di individuo adulto.
2. Scapola destra di individuo adulto.
3. Scapola destra di individuo giovane.
- Omero: 1. Framm. di omero destro, estremità distale con apofisi staccata, appartenente ad individuo di età inferiore ai 10 mesi.
2. Framm. di omero destro, estremità distale, giovane.
3. Framm. di omero destro, estremità distale, appartenente ad individuo di età inferiore ai 10 mesi.
- Radio: 1. Framm. di radio destro, estremità prossimale.
2. Framm. di radio sinistro, estremità prossimale. Giovane.
3. Framm. di radio sinistro, estremità prossimale. Giovane.
- Ulna: 1. Framm. di ulna sinistra. Parte dell'olecrano.
2. Framm. di ulna destra.
- Bacino: 1. Framm. di coxale. Ischio.
- Femore: 1. Framm. sinistro, estremità distale priva di apofisi, appartenente ad individuo di età inferiore ai 36 mesi.
2. Framm. estremità distale priva di apofisi, appartenente ad individuo di età inferiore ai 36 mesi.
3. Framm. estremità prossimale priva di apofisi, appartenente ad individuo di età inferiore ai 30 mesi.

- Tibia:**
1. Tibia sinistra priva delle due apofisi, appartenente ad individuo di età inferiore ai 18 mesi.
 2. Tibia sinistra priva delle due apofisi.
 3. Tibia destra priva delle due apofisi.
 4. Apofisi prossimale di tibia destra, appartenente ad individuo di età inferiore ai 42 mesi.
- Metapodi:**
1. Metacarpo sinistro privo dell'apofisi distale, appartenente ad individuo di età inferiore ai 18 mesi.
 2. Metacarpo privo delle due estremità.
 3. Metatarso privo dell'apofisi distale, appartenente ad individuo di età inferiore ai 20 mesi.
 4. Metacarpo destro.
 5. Frammento di metatarso sinistro privo dell'apofisi distale, appartenente ad individuo di età inferiore ai 20 mesi.
 6. Frammento.
- Calcagno:**
1. Calcagno sinistro, appartenente ad individuo di età inferiore ai 30 mesi.

Sus scrofa domesticus

- Cranio:**
1. Framm. di temporale e parietale sinistro.
 2. Framm. di arcata zigomatica sinistra.
 3. Framm. di arcata zigomatica sinistra.
 4. Framm. di occipitale, parte sinistra.
 5. Framm. di lacrimale destro e parte dello zigomatico.
- Mascella:**
1. Framm. di mascellare sinistro con P3, P4, M1 e frammento di M2. Adulto.
 2. Framm. di mascellare destro con canino e alveolo di P1. Adulto.
 3. Framm. di mascellare destro con frammento di dente da latte. Appartenente ad individuo di età inferiore alle 7 settimane.
- Mandibola:**
1. Framm. di ramo mandibolare destro, porzione anteriore. Presenta due incisivi e la radice del canino. Adulto.
 2. Ramo mandibolare sinistro, privo del processo condiloideo. È presente la dentizione da latte con P4, D1, D2 ancora nell'alveolo. Sono presenti gli alveoli di altri denti. Appartenente ad individuo di età inferiore ai 10 mesi.
 3. Ramo mandibolare sinistro con D1 e D2 ancora nell'alveolo, appartenente ad individuo di età inferiore ai 10 mesi.
 4. Framm. di ramo mandibolare sinistro. Parte posteriore dell'arcata dentaria. Adulto.
 5. Framm. di ramo mandibolare sinistro con P3, P4. Adulto.

6. Framm. di ramo mandibolare destro con D1 da latte, appartenente ad individuo di età inferiore ai 10 mesi.
 7. Framm. di ramo mandibolare destro con P4, M1 e parte di M2.
 8. Framm. di ramo mandibolare sinistro. Giovane.
- Denti:
1. P4 destro inferiore.
 2. Incisivo.
 3. Incisivo da latte.
- Vertebre:
1. Framm. di vertebra toracica. Segato.
 2. Framm. di vertebra lombare. Segato.
 3. Framm. di vertebra lombare. Segato.
 4. Framm. di vertebra sacrale. Bruciato.
 5. Framm. di vertebra toracica.
- Scapola:
1. Framm. di scapola destra. Segato.
 2. Frammento.
 3. Framm. di scapola sinistra. Segato.
 4. Framm. di scapola sinistra.
- Omero:
1. Framm. di omero destro, estremità distale. Adulto.
 2. Framm. di omero destro, estremità distale. Adulto.
 3. Framm. di omero sinistro, estremità distale. Adulto.
- Radio:
1. Framm. di radio destro; diafisi.
 2. Apofisi distale di radio sinistro.
 3. Radio sinistro privo di apofisi, appartenente ad individuo di età inferiore ai 12 mesi.
- Ulna:
1. Framm. di ulna destra. Adulto.
 2. Ulna sinistra priva delle due apofisi, appartenente ad individuo di età inferiore ai 36 mesi.
- Metapodi:
1. III metacarpo sinistro. Adulto.
 2. III metatarso maestro, estremità prossimale. Bruciato.
 3. Framm. di metapodio privo dell'apofisi distale, appartenente ad individuo di età inferiore ai 24 mesi.
 4. Framm. di metapodio privo dell'apofisi distale, appartenente ad individuo di età inferiore ai 24 mesi.
- Falangi:
1. I falange priva di apofisi prossimale appartenente ad individuo di età inferiore ai 24 mesi.

Equus caballus

- Costole: 1. Frammento.

MISURE PRESE SUI CAMPIONI DI COSA (ANSEDONIA), VALORI ESPRESSI IN MM.

Ovis vel capra

Mandibola	D1	P2	P3	P4	M1	M2	M3	Diast.	Altez. ramo mand.
	17	5	9	—	—	—	—	32	—
	—	—	7	8	10	13	23	—	92

Metacarpo (privo apof. distale)	DAPp	DAPd	DTp	DTd	DMT	L
	14	14	22	24	13	65

Metatarso (privo delle due apofisi)						
	16	13	19	23	10	70

*Sus scrofa
domesticus*

Radio (privo apof.)						
	20	13	23	19	11	63

Ulna (Privo apof. distale)						
	—	—	—	—	—	90

Metapodio	16	15	21	18	16	69
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Tibia (Privo apof.)						
	20	17	32	22	13	140
	20	14	31	21	13	98
	17	15	24	17	10	77

Falangi I						
	—	—	17	18	—	31

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DISCARICA

Elementi anatomici	Bos taurus		Ovis/ Capra		Sus scrofa domestica		Equus caballus	
	n.p.	%	n.p.	%	n.p.	%	n.p.	%
Corno								
Cranio			17	27,4	5	11,6		
Mascella			3	4,8	3	6,9		
Denti sup.			1	1,6				
Mandibola			3	14,5	8	18,6		
Denti inf.			1	1,6	3	6,9		
Atlante								
Epistrofee (-eo)								
Vertebre + Costole	1	16,7	5	8,1	5	11,6	1	100
Scapola			3	4,8	4	9,5		
Omero			3	4,8	3	6,9		
Radio			3	4,8	3	6,9		
Ulna			2	3,2	2	4,7		
Carpali								
Metacarpo			3	4,8	1	2,3		
Bacino	3	50	1	1,6				
Femore			3	4,8				
Patella-Rotula								
Tibia			4	6,5	3	6,9		
Perone-Malleolo								
Calcagno			1	1,6				
Astragalo								
Tarsali								
Metatarso			2	3,2	1	2,3		
Metacarpi-Metatarsi inc.	1	16,7	1	1,6	4	9,3		
Falangi I					1	2,3		
Falangi II	1	16,7						
Falangi III								
Altri								
TOTALI	6	<u>100%</u> 5,1	62	<u>100%</u> 52,9	43	<u>100%</u> 36,8	1	<u>100%</u> 0,9

TAB. 1

Appendix 2. Human Skeletal Material from the House of the Skeleton by Kathy Gruspier (M.A. Sheffield University) and Dr. Tjeerd Pot (University of Utrecht)

Skeleton C70.306: A moderately complete skeleton of an adult male aged 30–35 years, found settled in the sediment layer of the house cistern (Pl. 54). Physically the individual was rather short but robust, in stature 161.9 cm. The skull shows him to be of the Eastern Mediterranean type, long and narrow with a wide face.

Pathology includes two broken ribs, both healed. It is likely that one of the fractures occurred within the year before death. Degenerative changes of the articular surfaces of the long bones can be seen in very early stages. This is most likely only an early sign of the aging process. There is an indication of mild stress by the presence of porotic hyperstosis on the brow ridges. This could easily have been caused by a mild illness or some form of anemia. There are no other signs of nutritional deficiency or stress. Mild periostitis can be seen on the tibiae and fibulae. This is quite a common occurrence and is caused by bumps on the shins and other minor injuries to the lower legs.

It is quite probable that this skeleton dates from the destruction of the town c. 70 B.C., as the physical characteristics do not readily suggest a modern person.

K.G.

Examination of the teeth reveals that at death there was a complete dentition of which the right first upper molar and the right lower premolar were lost *post mortem*. Only remains of the roots survive of three maxillary molars and one premolar and the left second lower molar.

While this condition might appear to be the result of some unusual use of these teeth, the modest attrition of the respective opposing teeth is a definite contra-indication. Without doubt the destruction of the above mentioned molars was caused by early development of caries with resulting destruction of the crowns (and subsequent inflammation of the cava pulpa followed by periapical inflammations and bone destruction).

A further consideration in rejecting a tool function for these teeth is the absence of any substantial or atypical attrition of the adjacent teeth, which only show a typical physiological attrition of the occlusal surfaces. The overall attrition of the dentition could indicate an age at death of approximately 25–30 years, but this is doubtless a low estimate, since it must be kept in mind that the attrition process in the lower molars ceased an unknown number of years before death because of the destruction of the crowns of the opposing maxillary molars. Thus the somewhat higher estimate of age at death.

The rather high number of teeth affected by caries—from 3 to 9—might seem unusual in view of the dating of the remains to the first century B.C. and the estimated age at death. But this may well reflect a high carbohydrate content in the individual's diet with no particular implications for a larger population sample.

T.P.

Appendix 3. Pre-Arretine Pottery from the Houses by Russell T. Scott

The three red-glaze plates and cup recovered from the sediment layer of the soak-away pit in the west quadrant houses merit particular notice because of the information they provide about the development of pre-Arretine pottery.

C72.79 (Pl. 109; Fig. 47.9) and 80 (Fig. 47.8) are small plates with offset furrowed rim and pendant lip. C72.79, the more nearly complete of the two, has an incised floor decoration consisting of three concentric circles, the outer two

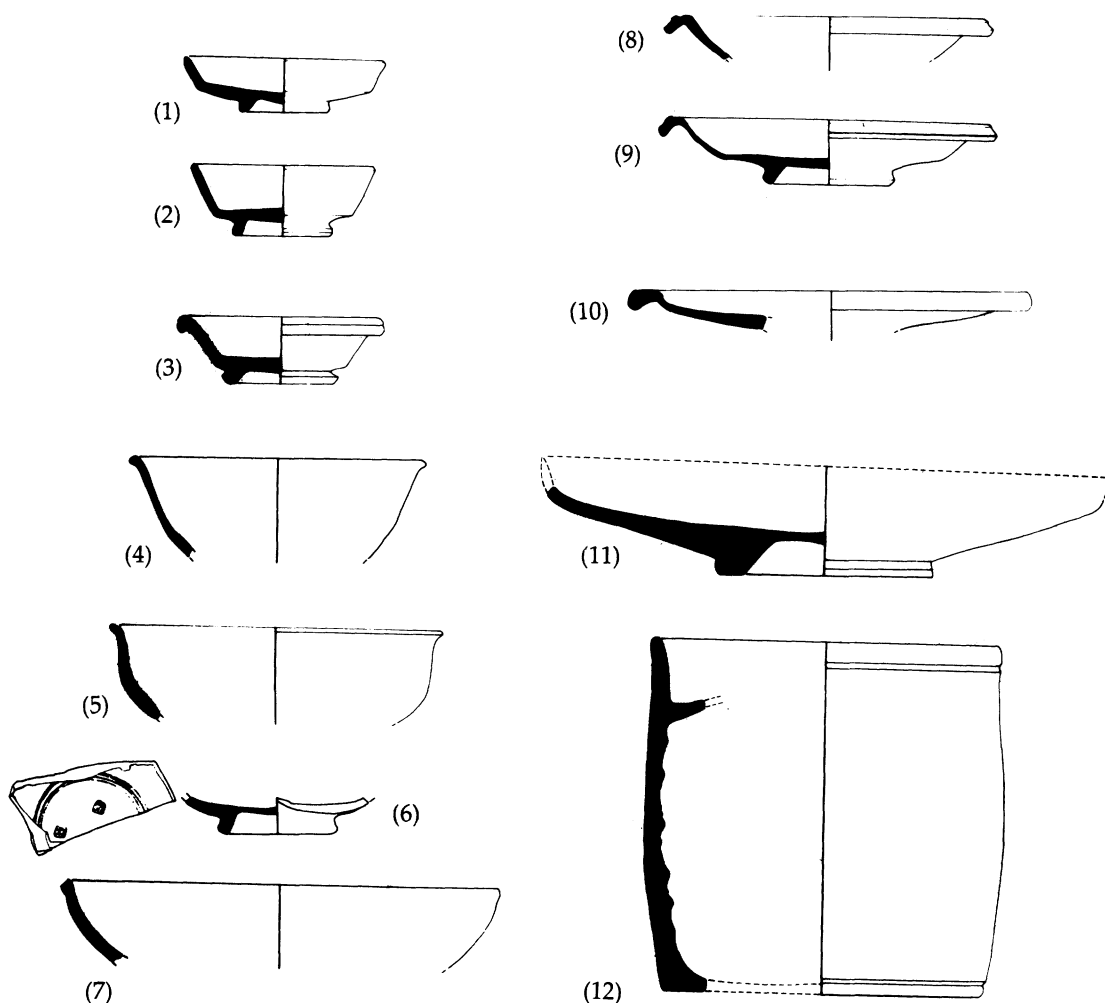


FIG. 47. Pre-Arretine pottery from the houses. *Left side:* (1) C69.237, (2) C72.131, (3) C71.45, (4) C71.207, (5) C69.445, (6) C68.572 and (7) C71.209. *Right side:* (8) C72.80, (9) C72.79, (10) C72.81, (11) C71.150, and (12) C70.542

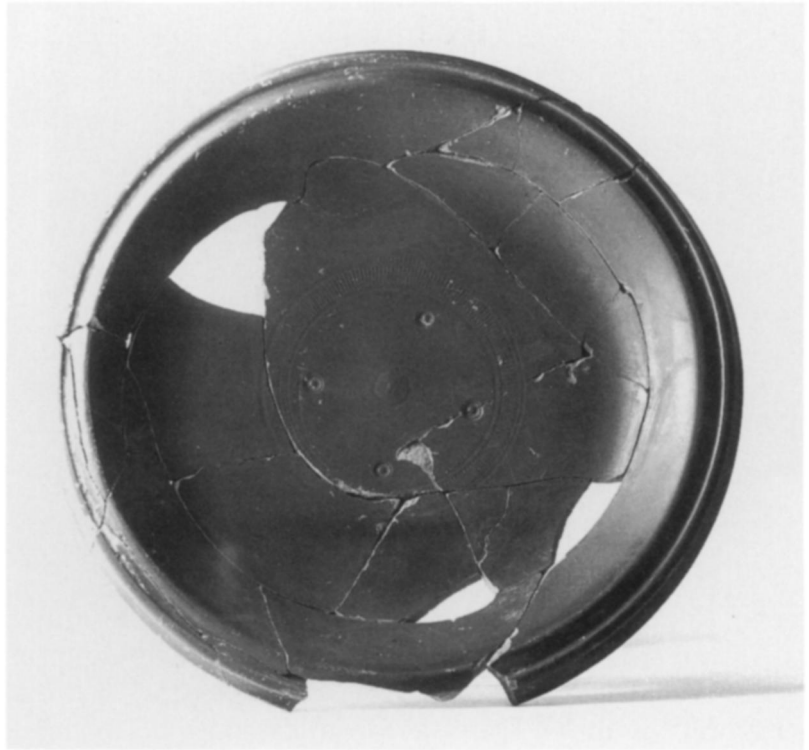


PLATE 109. Red-glaze pre-Arretine plate C72.79

framing a band of rouletting, while around the small central circle are impressed four circular stamps radially disposed. The clay of both plates is fine, flesh-colored with slightly pinkish hue; the glaze is smooth, lustrous red-brown, evenly applied, but shows some red-orange striations and is mottled dark brown in spots.

The form of the plates is Campana-inspired, deriving ultimately from Lamboglia Form 28, and coexists with Lamboglia Form 19a in Campana C of first-century date.¹ The Cosan plates are closely related to a red-glaze plate recovered by Caretoni from a drain under the Casa di Livia on the Palatine and to fragments of another from the excavations carried out by Boni in 1913 in the Casa dei Grifi, also on the Palatine.²

The plate from the Casa di Livia was made in Arezzo and is later than those from Cosa. On it signature stamps have replaced geometric ones, such as appear on C72.79; on the floor are impressed one central and four radially disposed

1. On Campana ware, see N. Lamboglia, "Per una classificazione preliminare della ceramica campana," *Atti del Primo Congresso Internazionale di Studi Liguri* 1950 (1952), 139–206; J.-P. Morel, "Ceramique

à vernis noir du Forum Romain et du Palatin," *MEFRSupp* 3 (1965).

2. *NSc* 1957, 72–119; R. Fellmann, *Basel in römischer Zeit* (1955), 85–88.

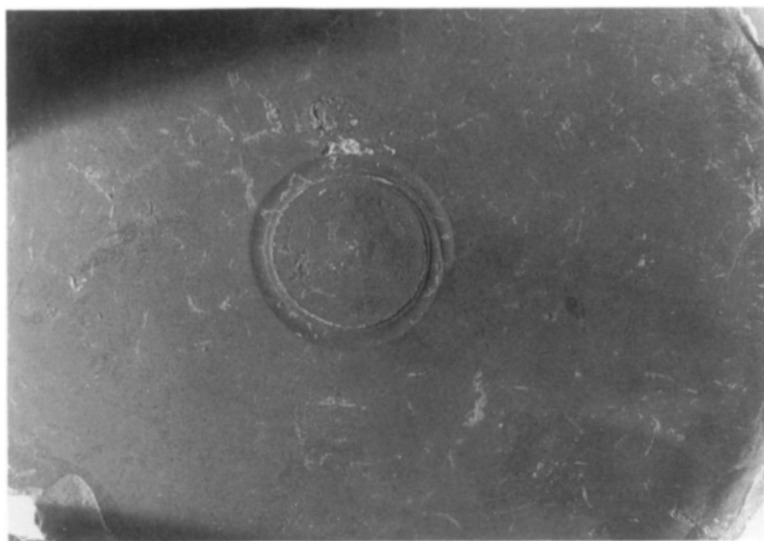


PLATE 110. Red-glaze pre-Arretine cup C72.131

rectangular stamps with the monogram LA. The potter is identified as L. A(tilius?) by Oxé-Comfort.³ The floor of the plate from the Casa dei Grifi is not preserved, nor is that of C72.80, but the plate itself may be approximately contemporary with the specimen from the Casa di Livia. Carettoni dates the materials from the drain late republican or early Augustan.⁴

C72.81 (Fig. 47.10), rim and wall fragments of a small plate with offset, hanging rim, derives from the venerable Campana Form 6⁵ and appears further developed at Bolsena in Goudineau's Archaic Arretine Form 6(B)b, the earliest occurrence of which is dated 40–30 B.C.⁶ The clay and glaze of C72.81 are the same as in C72.79 and 80.

The derivation of C72.131 (Pl. 110; Fig. 47.2) is less certain. It seems to be a variational development of the classic Form 2 Campana bowl with ring foot, flaring wall, furrowed rim, and pendant lip of which a number of late examples were found in the Arx fill (for example, C67.30 and 358) and which passes, with slight modification, into the repertory of Arretine forms.⁷ C72.131 clearly differs

3. Cf. Oxé-Comfort CVA, no. 197.

4. Carettoni (above note 2), 118–19. Cf. C. Goudineau, *Bolsena 4: La ceramique aretine lisse*, *MEFRSupp* 6.1 (1968), 56–57, 288. A pair of plates of which one appears identical in form to C72.79 and 80 and the other identical to that from under the Casa di Livia was recovered by E. Berggren of the Swedish Institute in Rome during the exploration of a villa at Conserva to the west of Blera. One has a pattern of four rectangular stamps, c.s.TR, radially disposed on the floor and is the work of C. Sertorius Ocella, an early potter in Arezzo who produced both black- and red-glaze ware: Oxé-Comfort CVA,

nos. 1777–78. The second has four rectangular stamps, AI, radially disposed around a central one. The stamp as reported does not appear in Oxé-Comfort, but AT for A. T(itius), another early potter in Arezzo, does (CVA, no. 1998). Finds from the Conserva villa are illustrated in S. Quilici Gigli, *Blera* (*D.A.I. Sonderschriften* 3, 1976), 145–54.

5. *MAAR* 25 (1957), 84.

6. Cf. Goudineau (above, note 4), 283, 285.

7. C71.45 is a representative early example; cf. Goudineau's Archaic Type 5 (above, note 4), 282, 328–29.

PLATE 111. Red-glaze early Arretine plate stamped AV, C68.572



in the form of the rim and the foot from the Campana form. The foot is paralleled at Cosa by a fragmentary fine-ware cup, but the form overall closely resembles a cup also from the Casa dei Grifi, which is again later in date than the Cosan example.⁸

The cup from the Palatine has a pattern of four rectangular stamps radially disposed around a central one impressed on the floor, read by Fellmann as *HIP*, a stamp not included in *Oxé-Comfort*. I have not seen the cup, but it may be that *HIL(arus)* should be read.⁹ The cup is usually dated before 30 B.C.¹⁰ The Cosan cup has impressed on its floor a small central circular band, the “*petit sillon circulaire*” characteristic of pre-Arretine geometric stamps; the clay and glaze are as for C72.79, 80, and 81.¹¹

This fabric and finish are those of pre-Arretine.¹² The context in which the plates and cup were found argues for a date of about 75–65 B.C. for their manufacture, rather earlier than the mid-first-century date recently proposed by Goudineau for the appearance of pre-Arretine in Italy.¹³ Consideration of their date and origin will be aided if we go on to examine here other specimens of red-glaze ware from the houses that were found either in the context of the sack of the town (c. 70 B.C.) or its reoccupation early in the Augustan period.¹⁴

C68.572 (Pl. 111; Fig. 47.6), from the cesspool sediment layer in the House of the Birds, is a fragment of the base of an early Arretine plate with four rectangular stamps *AV* radially disposed impressed on the floor. The same stamp appears

8. Moevs Type 19 (Moevs *Thin Walled Pottery*, 79).

9. Fellmann (above, note 2), 85–88. *Oxé-Comfort* CVA no. 797a is radial. The potter is an early one associated with Arezzo.

10. Goudineau (above, note 4), 28.

11. *Ibid.*, 118, 334.

12. *Ibid.*, 238.

13. *Ibid.*, 320.

14. Cf. J.-P. Morel, *MEFR* 75 (1963), 55–58; Goudineau (above, note 4), 57–63; Moevs *Thin Walled Pottery*, 120–23.

on a black-glaze base from Bolsena; the potter is apparently one of the earliest active in Arezzo.¹⁵ Clay and glaze are as for the preceding.

C69.237 (Fig. 47.1), from the impluvium of the House of the Skeleton, is a shallow carinated bowl with profiled rim derived from Campana A Form 5/7. Clay and glaze are as for the preceding.

C71.150 (Fig. 47.11), from the construction level of the House of the Birds, is a plate derived from an eastern sigillata form, Kenyon A.1.¹⁶ Clay and glaze are as for the preceding.

C71.208, from the construction level of the House of the Birds, is rim and wall fragments of a bowl derived from Campana Form 28 or 30. Clay and glaze are as for the preceding.

C71.209 (Fig. 47.7), from the construction level of the House of the Birds, is rim and wall fragments of a bowl derived from Campana Form 27. Clay and glaze are as for the preceding.

That this group of vessels was made at Arezzo seems demonstrated by the identity of clay and glaze with C68.572 and the identity of clay with that of these specimens of Arretine black-glaze ware at Cosa:

C65.40 (Pl. 112), from the Arx fill, is a black-glaze base with four rectangular stamps QA radially disposed impressed on the floor. The potter is likely Q. A(franius), one of the earliest Arretine potters, who produced both black- and red-glaze wares.¹⁷

C66.267 (Pl. 113) comes from the West Block, the debris over the soak-away pit of the house in Lot 3. It is a Form 28 bowl with four stamps radially disposed impressed on the floor, an eye within a rectangular frame. This is likely a reference to C. Sertorius Ocella, one of the earliest potters at Arezzo. His signature stamps include examples of the O of his cognomen dotted in the center like the pupil of an eye (*CIL* 15.5574 c).¹⁸

C66.272 (Pls. 114, 115) comes from the West Block, the debris over the soak-away pit of the house in Lot 3. It is a Form 28 bowl with four rectangular stamps radially disposed impressed on the floor, CV for C. V(m[m]idius), another of the earliest potters at Arezzo, who also produced both black- and red-glaze wares.¹⁹

C68.415 (Pl. 116) is from the construction level of the House of the Birds. It is a black-glaze base with four rectangular stamps, CV for C. V(m[m]idius), radially disposed around a central one impressed on the floor. The two examples from Cosa bring the known specimens of black-glaze vessels with this signature to eight: one each from Bolsena and Ensérune, two each from Rome and Ventimiglia.²⁰

15. Goudineau (above, note 4), 333; Oxé-Comfort CVA, no. 2317.

16. See East Block, Period 2, note 12 (page 184).

17. Oxé-Comfort CVA, no. 28.

18. *Ibid.*, nos. 1777–78.

19. *Ibid.*, no. 2460.

20. Cf. Goudineau (above, note 4), 332–33. Another black-glaze base from the Arx fill (C67.141) has

four rectangular stamps, PA, radially disposed impressed on the floor, but the provenance of the potter is uncertain. See Oxé-Comfort CVA, nos. 205, 209. An uncatalogued fragment of a red-glaze plate identical in clay, glaze, and probably shape to C72.79 and 80 was found in a hole in the atrium pavement of the House of the Skeleton.

PLATE 112. Black-glaze base
of a vessel stamped QA,
C65.40, from Arezzo

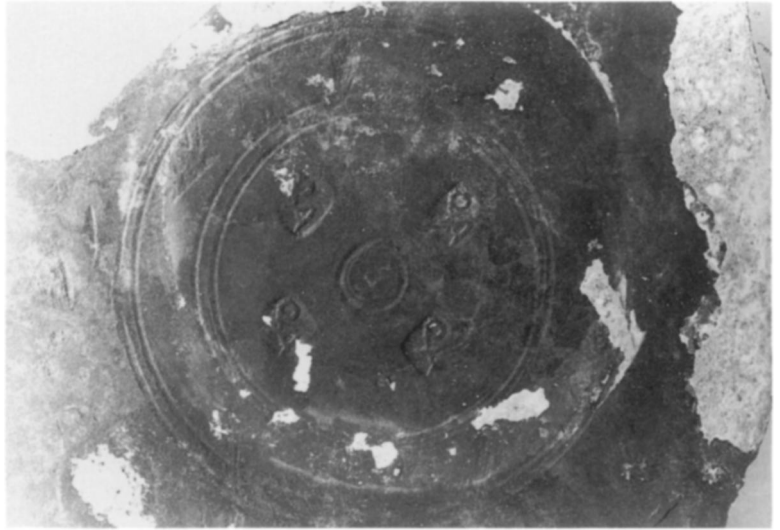
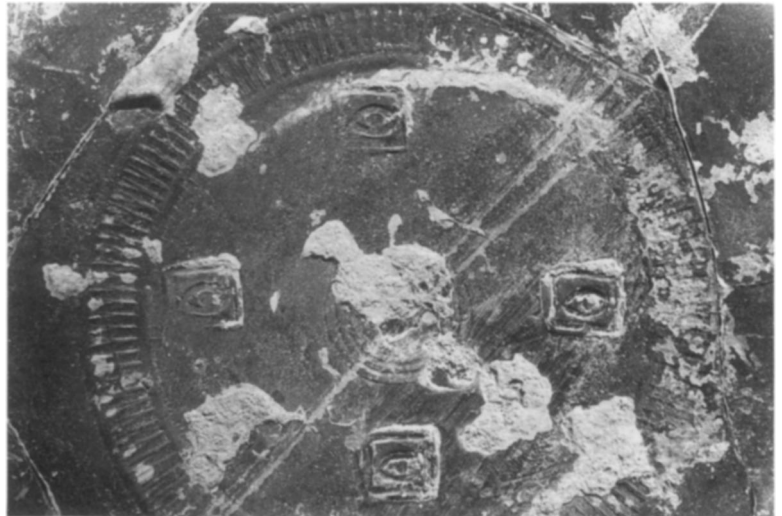


PLATE 113. Black-glaze
bowl stamped with an eye,
C66.267, from Arezzo



The following fragmentary objects may also be characterized as pre-Arretine. The clay is fine, salmon pink with occasional grains of fine brown or white sand. The glaze is smooth, lustrous red-brown; it is usually even but shows some red-orange striations and may be dulled in spots by mottling to purple, dark brown, or black:²¹

C68.532 (Pl. 117) is from the cesspool sediment layer of the House of the Birds. It is a shallow carinated cup with a central rosette impressed on the floor. It is

21. See above, note 14.



PLATE 114. Black-glaze bowl stamped cv, C66.272, from Arezzo, exterior

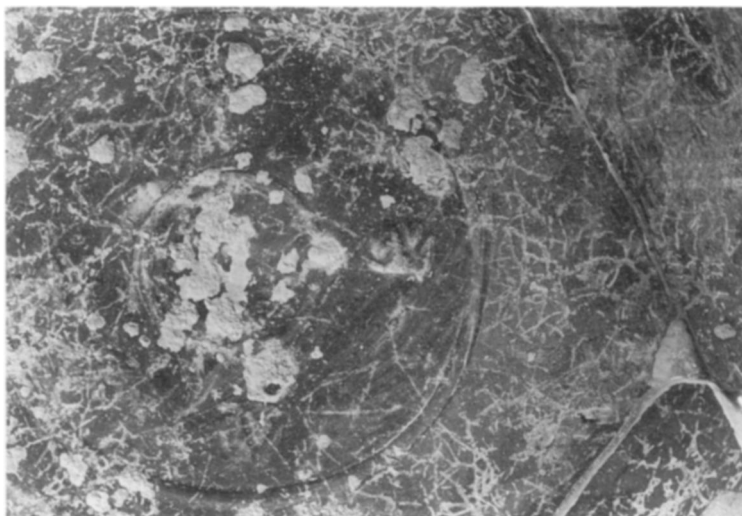


PLATE 115. Black-glaze bowl stamped cv, C66.272, from Arezzo, detail of stamp

related to Moevs Form 19 in fine ware and the later types 33 and 41 from Bolsena.²²

C68.608 (Pl. 118) is from the East Block, the soak-away-pit sediment layer of the northeast republican house. It is a base with a central rosette within four concentric circles impressed on the floor.

C69.445 (Fig. 47.5) is from the House of the Skeleton, Room 17. It is fragments of a shallow bowl derived from Campana Form 28.

C69.446 is from the House of the Skeleton, Room 17. It is fragments of a cannister. The form is characteristic of Arretine ware but has no antecedent in Campana ware.²³

22. Cf. Goudineau (above, note 4), 302, 307; Moevs *Thin Walled Pottery*, 79.

23. A predecessor or companion of the pre-Arretine cannisters in Italy is the unpainted example

from pre-Roman Genoa of second/first-century B.C. date published by N. Lamboglia, *RSiLig* 20 (1954), 115–16. For discussion of the Arretine cannisters, see G. Behrens, *Germania* 30 (1952), 110.



PLATE 116. Black-glaze base of a vessel stamped cv, C68.415, from Arezzo

C70.542 (Fig. 47.12) is from the East Block, surface level. It is a cannister like C69.446.

C71.45 (Fig. 47.3) is from the House of the Birds, ancient exterior surface level. It is a small carinated cup with furrowed rim and pendant lip. Four concentric circles are incised on the floor, the outer pair framing a band of rouletting. The shape derives from Campana Form 2.

C71.207 (Fig. 47.4) is from the House of the Birds, construction level. It is rim and wall fragments of a bowl derived from Campana Form 28 or 30.

There are no signature links to Arezzo in this group, but the close affinity of glaze between it and the first group strongly suggests the experimental environment associated with Arezzo in the first century B.C. The shapes of seven of the nine vessels in the first group derive from Campana forms. One apparently imitates an eastern sigillata A type, while another is too fragmentary to place typologically. In the second group the shapes of three of the seven vessels derive from Campana forms; three anticipate later Arretine forms; one is too fragmentary to place.

The material overall can perhaps be best interpreted as offering a glimpse of

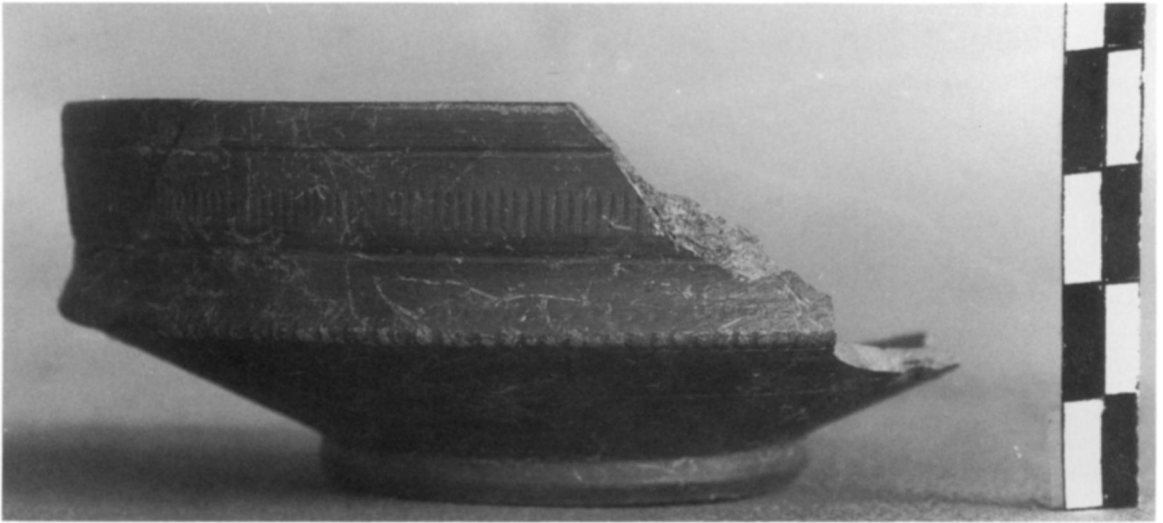


PLATE 117. Red-glaze pre-Arretine carinated cup, C68.532



PLATE 118. Red-glaze pre-Arretine base of a vessel stamped with a rosette, C68.608

the process of transition from black-glaze to red-glaze ware in Italy that was centered around Arretium in the first century B.C. The documentation—indeed, one might say the interest in this process—has been slow to accumulate, for it is the triumph of developed Arretine in the Mediterranean that has rightly occupied scholarly attention and interest. The material from Cosa presented here makes a modest addition to the file. It extends the upper chronological limit of pre-Arretine, and the activity of some of the earliest-known potters at Arezzo, back to the early second quarter of the first century B.C., reaffirms the importance of Campana ware for its shapes and hints at some of what was to come.²⁴

24. Cf. Goudineau (above, note 4), 317–36. For the most recent bibliography on pre-Arretine, see now S. C. Stone, “Presigillata from Morgantina,” *AJA* 91 (1987), 85–103.

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