

# Unpeeling Pompeii

MICHAEL FULFORD & ANDREW WALLACE-HADRILL\*

*Pompeii, recovered from under Vesuvius ash, offers a famous 'frozen moment' in archaeological time: a city as it stood at a certain day. Beyond and beneath the dating evidence visible in its standing buildings is to be found a more archaeological chronology.*

Pompeii enjoys the advantages, and suffers the disadvantages, of a continuous tradition of study stretching back two and a half centuries to the beginning of the Bourbon excavations in 1748. In this tradition, many assumptions have become embedded which if proposed now would not stand up to scrutiny. One such is that the successive phases of the history of the city from its foundation, probably in the 7th century BC, are visible, at least in part, in the standing remains. The project on which we report is only one of a new generation of projects that seek to unpick such assumptions, and move the debate about Pompeii on to the sort of conceptual and evidential basis that is normal for archaeological sites.

By two fundamental tenets of Pompeian studies, the variety of construction techniques and materials encountered in the structures still standing at the moment of destruction reflect a sequence of chronologically distinct phases, and these caesuras in material culture reflect major shifts in the history of the city and its dominant population. That approach drew encouragement from the start by the account of the Augustan geographer, Strabo, of Pompeii's successive domination by different ethnic groupings, which he identified as the Oscans, the Tyrrhenians (i.e. Etruscans) and the Samnites (*Geography* 5.4.8). The first systematically developed modern hypothesis was that of Giuseppe Fiorelli, superintendent from 1861 to 1875, who saw three main epochs, corresponding to three main types of construction: the first he identified with the use of Sarno limestone, the *età calcarea* he believed to be Greek

and Campanian, rather than Etruscan as in Strabo; the second, identified with the use of grey Nocera tuff, he saw as Samnite; the third, characterized by the use of concrete, marked Roman control and the colonial foundation of 80 BC (Fiorelli 1873).

Some of these assumptions were promptly questioned by Nissen (1877: 30–40) in objections which went unheeded, and the schema of successive phases of limestone, tuff and concrete construction became enshrined in the authoritative work of August Mau (1899). Mau preferred a sequence of Oscans (i.e. the original local population), at first 'civilized' and then 'enervated' by contact with the Greeks, giving way to Samnites, to whom he reattributed the 'limestone phase', followed after the Second Punic War by the Nocera tuff phase, and finally by Roman conquest (Mau 1899: 35ff). That schema remains the dominant consensus, including the regular characterization of limestone buildings as 'Samnite', and tuff façades as 'hellenistic' (i.e. 2nd century BC), and thus by implication pre-Roman.

A remarkable feature of the consensus is its lack of stratigraphic foundation, a failure seen and spelt out with great clarity by the young Amedeo Maiuri, early in his long superintendency (Maiuri 1930). Though Fiorelli and Mau, he conceded, represented a vast advance compared to the excavators of the Kingdom of Naples, whose interest was limited to the recovery of works of art and other 'noble' artefacts, their hypotheses about the development of the city had never been tested by exploration in the subsoil (Maiuri 1930: 74–81). Maiuri himself

\* Fulford, Department of Archaeology, Faculty of Letters and Social Sciences, Whiteknights, PO Box 218, Reading RG6 6AA, England. Wallace-Hadrill, The British School at Rome, Piazzale Winston Churchill 5, 00197 Rome, Italy.

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set about a programme of systematic testing, emphasizing the openness of mind that was called for: it was not enough to excavate simply to confirm or to refute a theory, since excavation in depth would always produce unexpected results (Maiuri 1930: 137). He examined the circuit of walls, successfully showing that not only the tract around the 'old city' but the whole circuit incorporated a 'pre-Samnite' wall of the 6th century; he explored the subsoil around the Doric temple of the so-called triangular Forum, and the temple of Apollo on the Forum, producing deposits of votive material of the archaic period that confirmed their early date; and he explored beneath the floor level in the atria of a number of houses, starting with the Casa del Chirurgo, revealing traces of earlier structures in different materials with ground plans incompatible with the standing structures. It is worth repeating his grounds for excavating beneath floor level in the Casa del Chirurgo in 1926, almost immediately after his appointment: minute studies of the standing structures by both Nissen and Mau had failed to resolve the debates over the dating and evolution of the house, but 'in all of these was missing the necessary means of control, of confirmation and integration: examination of the subsoil' (Maiuri 1973: 2).

A bizarre feature of the history of excavations at Pompeii is that, despite the clear statements and good example of an authority so dominant as Maiuri, for a generation after the end of the Second World War, the subsoil was almost completely ignored. Even Jashemski's classic work on the gardens, the one area where investigation in depth presents little difficulty, concentrated rigidly on the soil surface of AD 79 (Jashemski 1979; 1994). Up until the late 1970s, stratigraphic testing remained exceptional. Eschebach was something of a lone voice: he not only provided the only overall survey of the plan of the city (1970), but tested his theories about the existence of an archaic city limit by excavations beneath the Stabian baths (1974) and in the House of Ganymede (1982). But his excavations were too limited to support his ambitious theories. John Ward-Perkins was emphatic (1984: 29):

How plausible is this hypothesis (of Eschebach) of an 'urban' Pompeii before the second phase? Every attempt to answer this question must take into ac-

count the fact that, without much more substantial and systematic excavations of what lies below the level of Pompeii of 79, the hypotheses of Eschebach, as of anyone else, are not subject to proof whether in a positive or negative sense. In the best case, they can be considered deductions from a very limited number of observations, and to be discussed in terms of probability (or improbability).

Since 1979, not insignificant steps have been made in the direction Ward-Perkins was urging. Recent work has brought the whole traditional account of the urban development of Pompeii under critical scrutiny. A series of excavations have made it increasingly unlikely that much, if any, of the private building that was once supposed to go back to the 4th and 5th centuries BC can be earlier than the 3rd, or even the 2nd century (Chiamonte Treré 1990). Paul Arthur's excavation of a trench through the forum — limited by its function in preparing for an electricity conduit rather than answering to a research programme — cast considerable doubt on the picture of a continuously inhabited urban nucleus (Arthur 1986). A superintendency excavation of a house at the site of the Direzione revealed a hellenistic structure of the 4th/3rd century under an atrium house of the 2nd (D'Ambrosio & De Caro 1989). Exploration by Bonghi Jovino's team from Milan of a house which from the presence of an 'Etruscan column' had been taken as an early survival showed that its first phases belonged to the 2nd century BC (Bonghi Jovino 1984). Extensive work in the southeastern quarter and trenching along the façades of many principal streets produced a consistent horizon of late 3rd/early 2nd century BC for the earliest phase (Nappo 1993–4). Targeted excavations on the edge and in the heart of the supposed 'old city' again brought the surviving structures down to the 2nd century BC, while also revealing traces of earlier structures on different alignments (Carafa & d'Alessio forthcoming).

We are now, it can be said, on the edge of a new understanding of the development of the city. But the temptation remains, as it did for Maiuri and Eschebach, to move from a handful of fragmentary indications to a new synthesis of the development of the city. There are some who urge that what is needed is simply a campaign of recording the standing structures already exposed. Particularly when the unit of study is the whole block of contiguous houses

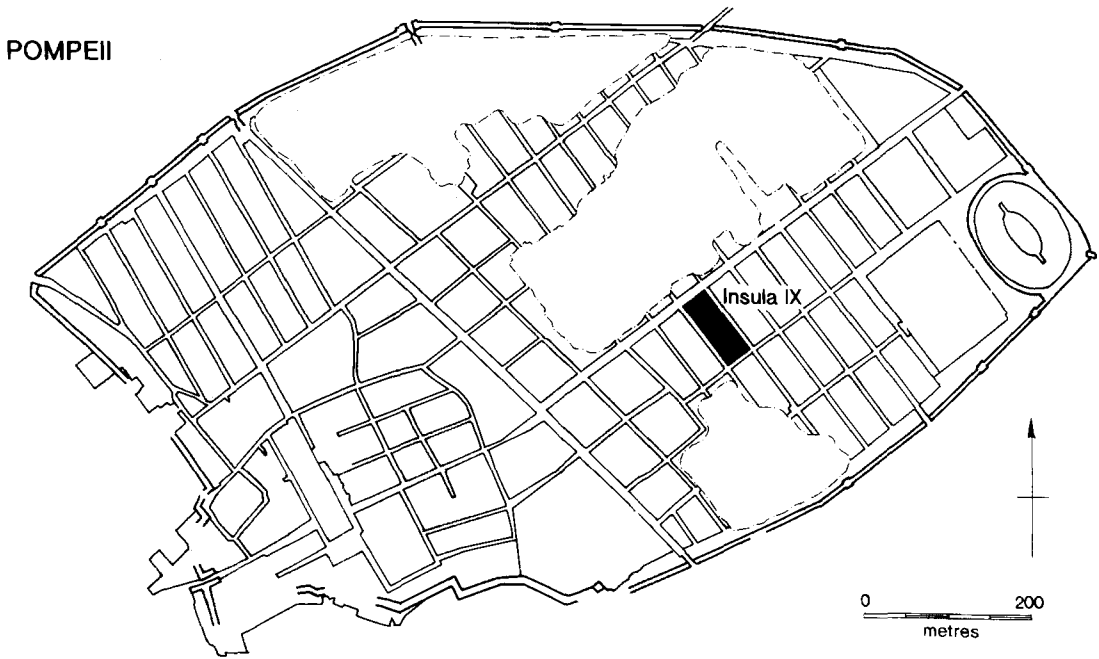


FIGURE 1. *Plan of Pompeii and location of regio 1, Insula 9.*

sharing common walls, not the individual house, careful attention to standing structures reveals much about the relative, as opposed to absolute, chronologies of construction: Roger Ling's study of the Insula of the Menander now sets the standard (Ling 1997). Yet every act of recording presupposes that we know what information is relevant and significant. Recording serves interpretation, and interpretation is governed by the current hypotheses that give significance to particular details. If we assume differences in construction technique have chronological implications, it will be of great importance to analyse them carefully; yet before multiplying this information, we need to test its underlying hypotheses.

In these circumstances, we feel that the first priority is to review our research agendas for Pompeii, and reassess what study of standing structures can tell us. As old certainties crumble, we must be prepared to start again from bottom up to construct hypotheses based simultaneously on sound stratigraphy and on attentive observation of standing structures. Our own project, in the context of a campaign of recording and study of a complete block of houses, Insula 9 of Regio I in the southeast quarter of the city, in laying some emphasis on

stratigraphic investigation of pre-79 levels, does not seek to discard analysis of standing structures, but to use stratigraphy as a control on what the standing structures can tell us. The project is still in mid course; at this stage, evidence already confirms the results of other recent work, and rejects key features of the old consensus. While contrasts and modifications in standing structures do indeed point to a process of change over time, the time-scale has been vastly exaggerated. Rather than seeing in the walls of domestic structures the impact over centuries of changing populations, we are looking at the results of intensive activity over a short span, in the late Republic and early Empire. The idea that Sarno limestone construction necessarily precedes chronologically 'Roman' concrete construction now seems fatally flawed. That there were earlier phases of occupation, going back to the archaic period, is not in doubt. However, these are not to be found in the standing remains, but in the sub-soil.

#### **Selecting a test case: Regio I, Insula 9, houses 10–12**

The block of houses selected for investigation lies in a quarter of the city notable for its regu-

lar rectilinear layout, between the theatres to the west, and the amphitheatre to the east, and between the primary west-east axis of the via dell'Abbondanza to the north and the city walls to the south (FIGURE 1). According to most hypotheses, this should have been the last of the areas within the circuit of the walls to be developed for intensive habitation. The rectilinear layout fits within a framework dictated by the precise division of the north/south axis of the via Stabiana into three equal portions, cut by the two east/west axes of the via Nolana and the via dell'Abbondanza: current thinking dates this layout to the 3rd century BC (De Caro 1992). Recent work in the context of a restoration programme has suggested that much of the area was subject to a major development in the late 3rd and early 2nd century BC, characterized by rows of houses on standard modules; indeed our original expectation was to find traces of a similar initial layout on the same lines. Within the block itself, in-depth investigation of all areas would be excessively time-consuming, and the extensive presence in the northern end of plaster on the walls and mosaic and other solid flooring threatened numerous obstructions. The two properties in the southeast corner (I. 9. 11–12) are characterized by poor survival of pavements, wall paintings and wall plaster which, in combination, allow virtually unfettered study of the standing walls as well as investigation of relatively large areas by excavation; and they show clear signs of complex changes to the properties over time (FIGURE 2).

The house at the centre of the southern façade (12) has the apparent characteristics of a classic 'atrium house' of the limestone era (FIGURES 3–5). It has an open, atrium court which, with the front rooms flanking the entrance passage (*fauces*) is built in the framework style — vertical settings of stretchers and headers of Sarno stone enclosing panels of rubble fill, often referred to as *opus Africanum* — with a façade of ashlar Sarno stone blocks, often known as *opus quadratum*. The tablinum, set centrally opposite the entrance passage, reveals signs of modification at a late stage: quoins of brick and block, conventionally dated to after the earthquake of AD 62/3, narrow the original opening in Sarno stone. To the rear of the house, the garden walls, and those of room 10 opening onto the garden, are constructed of mortared

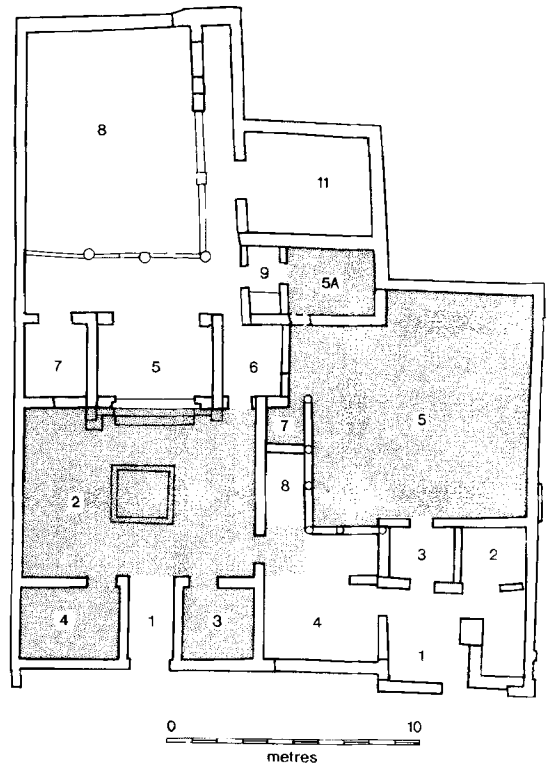


FIGURE 2. Plan of houses 11–12 showing excavated areas (stippled).

rubble (the '*opus incertum*' style). The columns and pilasters that form the colonnade on two sides of the garden are associated with two constructional techniques: the two columns flanking the view from the tablinum are of Sarno stone, the others are of brick.

Here then we have a classic mixture of construction techniques. Do they correspond with different phases of construction, and if so of what date? The standard interpretation would be that the core is an old Sarno stone atrium house almost certainly predating the 2nd century BC. The construction technique is close to that of the Casa del Chirurgo, always deemed one of the oldest houses in Pompeii. This core will have consisted of two rooms flanking the entrance passage, an atrium court with (so the standard pattern would lead us to expect) a central impluvium basin, and on the far side a string of rooms opening on the atrium court rather than the garden, a tablinum as at present with a slightly wider opening (6) but probably with only a window, not a full opening, on the garden; a side room (5) of which the original





FIGURE 5. View across garden and peristyle of house 12 with columns of Sarno stone and brick.

opening on the atrium is still visible; and another side room or more probably a passage to a garden plot behind (7). The absence of Sarno framework in the peristyle area, the employment of brick in adjustments to the opening of the tablinum, and the decoration of all three rooms opening after modification on the peristyle indicate a thorough restructuring of this area in the 1st century AD, possibly after the earthquake of AD 62/3.

The most recent study of Sarno framework houses (Peterse 1993) offers a typology with three phases, marked on the one hand by progressive irregularity of the rubble infill, and the other by progressive strengthening of the mortar from a friable loam to the hard cement on which *opus incertum* rubblework depends. The dating scheme suggested is Period A, 450–420

BC, period B, 420–275 BC, period C 275–175 BC. Our house is assigned to period B, i.e. to the 4th or early 3rd century, the high ‘Samnite’ period. The underlying assumption of this study, which is held in common with most studies of the evolution of the decorative schemes of Pompeian painting, is that the category of material studied, in this case framework construction, is subject to a consistent and organic development. Such a scheme cannot stand or fall on its own internal coherence, but requires testing against external dating criteria through stratigraphic excavation.

House 11 likewise can be seen from its standing structures to have undergone major modifications over the course of time. The bar area has been restructured with a brick and block facing to protrude over the pavement: Sarno

FIGURE 3 (opposite). Entrance to house 12, showing *opus quadratum* either side of the doorway and the tablinum with quoining of brick and block.

FIGURE 4 (opposite). West wall of house 12 built in *opus Africanum* (Sarno framework) style.



FIGURE 6. *Blocked peristyle with benches added in the garden of house 11. Note the well capped by an amphora below the foundations.*

stone blocks incorporated in the eastern side wall preserve the original alignment before the protrusion. In the garden area behind the bar, a brick-built colonnade running along the west and south sides has been blocked up with rubble infill; the garden level of AD 79 was approximately half a metre above the level of the base of the colonnade (FIGURE 6). There are other signs of major rebuilding, including the whole of the east wall of the garden. The brick construction of the colonnade would normally be

dated not before the early empire, suggesting that these modifications took place in the 1st century AD. Against the background of such indications from the standing structures, the project set out to discover how stratigraphic testing could illuminate the relationships and modifications visible, what chronological handles it could offer and what it could reveal of the extent of developments and phases not suspected from study of the standing structures alone.

The absence of solid flooring in the atrium of house 12, and in its surrounding rooms, offers the possibility of total excavation to the subsoil of an area close to the street frontage. Equally, the garden of house 11 and the rooms behind its south-facing façade provide a substantial area for investigation. Thus, apart from internal walls and the garden to the rear of house 12, the two properties provide an almost continuous area of 300 sq. m for excavation. In addition, a cluster of smaller properties immediately to the north of house 11, namely 8, 9 and 10, being almost free of decoration offer numerous possibilities for testing, especially in their front courts and back yards. This should give a good opportunity for understanding the development of the southeast corner of the insula, as well as insight into pre-insula occupation. Inevitably, the outcome is likely to have a bearing on the development of the two adjoining properties, houses 10 and 13. Exploration of house 10 is being conducted by our Italian colleagues.

#### **Houses 11 and 12 and their occupation in the 1st century AD**

Two seasons of excavation in the garden of house 11 and the atrium court of house 12 in 1995–6 have considerably enlarged our understanding of them and the development of the insula. In the first place it has been possible to complete the original excavation to the AD 79 level and learn more of life in the two associated properties close to, if not at, the time of the eruption. Secondly, excavation below the AD 79 level has provided crucial and complementary evidence for the date of the initial construction of both properties which has implications for the neighbouring houses 10 and 13. Associated with this theme is a range of information about subsequent structural changes, and the changing nature of the occupation within the two buildings. Thirdly, it is becoming clear that the arrangements of structures before the construction of the existing houses were quite different and unrelated. Their orientation suggests that they lay within the confines of the insula, but this, just as the date for the initial planning of the block, has yet to be firmly established. The incidence of post-holes, particularly those cutting the subsoil of house 12, also raises the possibility of timber, or part-timber buildings in the period(s) before the existing buildings.

Study of standing structures alone, based on the traditional chronologies of Pompeian construction techniques, might suggest a span of some three centuries or more as the full life cycle of the houses as we see them. One major result of subsoil excavation is to show that the numerous structural changes that can be observed in the standing walls and their decoration appear to be confined within a total period of about a century. Indeed the manifold alterations to house 11 probably took place over a considerably shorter span. What can we say thus far of the life of these buildings before the year of the eruption? In the first place evidence is accumulating to show that they were connected from a very early stage, probably from the construction of the peristyle in house 11; this association has to be considered in our interpretation of changes and events apparently only confined to one building.

Let us begin with house 12 where the atrium and front half of the building show comparatively little change before AD 79; the structure was simple with no evidence for a roof over the atrium. The impluvium-like feature which is arranged eccentrically to the axis running through the middle of the fauces and the tablinum consisted only of a low, rectangular wall. There was no evidence for a waterproof floor, nor of drains to take water out to the street, or into a cistern; the structure contained soil and could have functioned as a small garden bed. In the southwest and northwest corners of the atrium were amphorae and other ceramic containers filled with mortar and other building materials; two or three blocks of Sarno limestone were stacked in the northwest corner amidst a pile of broken, plain wall-plaster (FIGURE 7). Quantities of broken, plain and decorated wall plaster had been laid across the floor of the atrium, either as clearance from redecoration elsewhere in the house, or as make-up for a pavement, but these were sealed by patchy, thin lenses of soil. Elsewhere in the house is evidence of other building materials and our initial assumption had been that these related to a programme of redecoration which was taking place in AD 79. This was clearly not so in the atrium court where the materials were concealed by orderly rows of wine and other amphorae, and by the evidence of a significant interval between the spreading of the plaster on the floor and the eruption. If the decoration





FIGURE 7. *Excavation of amphorae ranged across the western half of the atrium of house 12 in 1996. Note the blocks of Sarno limestone and amphorae filled with building material to the top left.*

of the tablinum and adjacent room in Fourth Style is to be associated with this programme of restoration, it is not likely to date before about the middle of the century. Conventional interpretation would attribute the need to re-build to the effects of the earthquake of AD 62/3. The redecoration in Fourth Style and the use of block-and-brick jambs would fit well with this, but what would account for the cessation of building and decorative work? The earthquake certainly cannot account for both.

The street frontage and the rooms behind in house 11 underwent a succession of modifications during the 1st century AD. Although this area has yet to be examined by excavation, the street elevation reveals evidence that it was first open as if to serve a shop; latterly it was converted into a bar with a marble counter. The peristyle and associated 'garden' area, too, underwent a succession of changes. A cistern, built as part of the peristyle, was maintained after the latter was blocked up, but subsequently



FIGURE 8. Excavation of garden of house 11 showing contemporary benches and traces of earlier walls (view to north) in 1996.

abandoned and sealed by a new floor. The blocking of the peristyle may have served partly to carry rooms at first-floor level, but these, too, were abandoned in further alterations out of which remained a latrine which was shared by the two houses. We now know that the peristyle was built over an abandoned well into which it had partly sunk (FIGURE 6); subsidence may well have determined the blocking and subsequent changes. Equally the abandonment of the cistern in the peristyle may be related to that of the cistern in the atrium court of house 12 and the initial construction of the cistern in the northwest corner of house 11, which then became the sole source of stored water for the two houses. Increasingly through time, therefore, the two properties appear to work as a single entity.

Within the garden the face of the blocked peristyle was plastered and lined with a low bench which was eventually carried around the entire garden (FIGURE 8). The building of the bench proceeded in stages which corresponded

with the raising of the level of the garden with the importation of probable occupation soil, enriched with phosphate and organic matter, from elsewhere in Pompeii. Eventually the benches themselves were covered so that the soil extended between all the walls defining the garden, except at the northwest corner which was raised up higher over a cistern. In the intervals between further dumping to raise the height of the 'garden' there was evidence for the formal disposal as discrete cremations, perhaps as votive offerings, of animal and, more particularly, cockerel remains. The contexts ranged from shallow, circular pits containing charcoal and cremated bone to a complete pottery vessel associated with cremated bone in which cock spurs are conspicuously represented, and a deeper, rectangular cist in which the cremated remains of at least 17 cockerels associated with charred figs and stone-pine nuts had been carefully disposed (FIGURE 9). Except for one deposit of the partially burnt bones of larger animals, including horse, in the north-

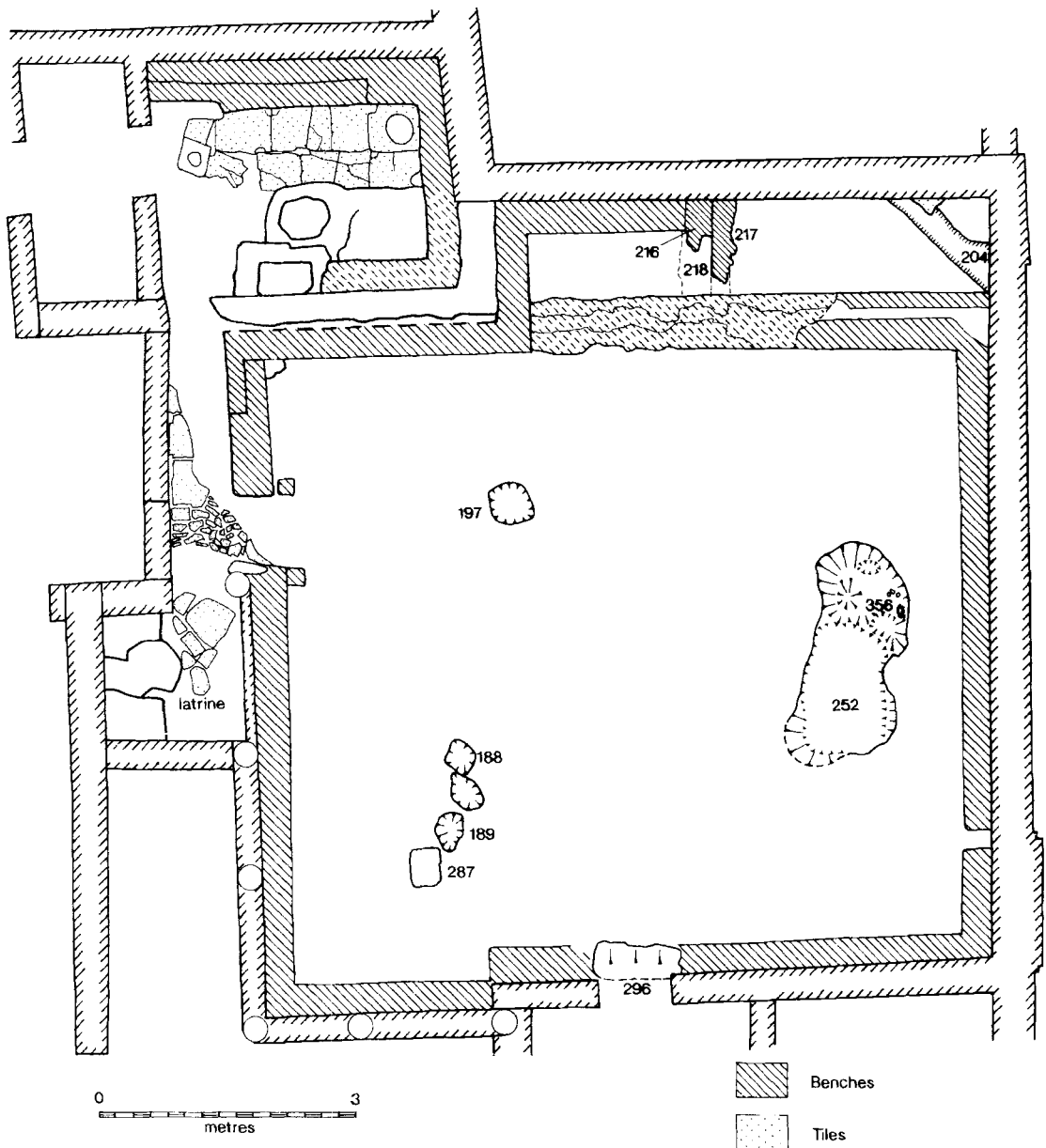


FIGURE 9. House 11: development of the garden with benches and showing the location of bird and animal cremations.

east corner, the final dumping of soil, which took place in the 50s or early 60s, concealed the evidence for all these activities. No parallel for either the arrangement of benches, or the succession of bird and animal cremations, has yet been found in Pompeii.

At the time of the eruption, over 50 Cretan wine amphorae were arranged the right way

up in tidy rows over the western half of the atrium court of house 12 (FIGURE 10). The manner of their disposition suggests that they were full. As the archive photography from the original excavation shows, other amphorae were set in a less orderly fashion in the pseudo-impluvium. Room 4 on the west side of the fauces had not been cleared of its lapilli, and

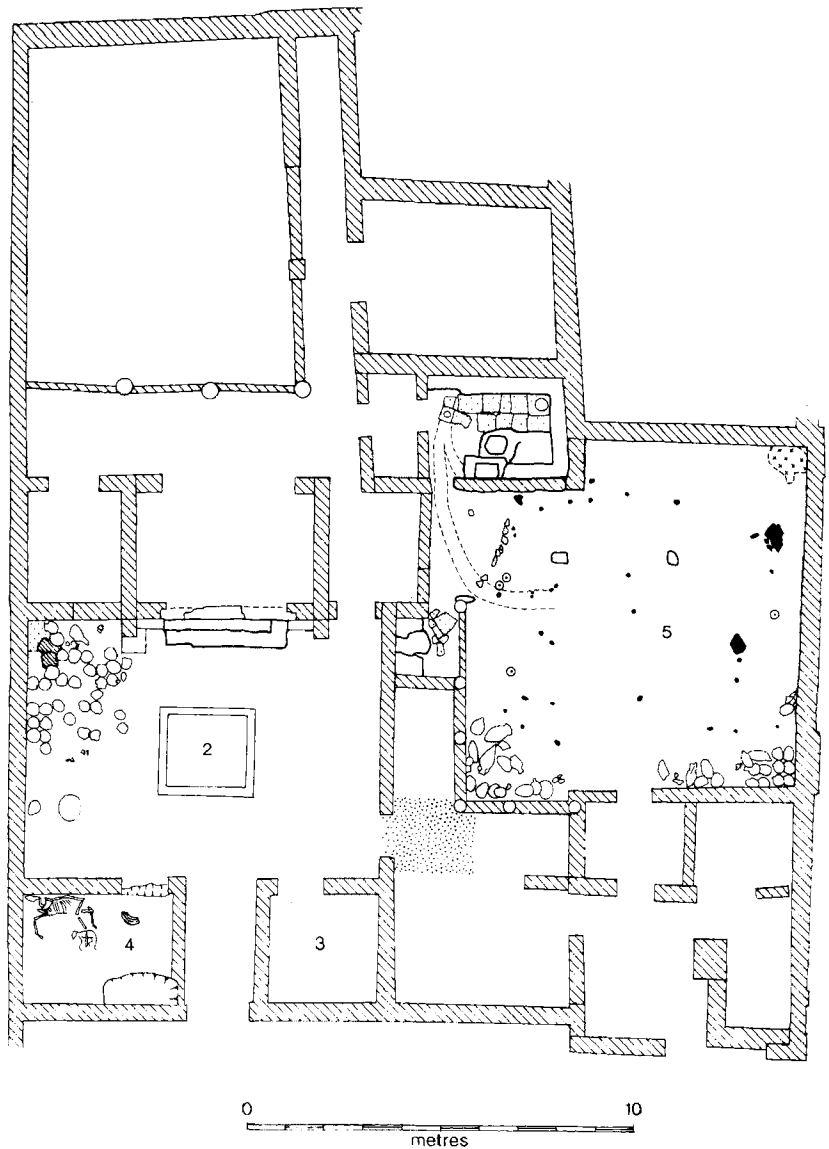


FIGURE 10. *Plan of houses 11 and 12 in AD 79.*

further excavation revealed that it had been used as a stable in which a mule had collapsed against a manger with a dog at its feet (FIGURE 11). Like room 4, room 3 appears to have lost its upper storey before AD 79 and it was apparently empty, but it had been cleared down to the AD 79 level in 1952. Thus the atrium court of 12 appears as a storage area for the wine served at the bar in house 11. Communication between the houses was gained next to room 3 in the southeast corner of the courtyard via a doorway which had been cut through late in the history of the house.

While the bar area itself remains to be investigated in house 11, work in the garden behind added more colour to the evidence for its use in AD 79 (FIGURE 10). Excavation of lapilli not cleared in 1952 revealed that the two corners nearest the bar had been filled with amphorae stacked upside down, and therefore presumably empty. These comprised local and Aegean types, including a few examples of Cretan vessels comparable to those stored in the court of house 12, and a rare example of a Gazan amphora. A number revealed *dipinti* in

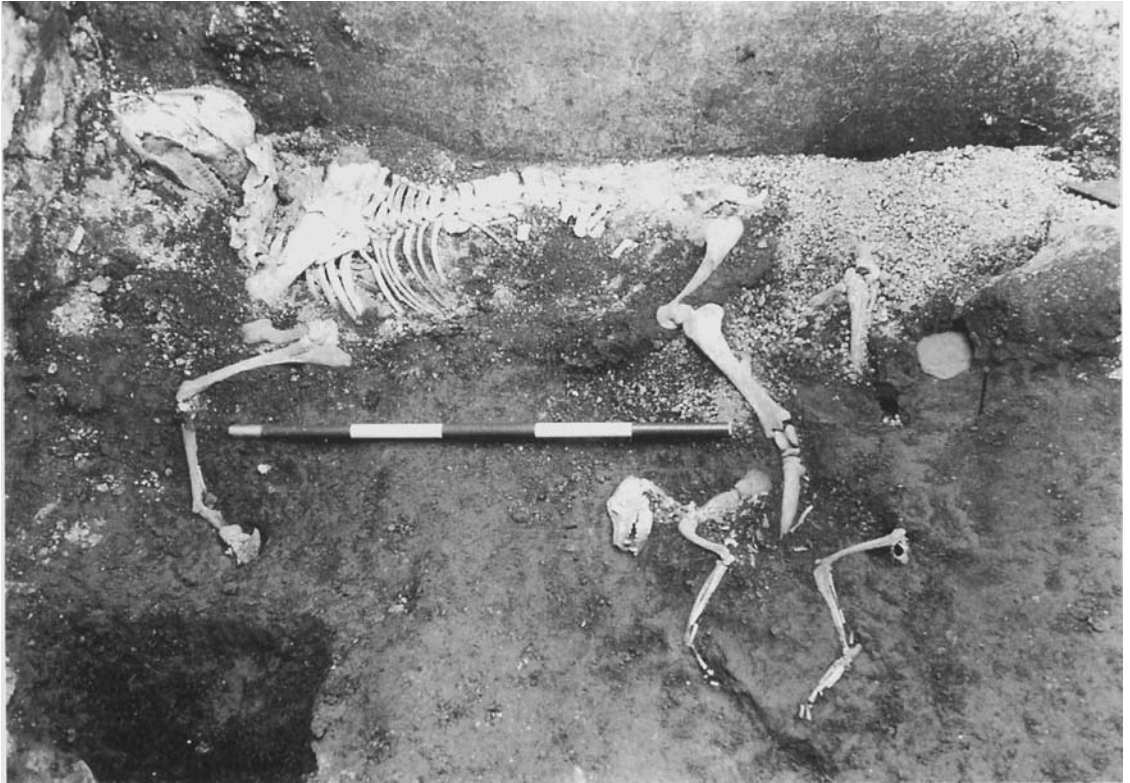


FIGURE 11. Remains of the mule and dog in room 4 of house 12.

either Greek or Latin, and two Aegean amphorae were marked with the same name, *Sex Pompei Amaranti*. This matches with a record from the street frontage of house 11 and the two sources between them suggest that we have the name of the proprietor of the caupona. Other items including damaged domestic pottery vessels, a very large mortarium and a broken sundial were found amongst the amphorae. The garden, though thus partly obscured, produced root voids indicating that it continued to be used as such. Two, or three parallel rows of voids, perhaps of vines or young fruit trees, were aligned north–south while a more mature tree grew in the northeast corner. Between the rows, and reminiscent of the blocks in the atrium court of house 12, were stacked several blocks of Sarno limestone, some of which had partly sunk into the garden soil. Thus, at the time of the eruption most of the garden area had been given over to storage of empty amphorae, building stone and other miscellaneous items.

Archive photos of the raised area over the cistern in the northwest corner showed more (empty) amphorae there, while a ceramic cistern-head remained to be rediscovered in 1995. As we have noted above, the cistern area was raised at the same time as the garden and it remained in use in AD 79. It provided the only source of water for the two houses at the time of the eruption. While it took water from the peristyle of the garden of house 12, its overflow drained into the garden of house 11. Sharing one cistern and one toilet, the two houses were well integrated by AD 79, after undergoing a succession of changes even in the generation prior to the final eruption.

#### **Pre-building structures and occupation**

The numerous changes to the garden area of House 11 show how complicated the structural history of just one small area can be. Yet excavation of the subsoil also reveals traces of an earlier structural history, unsuspected from the evidence of the standing remains (FIGURE 12). Given the insistence of the standard chronolo-

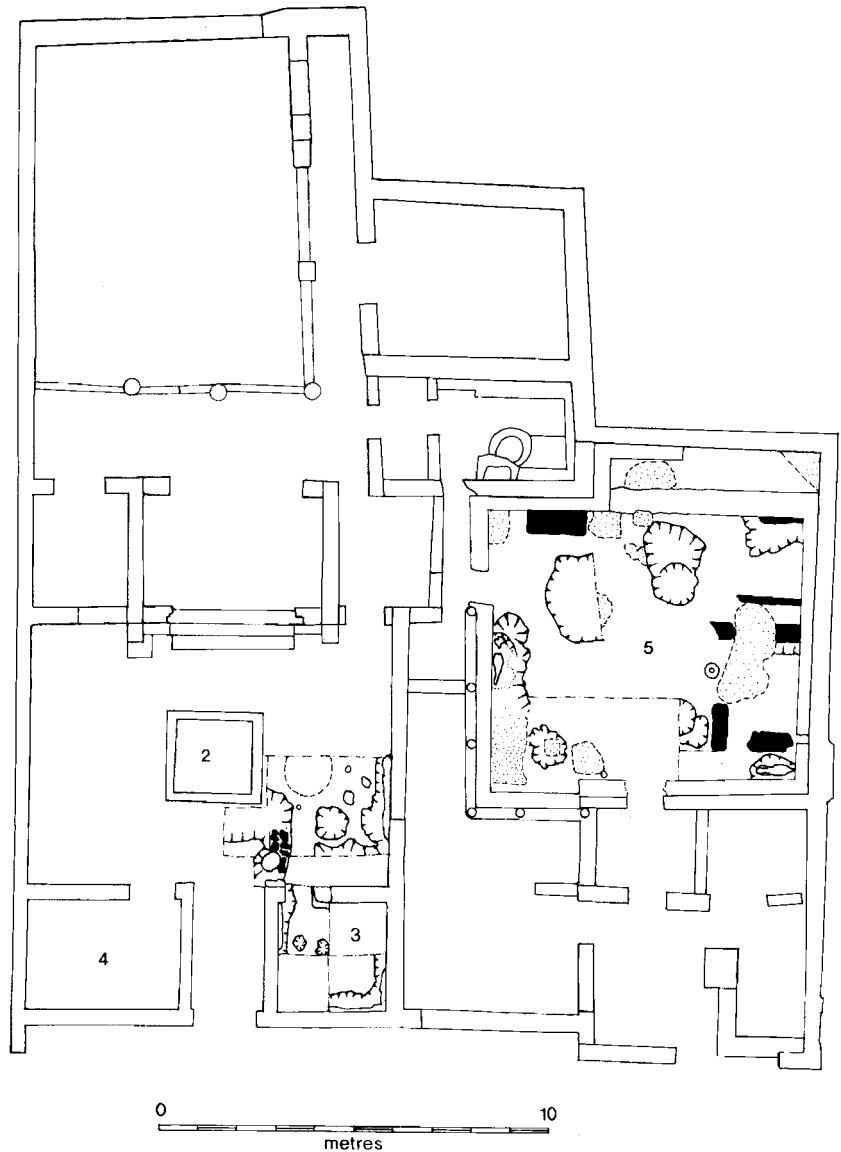


FIGURE 12. Plan of pre-house walls and features in houses 11 and 12.

gies on attributing an early date to Sarno framework construction, a key issue to resolve was the date of the foundation of the walls in the atrium area of house 12. Excavation to the foundations of one room (3) adjoining the entrance passage confirmed that a date earlier than the late 3rd century could be excluded. The earliest flooring in this room, of crushed pottery (*cocciopesto*) included fragments of thin-walled wares probably of the 1st century BC.

Excavation of the atrium court produced more remarkable (and unexpected) evidence in the

shape of a wall pre-dating the standing building, as well as a range of other early activity (FIGURE 13). Although the north–south return of the early wall shares the same alignment as the east wall of the fauces, the latter clearly cuts it and uses different foundation materials. The robber trench which cuts the unmortared foundations of the early wall contains fragments of Augustan sigillata. This is also the case with the fill of a circular pit — probably a well — which, like the construction trenches of the walls of house 12, is sealed by the early-



FIGURE 13. View of the atrium court of house 12 during excavation in 1996.

est floor surface associated with it. All of the activity which cuts into the black, volcanic subsoil is sealed by this floor surface. Once again, as with house 11, we cannot yet offer a date for the earlier wall, but the latest pottery from the make-up layers between the floor surface and the level of the natural subsoil, from the fill of the robber trench, and from the well indicates a later 1st-century BC/early Augustan *terminus post quem* for house 12. The material from the construction trenches themselves contains only black-glazed and thin-walled wares of 2nd- and 1st-century BC date among its assemblage of fine pottery. Given that the trenches for the foundations of the house were dug through the cultivated soil which had accumulated material dating from early in the 1st millennium BC, it is not surprising that the pottery has a residual character. The well and the robber trench, on the other hand, were likely to have been filled with the material current at the time they were abandoned.

The earliest structural evidence from the garden of house 11 consists of the remains of three parallel walls of mortared rubble sharing an east–west orientation (FIGURE 8). On the one hand these have been cut by rubbish pits; on the other, they have been overlaid by the garden wall and associated bench structures. The phase between the demise of the structure(s) associated with these walls and the construction of the peristyle of house 11 is characterized by numerous rubbish pits and circular features whose excavation is incomplete, but whose character suggests that they are wells. Although the fragments of wall remain undated, preliminary study of the latest pottery from the phase of rubbish pits and wells includes Italian sigillata with an Augusto-Tiberian *terminus post quem*.

Both houses have produced evidence of earlier occupation which may or may not prove to post-date the initial planning of the insula, and both have produced evidence to support, respectively, a later 1st-century BC/Augustan

and an Augustan–Tiberian date for their construction despite the apparently ‘archaic’ style of building of house 12. This has further implications for the neighbouring house 13 to which house 12 is bonded. Not only are the two houses contemporary, but house 13 is also decorated with Second Style wall painting. Some years ago de Vos (1976: 66, n.15) pointed out that a sherd of sigillata was embedded in the plaster of house 13; our dating evidence from house 12 further supports that observation.

Exploration of the court of house 10 by a team under Salvatore Nappo produced further surprises. Here, in contrast to house 11, there was no sign of a complex sequence. Apart from a large pit dug in the centre of the court and filled with rubbish of early imperial date, there were no signs of structural alterations after the initial layout of the house. On the other hand, at a lower level traces emerged of much earlier structures: the ceramic finds here, consisting of *impasto*, *bucchero* and Corinthian, indicate activity in the 5th or even 6th century at a period when this area of the city is traditionally supposed to have been undeveloped.

### Pottery and chronology

Study of the standing remains of Pompeian houses and of our two properties, particularly house 11, reveals a complex history of repairs and alterations whose detailed chronology we must admit from the outset will elude us. While the stratigraphic investigation may provide a *terminus ante*, or *terminus post quem* for walls or distinct phases of wall which reach down to, and below, the AD 79 ground level, it cannot provide a date for ‘floating’ alterations above ground. Here the temptation is to associate patching or more substantial repairs with damage caused by the earthquake of AD 62/3. In appreciating the impossibility of attaching firm dates to such alterations, we can simultaneously consider alternative explanations such as subsidence into underlying structures, or inadequate work from the outset.

Similar problems obtain with the establishment of the below-ground chronology. While the possibility of recovering well-preserved and closely datable coins always exists, the reality is of worn and severely corroded items. Thus considerable reliance has to be placed on ceramics which provide us with a number of broadly dated horizons that can serve as *ter-*

*mini post quos*. One such ceramic horizon is the appearance of the black glaze Campana A which is firmly attested in pre-146 BC levels in Carthage (Lancel 1982; Morel 1981), but whose origin locally is likely to lie closer to 200 BC and the aftermath of the Second Punic War. A second such horizon is provided by the appearance of the red, glossy Italian sigillata in the second half of the 1st century BC (Ettlinger *et al.* 1990). A *terminus ante quem* for this ware is attested by material from forts and fortresses on the German frontier from the decade of 20/10 BC. Whether its origin in Italy can be taken as far back as the mid 1st century BC to pre-date the Civil War remains to be established. Associated with the appearance of both these categories of table-ware pottery is a variety of other distinctive ceramics such as amphorae, other fine and thin-walled wares, lamps and certain types of coarse pottery. Many of the forms associated with the earliest production of any industry have long lives, and the associated repertoire only gradually changes. Thus the possibilities of refining chronologies of forms within an industry’s production are problematic. Given also the long survival of wares before disposal and the chances of material being re-worked through the digging of foundation trenches, pits and so forth, establishing horizons at closer intervals than 25–50 years is extremely difficult. Experience shows that the actual appearance of new introductions, such as Italian sigillata, in the archaeological record lags well behind the known *terminus ante quem* for the start of manufacture. Examination of an urban sequence at Carthage, for example, shows the problem of dating the sequence because of the very high proportion of residual pottery (Fulford & Peacock 1994). So, too, at Pompeii a considerable quantity of black-glazed ware whose production was replaced by the red sigillatas survived intact in households and was more than a hundred years old at the time of the eruption in AD 79. To conclude, in the sequence before AD 79 at Pompeii, we are likely to encounter only a limited number of horizons with firm *termini post quos* with intervening sub-phases which may be fixed in a relative, but not an absolutely dated sequence. We also need to acknowledge that residuality is likely to inflate the ‘real’ chronology and the danger of dating structures and sequences too early.



## Conclusions

New work at Pompeii, of which our case study in regio 1, insula 9 provides one example, is radically challenging both the theoretical assumptions and the supporting empirical evidence which underpin the chronologies of the city and their interpretative framework. Stratigraphic excavation of areas within houses, integrated with the unravelling of the structural complexities of the standing walls, has raised important issues. These include the basis for recognizing both change brought about by natural disaster and the evidence for clear building horizons across the city which can be correlated with known historical events such as change in the ethnicity of the dominant class of the city. On the one hand the houses that we have begun to examine in detail appear to be much younger than the date assigned to them on stylistic grounds; on the other, the identification of earthquake damage and its repair can no longer be easily related to particular structural events, such as the blocking of the peristyle of house 11 and the development of the garden. Equally, our work challenges the basis for assuming that new styles of building techniques and types of material lead to the abandonment of the old; the 'archaic' and the 'new' appear to be contemporaneous in houses 11 and 12. At the same time our detailed study of the standing fabric allows us to introduce new considerations in the debate as to what precipitates change, in particular the influence of

technical and economic factors on the choice of materials and their disposition on structural grounds through a building. We are also acutely aware of the difficulties of obtaining close dating; our expectation is to arrive at a very close understanding of sequence and relative chronology, but an approximation within *about* a 25-year period for absolute dating over the last three centuries of the city's life. To many historical archaeologists our conclusions might seem uncontroversial, but for Pompeii, where they question a series of developmental horizons valid for the city as a whole, they have as a corollary profound implications for the further enrichment of an already richly textured city history.

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*Note.* This paper considers the implications of some of the initial results of a collaborative project to study the development of Pompeii, regio 1, insula 9, which is being undertaken by the British School at Rome (AW-H), acting as the co-ordinating body, the University of Reading (MGF and AW-H) and the Soprintendenza di Pompei. Colleagues from the Universities of Oxford (Dr M. Robinson), Southampton (Adrienne Powell) and University College, London (Dr R. McPhail & Dr P. Wiltshire) are also collaborating with us in this project and have contributed observations to this report.

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