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**THE URBAN DOMESTIC BATHS
OF
ROMAN AFRICA**

**by
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**A Thesis
Submitted to the School of Graduate Studies
in Partial Fulfilment of the Requirements
for the Degree
Doctor of Philosophy**

**McMaster University
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THE URBAN DOMESTIC BATHS OF ROMAN AFRICA

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ABSTRACT

This thesis examines the baths of the *domus* in Roman Africa. Private baths have long been recognized as an aspect of Roman domestic architecture, whether belonging to the country residence (*villa*) or urban residence (*domus*) of the wealthy. However, despite the numerous examples of these baths uncovered by archaeological investigation, and in disparate regions of the Roman world, they are not at all understood. It has generally been considered enough to recognize that they are usually small, and their association with the domestic architecture of the rich suggests that these baths are a luxury, and presumably a status symbol. The domestic urban baths of Roman Africa have been selected since they form a geographically restricted group in an area with a well-developed public bathing tradition. The domestic baths are also found in contexts datable throughout the period of Roman provincial control of North Africa. Since the remains are nearly all the discoveries of early excavation technique, and incompletely published, a primary goal is the clarification of their layout and installations. Forty-three examples are identified. They are found in the houses of the wealthy, although the differences between the houses show that many must have belonged to the comfortably off, and only a few to the very wealthiest inhabitants. The baths show variations in size, number of rooms and pools, and decoration, but they follow a basic and practical arrangement. They all contain a full set of bathing rooms, catering to a complete bathing ritual built around a communal bathing routine. An interesting arrangement in some baths permits bathers to enter directly from the street, which suggests that they are not entirely private in use. The differences between the examples illustrate that a variety of reasons prompted the addition of baths to a *domus*, precluding a common interpretation for the role of domestic baths in urban society in Roman Africa.

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 161. Cuicul, maison de l'âne (C.11). Medallions CVI and CVII. Detail of figure 157, above. After *Maisons à mosaïques*, pl. XV.
 162. Silistra. Wall painting in *hypogeum*. After D.P. Dimitrov, "Le système décoratif et la

- date des peintures murales du tombeau antique de Silistra,” *CahArch* 12 (1962) fig. 6.
163. Proiecta casket body. Right side. After K. Shelton, *The Esquiline Treasure* (London 1981) pl. 8, below.
 164. Proiecta casket lid. Back panel. After Shelton, *The Esquiline Treasure*, pl. 6.
 165. Piazza Armerina. Mosaic from vestibule 21. After *Thermae et Balnea*, fig. 47.
 166. Piazza Armerina. Mosaic 4d from *frigidarium*. After *Thermae et Balnea*, fig. 44, below.
 167. Piazza Armerina. Mosaic 4b from *frigidarium*. After *Thermae et Balnea*, fig. 44, above.
 168. Sidi Ghrib. Mosaic from alcove 5. After A. Ennabli, “Les thermes du thiasse marin de Sidi Ghrib (Tunisie),” *MonPiot* 68 (1986) pl. 13.

ABBREVIATIONS

<i>AE</i>	<i>L'Année épigraphique.</i>
<i>AJA</i>	<i>American Journal of Archaeology.</i> The Journal of the Archaeological Institute of America.
<i>Althiburos</i>	M. Ennaïfer, <i>La cité d'Althiburos et l'édifice des Asclepieia</i> (Tunis 1976).
<i>AnalRom</i>	<i>Analecta romana Instituti Danici.</i>
<i>AnatSt</i>	<i>Anatolian Studies.</i> Journal of the British Institute of Archaeology at Ankara.
<i>ANRW</i>	H. Temporini ed., <i>Aufstieg und Niedergang der römischen Welt</i> (Berlin 1972-).
<i>AntAfr</i>	<i>Antiquités africaines.</i>
<i>Approches II</i>	P.-A. Février, <i>Approches du Maghreb Romain II</i> (Aix-en-Provence 1990).
<i>AquilNost</i>	<i>Aquileia nostra.</i>
<i>ArchCl</i>	<i>Archeologia classica.</i>
<i>Archeologia</i>	<i>Archeologia. Rivista bimestrale [Roma].</i>
<i>ArchKorrBl</i>	<i>Archäologisches Korrespondenzblatt.</i>
<i>Athenaeum</i>	<i>Athenaeum.</i> Studi periodici di letteratura e storia dell'antichità, Università di Pavia.
<i>Baths and Bathing</i>	F. Yegül, <i>Baths and Bathing in Classical Antiquity</i> (New York 1992).
<i>BAA</i>	<i>Bulletin d'archéologie algérienne.</i>
<i>BABesch</i>	<i>Bulletin antieke beschaving.</i> Annual Papers on Classical Archaeology.
<i>BAC</i>	<i>Bulletin archéologique du Comité des travaux historiques et scientifiques.</i>

<i>BAM</i>	<i>Bulletin d'archéologie marocaine.</i>
<i>BANarb</i>	<i>Bulletin de la Commission archéologique de Narbonne.</i>
<i>BAntFr</i>	<i>Bulletin de la Société nationale des antiquaires de France.</i>
<i>BASOR</i>	<i>Bulletin of the American Schools of Oriental Research.</i>
<i>Bas-Empire I, II</i>	C. Lepelley, <i>Les cités de l'Afrique romaine au bas-empire</i> . 2 vols (Paris 1979).
<i>BCB, Timgad</i>	E. Boeswillwald, R. Cagnat, and A. Ballu, <i>Timgad, une cité africaine</i> (Paris 1905).
<i>BCH</i>	<i>Bulletin de correspondance hellénique.</i>
<i>BdA</i>	<i>Bollettino d'arte</i>
<i>BEFAR</i>	<i>Bibliothèque des Écoles françaises d'Athènes et de Rome.</i>
<i>BSR</i>	<i>Papers of the British School at Rome.</i>
<i>BullAIEMA</i>	<i>Bulletin d'information de l'Association internationale pour l'étude de la mosaïque antique.</i>
<i>Caesarea</i>	P. Leveau, <i>Caesarea de Maurétanie: une ville romaine et ses campagnes</i> (CEFR 70, Rome 1984).
<i>CahArch</i>	<i>Cahiers archéologiques.</i>
<i>CahEtAnc</i>	<i>Cahiers des études anciennes.</i>
<i>CahTun</i>	<i>Cahiers de Tunisie.</i>
<i>CMT</i>	<i>Corpus des Mosaïques de Tunisie.</i>
<i>CEFR</i>	<i>Collection de l'École française de Rome.</i>
<i>CIL</i>	<i>Corpus inscriptionum latinarum.</i>
<i>CGIL</i>	<i>Corpus glossariorum latinorum.</i>
<i>CRAI</i>	<i>Comptes rendus des séances de l'Académie des inscriptions et belles-lettres</i> [Paris].
<i>CronPomp</i>	<i>Cronache pompeiane.</i>
<i>DissPontAcc</i>	<i>Atti della Pontificia Accademia romana di archeologia. Dissertazioni.</i>
<i>IL Afr</i>	R. Cagnat, A. Merlin, L. Chatelain, <i>Inscriptions latines d'Afrique (Tripolitaine, Tunisie, Maroc)</i> (Paris 1923).

<i>ILAlg</i>	S. Gsell, <i>Inscriptions latines de l'Algérie</i> (Paris 1957-).
<i>ILM</i>	M. Euzennat, <i>Inscriptions antiques du Maroc</i> (1966, 1988).
<i>ILT</i>	A. Merlin, <i>Inscriptions latines de la Tunisie</i> (Paris 1944).
<i>JAC</i>	<i>Jahrbuch für Antike und Christentum.</i>
<i>JRA</i>	<i>Journal of Roman Archaeology.</i>
<i>JRS</i>	<i>The Journal of Roman Studies.</i>
<i>JSAH</i>	<i>Journal of the Society of Architectural Historians.</i>
<i>Karthago</i>	<i>Karthago. Revue d'archéologie africaine.</i>
<i>MAAR</i>	<i>Memoirs of the American Academy in Rome.</i>
<i>Maisons à mosaïques</i>	M. Blanchard-Lernée, <i>Maisons à mosaïques du Quartier central de Djemila (Cuicul)</i> (Paris 1975).
<i>MeditArch</i>	<i>Mediterranean Archaeology. Australian and New Zealand Journal for the Archaeology of the Mediterranean World.</i>
<i>MedMusB</i>	<i>Medelhavsmuseet, Bulletin [Stockholm].</i>
<i>MEFR</i>	<i>Mélanges d'archéologie et d'histoire de l'Ecole française de Rome.</i>
<i>MEFRA</i>	<i>Mélanges de l'École française de Rome, Antiquité.</i>
<i>MInstWasser</i>	<i>Mitteilungen des Leichtweiss-instituts für Wasserbau der Technischen Universität Braunschweig.</i>
<i>Mnemosyne</i>	<i>Mnemosyne. Bibliotheca classica batava.</i>
<i>MonAnt</i>	<i>Monumenti antichi.</i>
<i>MonPiot</i>	<i>Monuments et mémoires publiées par l'Académie des inscriptions et belles-lettres. Commission de la fondation Piot.</i>
<i>Mosaïques de Timgad</i>	S. Germain, <i>Les Mosaïques de Timgad</i> (Paris 1969).
<i>N&D</i>	<i>Notes et Documents. Institut d'Archéologie [Tunis].</i>
<i>PompHercStab</i>	<i>Pompeii Herculaneum Stabiae. Bollettino dell'Associazione Internazionale. Amici di Pompei.</i>
<i>PP</i>	<i>La parola del passato.</i>
<i>PSAM</i>	<i>Publications du Service archéologique de Maroc.</i>

<i>Quartier nord-est</i>	R. Etienne, <i>Le Quartier nord-est de Volubilis</i> , 2 vols (Paris 1960).
<i>RA</i>	<i>Revue archéologique</i>
<i>RAfr</i>	<i>Revue africaine.</i>
<i>RANarb</i>	<i>Revue archéologique de Narbonnaise.</i>
<i>RecConst</i>	<i>Recueil des mémoires de la société archéologique et historique du département de Constantine (Recueil des Notices et Mémoires publiés par la Société Archéologique de Constantine)</i>
<i>Ruines de Timgad I</i>	A. Ballu, <i>Les ruines de Timgad, antique Thamugadi</i> (Paris, 1897).
<i>Ruines de Timgad II</i>	A. Ballu, <i>Les ruines de Timgad, antique Thamugadi. Nouvelles découvertes</i> (Paris 1903).
<i>Ruines de Timgad III</i>	A. Ballu, <i>Les ruines de Timgad, antique Thamugadi. Sept années de découvertes</i> (Paris 1911).
<i>Thermae et Balnea</i>	I. Nielsen, <i>Thermae et Balnea</i> , 2d ed. (Aarhus 1993).
<i>Vocabulaire thermal</i>	R. Rebuffat, "Vocabulaire thermal," in <i>Les Thermes romains</i> (CEFR 142, Rome 1991) 1-32.

INTRODUCTION

Private baths have long been recognized as a feature of Roman domestic architecture. At Pompeii alone, twenty-six baths belonging to houses have been identified, and another one at neighboring Herculaneum.¹ With the notable exception of Fabbriotti's paper on private baths in Campania, however, they have not been subjected to any systematic form of study. Roman baths in general have not attracted any detailed examination until quite recently, although their remains are among the most distinctive monuments of Roman cities. The architectural form, characterized by brick pillars supporting the suspended floors of the heated rooms, makes them identifiable without necessitating discussion of the architectural layout. Perhaps their function, serving basic needs of hygiene, has excluded these monuments from the detailed study given to other public monuments of more lofty stature. The new and growing interest in baths has been aimed primarily at public baths. Slowly, recognition has been given to their significance as an integral feature of urban life. Although the ultimate benefit of the baths is the promotion of health and well-being, the social aspects of a visit to the baths are undoubtedly a prime reason for the growth and promotion of Roman bathing throughout the Empire. The architectural form, distribution, decoration and social role of private baths, on the other hand, are still relatively unexplored. It is to rectify this omission that the baths belonging to the *domus* of the North African provinces are examined.

The baths of the *domus* are generally referred to as private, in contrast to independent structures, which are designated as public. However, the term "private" can

¹ N. de Haan, "Privatbäder in Pompeji und Herculaneum und die städtische Wasserleitung," *MInstWasser* 117 (1992) 425. This is unlikely to represent the total number of private baths at the sites, as neither site is completely excavated. Earlier studies have not recognized all of these examples, although they were excavated prior to WWII. In a study of the small baths in Campania, E.F. Fabbriotti ("I bagni nelle prime ville romane," *CronPomp* 2 [1976] 29-111) only identified 18 examples at Pompeii.

denote both ownership and access to the baths. In the case of baths belonging to a house, private ownership is evident from the location within the house, and presumably access would be restricted to those who had admittance to the house. Public baths, as their name suggests, are accessible to the public. These independent baths, however, could also be privately owned and operated as businesses.² Since some baths belonging to the *domus* in North Africa can be entered from the street, it is evident that they may not be entirely private in terms of access. For the purpose of this thesis, the term “domestic” is used to specify baths that, regardless of access, are demonstrably associated with a *domus*.

Roman Baths

Public baths

The typology devised by Krencker in 1929 for his study of the public baths at Trier has remained one of the most influential works in bath studies.³ Bathing architecture of the Roman empire appears, at first glance, to be unique in form in each example, with a diverse number and arrangement of rooms. Krencker used the arrangement of principal bathing rooms and patterns of symmetry in the plans to establish a typology for public baths.⁴ The primary division depends on whether the baths are ‘retrograde’ in plan or ‘annular’. Retrograde plans make the bather progress through the rooms of the baths, and then retrace his steps to return to the starting point. Annular patterns, on the other hand, permit the bather to progress through the baths and return to the starting point without retracing his steps. From these two basic patterns of circulation, Krencker identified three major divisions for bathing architecture; the row type, the ring type and the imperial type. The row type is retrograde in plan, and has a single route to and from the final heated room. It is the simplest type and the most common form for early and small baths. The ring type is

² The term *balnea meritoria* is applied to facilities which were privately owned, but were operated as a business and open to the public for a fee (Pliny *Ep.* 2.17.26). The *balnea meritoria* are a group in need of further study. A discussion of the type can be found in H. Meusel, *Die Verwaltung und Finanzierung der öffentlichen Bäder auf römischen Kaiserzeit* (Cologne 1960) 23-27.

³ D. Krencker et al., *Die trierer Kaiserthermen* (Augsburg 1929).

⁴ *Ibid.*, 177-186.

annular, with a separate route for returning from the final heated room to the starting point. These baths are generally arranged so that the circular bathing route goes to one side of the central axis formed by the cold bathing room, and are designated half-axial baths. This plan is found in baths of small, medium and large size from the second century AD onwards. The imperial type, as the name implies, is an elaborate official construction, best known from the imperial *thermae* of Rome, but found throughout the empire. While this typology is broadly applicable to baths, it ignores different installations and features of individual rooms in favor of an overall conformity to a type. Recent scholarship has maintained this typology, with little attention to geographical and chronological trends, a tendency criticized by DeLaine.⁵

In 1988, DeLaine lamented the general neglect of Roman baths in modern scholarship, despite the recent appearance of two broadly focused works on Roman public baths.⁶ This oversight is slowly being rectified by the appearance of new works which range in scope from overviews of baths and bathing culture to detailed examinations of individual baths and specific topics. Two more overviews of the topic have appeared.⁷ They amply demonstrate that recent research has concentrated on the development, physical form and layout of public baths. The social and human aspects of bathing, while included in the studies, are on the whole secondary topics. A characteristic of all four general works is the broad treatment of baths outside of Campania, with the exception of the imperial baths in Rome, and an emphasis on classification modeled on Krencker's 1929 typology devised for his study of the baths at Trier.⁸ Together, the recent works on public baths have brought bath studies to the attention of a wider audience. They provide valuable resources on public

⁵ J. DeLaine, "Recent Research on Roman Baths," *JRA* 1 (1988) 17-18.

⁶ The two general studies are German works by E. Brödner (*Die römischen Thermen und das antike Badewesen. Eine kulturhistorische Betrachtung* [Darmstadt 1983]) and W. Heinz (*Römische Thermen. Badewesen und Badeluxus im römischen Reich* [Munich 1983]). Their scope and limitations are reviewed by DeLaine ("Recent Research on Roman baths," 12-13).

⁷ The two German works were followed nearly a decade later by more intensive examination of the baths in English by I. Nielsen (*Thermae et Balnea* [Aarhus 1990; 2d ed.1993]) and F. Yegül (*Baths and Bathing in Classical Antiquity* [New York 1992]), also reviewed by J. DeLaine ("Roman Baths and Bathing," *JRA* 6 [1993] 348-352).

⁸ D. Krencker et al., *Die trierer Kaiserthermen*.

baths and bathing culture, and in particular *Thermae et Balnea* emerges as a detailed reference to the topic. These works have also provided the starting point for new avenues of research into a rich and complex subject. The limitations of the various works are admirably discussed by DeLaine, whose two reviews are themselves helpful guidelines for further research.

Several new bath studies have appeared, each with a very different focus. Most are treatments of the architecture. One of these examines the baths of a particular region,⁹ while several are detailed reexaminations of baths uncovered in early excavations.¹⁰ One of the newest works moves away from the architectural emphasis to consider bathing culture in the Roman world from the perspective of literary and epigraphic material.¹¹

A great deal of attention has been given to when and where the distinctly Roman type of bathing architecture appeared.¹² While arguments have variously attributed a greater role to early Greek baths with a primitive form of radiant heat from below the floor, early Italian private baths, or the natural geological conditions of the Bay of Naples, the Stabian baths at Pompeii are the earliest datable Roman baths with a hypocaust system and communal immersion pools. Even for these baths, the date when the Greek form of baths without hypocaust or communal immersion pools was replaced by one with these features is

⁹ A. Farrington, *The Roman Baths of Lycia. An Architectural Study* (BIAA 20, Ankara 1995).

¹⁰ Such as the Thermes Memmiens at Bulla Regia, Tunisia (H. Broise and Y. Thébert, *Recherches Archéologiques Franco-Tunisiennes à Bulla Regia. II. Les Architectures. 1 - Les Thermes Memmiens* [CEFR 28/II.1, Rome 1993]), which gives a detailed account of the early excavations of the baths, the recent soundings to clarify details, and the decoration, inscriptions, small finds, date and urban context. This work aptly demonstrates the benefits and potential of reevaluating early excavations. J. DeLaine (*The Baths of Caracalla. A Study in the Design, Construction, and Economics of Large-scale Building Projects in Imperial Rome* [JRA suppl. 25, Portsmouth 1997]) takes a very different approach to the well-known set of baths. As the title implies, this study looks well beyond the strictly typological approach to bathing architecture by reconstructing the “generating process” through which this imperial establishment was constructed.

¹¹ G.G. Fagan, *Bathing in Public in the Roman World* (Ann Arbor 1999).

¹² The various arguments for and against a Roman origin are reviewed by DeLaine (“Recent Research,” 14-17; eadem, “Roman Baths and Bathing,” 354-355).

not agreed upon.¹³ Recent consensus gives priority to the evidence of bathing architecture in the region of the Bay of Naples.

The excellent preservation of the baths at Pompeii and Herculaneum makes them the most influential monuments for understanding Roman baths. Six public baths have been discovered at Pompeii, and two at Herculaneum, and the AD 79 eruption of Vesuvius is their final date. Their plans were established before this time, although renewed study is necessary to determine the dates for recognizable phases of some of the baths.

During the first century BC, a standard bathing plan evolved. The Stabian baths best illustrate this plan (fig. 2), and have received the most thorough architectural study.¹⁴ This plan consists of a changing room (*apodyterium*), a warm room (*tepidarium*) and a hot bathing room (*caldarium*), arranged in a row (fig. 1).¹⁵ The latter is furnished with a communal immersion pool (*alveus*) at one end, and a raised basin (*labrum*) at the opposite end of the room. A circular room is also adjoined to the changing room, originally constructed as a chamber heated by a brazier without a hypocaust or water supply (*laconicum*). Later, in the Augustan period, an unheated immersion pool was added to this room, which thus became the cold bathing room (*frigidarium*). The ensemble is constructed along the side of a porticoed courtyard (*palaestra*), which contains a large open air pool for swimming. A second bathing suite consists of the main bathing rooms (*apodyterium*, *tepidarium*, and *caldarium*), but on a reduced scale. The cold pool is built in the *apodyterium*, and there was never a circular sweat room.¹⁶ These facilities are arranged so that they share the service room and water heating tanks of the larger suite, but their

¹³ H. Eschebach, *Die Stabianer Thermen in Pompeji* (Berlin 1979) 40-54. He identifies this transformation as phase IV, which he dates to the late second century BC. Nielsen revises Eschebach's phases, and places the addition of the hypocaust in the baths in the early first century BC. She inserts a new phase (V) for this development (*Thermae et Balnea*, 27-31). This is largely to bring the dating of the hypocaust in line with the man credited in antiquity with both its invention and its installation in villas, namely Sergius Orata (Pliny *HN* 9.168; Cic. *Hort.* cited in Non. 194 [285L], s.v. *balneae*). Cf. G.G. Fagan, "Sergius Orata: Inventor of the Hypocaust?" *Phoenix* 50 (1996) 56-66.

¹⁴ Eschebach, *Stabianer Thermen*.

¹⁵ These Latin names and features of these room types are discussed further in ch. 1 below.

¹⁶ This *laconicum* is associated with palaestras in the first century BC public baths; its use is undoubtedly related to the activities carried out here (*Thermae et Balnea*, 31)

entrance is not associated with the palaestra. This smaller bathing facility, entered from the street, is identified as the women's baths.¹⁷ The Forum baths at Pompeii replicate all of these features, as do the Forum baths at Herculaneum. Their preserved layouts can all be attributed to the Augustan period, with some repairs and decoration following the 62 AD earthquake.¹⁸

A new set of public baths, the Central baths (fig. 3), were still under construction at Pompeii at the time of the eruption.¹⁹ Nearing completion, these baths are still arranged in a row along one side of a palaestra. Notable differences are the circular room (S) built with a hypocaust and heated directly from a furnace, which produces an arrangement of three heated rooms, and the *frigidarium* (F) with a built pool. These rooms are planned from the outset as an integral part of the structure. In the earlier establishments, the *frigidarium* appears in the Augustan period. In the two Forum baths, a *frigidarium* is similarly placed in a circular room. The *laconicum* had apparently disappeared from the sequence at this time, and the improved heating from a hypocaust is a probable explanation for this change.²⁰ This later transformation of the room has obscured the original function of the circular domed room, and in particular its relationship to the rest of the structure. The room is carefully separated by the *apodyterium* from the heated rooms which contained water. The function of this room type as a sweat room (*laconicum*) is now recognized.²¹

The sequence of an unheated bathing room with cold pool (*frigidarium*), and successively hotter rooms (*tepidarium*, *sudatorium*), with or without basins or pools of

¹⁷ The facility is also completely separated from the palaestra.

¹⁸ The Stabian baths are one of six baths which can be attributed to the first century BC. The other two belong to the early first century AD group of baths (*Thermae et Balnea*, 39).

¹⁹ P. Bargellini, "Le terme centrali di Pompei," in *Les Thermes Romains* (CEFR 142, Rome 1991) 115-128.

²⁰ Nielsen suggests that the ability to better control the heated temperatures of the baths through the hypocaust system made heating by brazier unnecessary. She notes that the *tepidarium* of the Forum baths at Pompeii does not have a hypocaust, and was still heated by what she calls the outdated method of a brazier (*Thermae et Balnea*, 33f).

²¹ R. Ling, "The Baths of the Casa del Menandro at Pompeii," *PompHercStab* 1 (1983) 54-55; idem, *The Insula of the Menander at Pompeii. Vol 1: The Structures* (Oxford 1997) 61. The identification of the circular domed room with the *laconicum* of Vitruvius is discussed further, below; cf. Fagan (*Bathing in Public*, 250, catalog no. 61), who does not believe that the structure recorded in the inscription can be identified architecturally.

heated water, leading to the hot bathing room with heated immersion pool (*caldarium*), becomes the standard arrangement of the baths by the end of the first century AD. The number of examples preserved and their geographical distribution increases dramatically into the second century AD.²²

Domestic baths

At Pompeii and Herculaneum are found the only substantial group of private or domestic baths in an urban context. Again, their excellent state of preservation is helpful for identifying such aspects as plan, decoration and water supply, and Fabbricotti's survey of these remains is currently being updated.²³ De Haan divides the domestic baths into three types, based on the number of rooms and installations, which also have chronological distinctions.²⁴ Type 1 has at the most two rooms, but usually a single room without a hypocaust. Type 2 has two principal rooms, one an indirectly heated changing room, and the other a hypocaust room with a pool of heated water. Type 3 has these features, and may also have a third room, occasionally heated by hypocaust, and some examples also have an unheated immersion pool in the adjacent courtyard. These types can be divided chronologically. Type 1 is the earliest, dating to the second century BC, and giving way to baths of Type 2 in the first century BC. The more advanced facilities are dated to the first century AD, before the eruption. There are a limited number of Type 1 and Type 3 baths.

The study of the casa del Menandro's baths (fig 4) is particularly enlightening on

²² J. DeLaine, "New Models, Old Models: Continuity and Change in the Design of Public Baths," in *Die römische Stadt im 2. Jahrhundert n. Chr. Der Funktionswandel des öffentlichen Raumes* (Cologne 1992) 257; and 258--275 on room types and development of the plans in public baths; and Fagan, *Bathing in Public*, 40-74 on literary and epigraphic sources illustrating the increase in popularity of the Roman bathing habit.

²³ Fabbricotti ("Bagni nelle prime ville romane," 103-109) devised a classification system for the private baths of Campania, revised by de Haan ("Privatbäder in Pompeji und Herculaneum," 425-426); who also studies their water supply (ibid., 428-432; eadem, "Die Wasserversorgung der Privatbäder in Pompeji," in *Cura Aquarum in Campania. Proceedings of the Ninth International Congress on the History of Water Management and Hydraulic Engineering in the Mediterranean Region*, ed. N. de Haan and C.G.M. Jansen (BABesch suppl. 4, Leiden 1996) 59-65.

²⁴ De Haan, "Privatbäder in Pompeji und Herculaneum," 425-426.

the transformations occurring in bathing architecture in the first century AD.²⁵ These baths belong to de Haan's Type 2/3. They have a hypocaust room with apse for a *labrum* and an *alveus* at right angles to it. They are entered from a room without hypocaust, which is identified as the *tepidarium*. Separated from these rooms by an atrium is a circular room with four circular niches, with a depression in the center marking the location of the brazier. This suggests that the room functioned as *laconicum*. The separation from the other rooms is quite evidently done to ensure dry heat. At the time of the eruption, however, this room had been torn down to the level of the foundations. Other work was taking place in the updating of the heating and water system. These activities suggest that in private baths, as well as in public ones, the improved heating system of the hypocaust was producing changes in the bathing routine. The dry heat room was evidently no longer a required feature of the baths.

The domestic baths at Pompeii and Herculaneum were built for use by the occupants of the house, with restricted access. Their form has struck some scholars as primitive, with little indication of luxury.²⁶ However, this is partly a result of their early form. In fact, many were built before the Augustan aqueduct ensured a steady supply of water.²⁷ Connection to the public water supply, on the other hand, would require the financial resources to pay for this additional luxury.²⁸ The contrast between the cost of such an installation and the simple appearance is an interesting one. The only ancient source that mentions use of a domestic bath in an urban setting is Petronius' *Satyricon*.²⁹ Prior to dinner, Trimalchio had already visited public baths, where he had made quite a spectacle of himself.³⁰ After dinner, however, he invited his guests into the private baths of his house, which are described as

²⁵ Ling, "The Baths of the Casa del Menandro," 49-60; idem, *Insula of the Menander*, 61-67.

²⁶ Yegül notes that more elaborate and well-decorated facilities like those of the casa del Menandro are rare, and even suggests that the simpler baths would have served slaves and servants who could not make it to the public baths (*Baths and Bathing*, 31).

²⁷ De Haan, "Wasserversorgung der Privatbäder," 61.

²⁸ Ibid., 59, and A.I. Wilson, "Running Water and Social Status in North Africa," in *North Africa from Antiquity to Islam. Papers of a Conference Held at Bristol, October 1994*, ed. M. Horton and T. Wiedemann (Bristol 1995) 5-56.

²⁹ Petron. 73, and see below, p. 17.

³⁰ Petron. 27-28.

particularly small facilities. Nevertheless, these baths are an extra benefit of a wealthy household, and do not preclude the use of the public facilities.

North Africa

The public baths of North Africa have formed the backbone for studies of bathing architecture, which is a tribute to the large number of examples. On the whole, the ancient sites have been less intensively occupied in modern times than those of Italy. However, the apparent ease of comparison needs to be addressed, particularly for the main period of Roman bath building, particularly in the second and the third centuries AD. For these centuries, knowledge of bathing architecture in Italy other than the imperial type is defined by the baths of two principal sites, namely Hadrian's villa at Tivoli and Ostia, with only scattered examples from elsewhere in the peninsula.³¹ Thus forming a comprehensive picture of Italian baths in this period is difficult. In North Africa, on the other hand, the high number of baths of the imperial type has drawn attention to similarities with the imperial examples of Rome, although most North African examples are smaller.³² In the second and third centuries, the architectural remains show that the cities of North Africa, like Italy, enjoyed an increasing number of these facilities, with increased emphasis on the principal bathing rooms with water for immersion bathing.³³ The bathing culture of North Africa in the Roman period was, in fact, entirely imported. Punic bathing was evidently quite different. While individual tubs similar to Hellenistic hip-baths were the norm, the bathing ritual appears to be individual, not communal, and without attached heating facilities.³⁴

The earliest remains of a Roman bath in North Africa have been identified at Lixus,

³¹ *Thermae et Balnea*, 49-55.

³² A. Lézine, *Architecture romaine d'Afrique. Recherches et mises au point* (Tunis n.d.) 27.

³³ Many of the examples explored by DeLaine ("New Models, Old Models," 258-275) are from North Africa.

³⁴ M. Fantar, *Kerkouane. Cité Punique du Cap Bon (Tunisie). Tomb II - Architecture domestique* (Tunis 1985) 341-347.

originally constructed in the time of Juba II (fig. 5).³⁵ The circular room with four apses is a recognizably early feature. The facility was public in its subsequent phases, but its original status is unknown. The spread of public baths in North Africa is generally placed within the context of the second century building boom in the North African provinces.³⁶ These baths have been studied according to their classification as imperial, half axial or retrograde baths, all of which are found in the African provinces, with the exception of Mauretania Tingitana, where no imperial baths have been found. There are more than fifty substantial public baths known from North Africa.³⁷

The public baths of North Africa have not, however, received the detailed sort of consideration that the quantity of the remains requires. The early excavation and brief publication of these baths is directly responsible for their summary treatment. A limited number of examples reoccur in modern works on baths, while other examples are generally neglected. This is particularly true of small independent baths in the cities, which are seldom discussed unless they contain significant decoration such as mosaics. Timgad is the best known city with baths. Thirteen public baths of various size and date have long been recognized, yet only the larger ones have attracted further discussion.³⁸ They continue to be interpreted in terms of their conformity to a particular type of plan.

The main problem faced in studying the urban domestic baths is, again, the early excavation of the remains. The publications are frequently not complete enough to determine the basic physical characteristics of the domestic baths. It was therefore

³⁵ E. Lenoir, "Enceintes urbaines et Thermes de Lixus," in *Lixus. Actes du colloque organisé par l'Institut des sciences de l'archéologie et du patrimoine de Rabat avec le concours de l'École française de Rome, Larache, 8-11 novembre 1989* (CEFR 166, Rome 1992) 290.

³⁶ *Thermae et Balnea*, 84-85; *Baths and Bathing*, 184-186.

³⁷ Nielsen catalogs 44 examples, including some, but not all, of the smaller public baths (*Thermae et Balnea* 2, C.207-251); Yegül uses 42 examples to illustrate the different bath types, including two rural or villa baths (*Baths and Bathing*, 184-249).

³⁸ The axially planned Grands Thermes Nord and the half-axial Grands Thermes Sud are the only two baths to receive a detailed discussion in the most recent studies by Nielsen and Yegül (*Baths and Bathing*, 197, 269; *Thermae et Balnea*, 87-89, 90-93). Yegül also includes a brief summary of the plans of seven of the smaller baths. Nielsen, who lists all thirteen baths in the catalog (*Thermae et Balnea*, vol. 2, 30-31, C.238-250), discusses the smaller examples briefly, and only in terms of their chronology relative to the expansion of the city.

necessary to visit as many of the baths as possible, in order to collect the following information: where the entrance to the baths was located; what installations were found in the individual rooms; and how the rooms communicated with one another. Without this information, it was not possible to identify the overall layout. Since the baths of Volubilis were quite evidently the best preserved, the main field work was undertaken at this site. The information collected from these baths was helpful in interpreting the remains of the baths in Tunisia which were visited. It was not possible to conduct fieldwork in Algeria. However, the knowledge gained from the other sites permitted more information to be deduced from the published reports, plans and photographs that contained in the original publications.

Organization of the thesis

In the first chapter, a survey of the ancient sources is undertaken to construct a working terminology that can be applied to the rooms of the North African domestic baths. Vitruvius' account of bath construction, the most commonly used source for establishing the names of the principle bathing rooms, is considered first. Other sources, primarily Latin, are then discussed. Such evidence as how the rooms are used, and in what sequence, are considered.

In chapter two, the individual baths and their basic arrangement are discussed. The architectural setting, both within the house and within the urban plan, is considered. Forty-three domestic baths are identified, and their form is established. This is done on the basis of a reevaluation of the published reports and, where possible, limited, non-intrusive fieldwork. Their geographical and temporal distribution is also established.

A discussion of the individual rooms, installations and plans of the baths follows in chapter three, with a discussion of baths entered from within the house and from the street. The presence and number of the particular room types identified in chapter one are considered. It is expected that the reduced size of the domestic examples reflects use in an essentially private space, with a limited number of rooms, but that the layout will facilitate

the actions of the bathing circuit. The heating system and water supply are also discussed. Finally, the variations in plans are considered, to see if any are more common at one time, or in a particular geographical area.

In chapter four the decoration of the baths is considered. The current inquiry is limited by the preservation of decoration. While this is generally incomplete, the amount of decoration in the baths relative to each other, and to the houses as a whole, is useful for determining the degree to which the surroundings were important in the private bathing ritual. Of course, the mosaic decoration is important for assisting in the dating of early excavation material, but it can also convey something about owners, who have the ability to direct the decorative program of their baths.

In chapter five, the focus changes to what the material remains indicate about the social role, or perhaps roles, of the domestic baths. The evidence that is informative about ownership, clientele and the use of the baths is considered. The status of the proprietors is difficult to determine, since the individuals are seldom identified with specific houses, but it is often possible to place the owners within the broader context of the urban rich. This is particularly relevant for a discussion of domestic baths, since they are considered to be a privileged luxury of the wealthy. Finally, the validity of current hypotheses on the role of the domestic baths in late antique city life is discussed.

This thesis is largely an architectural study. The poor publication of the majority of these baths has dictated that the main effort would be in establishing their plans, layout, features, and geographical and temporal distribution. The studies of their decoration and social context are also limited by the lack of a strong framework within which they may be discussed. These later topics, largely neglected, form the next step in bath studies, after the physical aspects are known.

CHAPTER ONE

IDENTIFYING COMPONENTS OF THE BATHS

Following current practice, Latin terms are used in modern reports to designate rooms and their installations in the excavated Roman baths of North Africa. However, the same term is often applied to very different physical room-types or features, and room-types sharing the same physical characteristics may be identified by terms which differ from one report to another. This can leave the reader wondering whether or not similar installations are being described. The current growth of knowledge in bath studies in general also needs to be incorporated into a study of the Latin terms. Understanding the ancient terminology, the nature of the designated installation and associated ancient usage is as important as the reinterpretation of the archaeological remains from the perspective of current research. It is necessary to explore the ancient literature, and to explain how it can be applied to the archaeological remains in a manner which provides complementary information.

In antiquity the room types and fixtures of Roman baths were designated by specific terms, many of which are preserved in surviving Latin sources. Each term has associated with it physical characteristics and functions. In modern literature, however, the use of Latin terms is frequently inconsistent. It is only in recent years that scholars have begun to sort through the ancient sources to provide a firmer guide in this identification. Their works focus on identifying Latin terms with the function of rooms and applying them to the excavated architectural remains. Literature provides information on the bathing routine and uses of space, which supplements the information construed from the physical remains of baths. This overview of selected ancient sources and modern studies on baths in literature provides a framework within which the architecture of the private baths of North Africa can

be examined.¹ Recent studies which seek to establish proper usage of these terms are discussed here, to form the basis for the terms used in descriptions of the architecture of North African private baths. The sources which are examined are also important for establishing the activities carried out in particular spaces of the baths, and indeed for the circuit followed by bathers as they progress through the rooms of the baths.

References to baths and bathing are normally found in literature in the context of some other topic, either providing a setting for some activity or forming part of an anecdote. Literature focusing directly on the baths is rare. Baths are mentioned in historical and biographical sources, personal letters, poetry, medical treatises and instructional works. These sources refer to real and fictitious baths, bathing architecture in general, or even use bathing architecture as a metaphor for some other activity or subject. The sources may record various physical attributes of baths, or information about activities carried out in the baths. None of the preserved ancient sources, however, refer specifically to the private baths of the *domus* in a North African setting. Nevertheless, several of the most descriptive sources concern baths in the setting of a villa, which provides useful information on domestic baths.

Only I. Nielsen² and R. Rebuffat³ offer catalogs which address the application of special terms to the different facets of the baths by ancient authors. The sparse literary material available compels both Nielsen and Rebuffat to supplement these applications in literature with inscriptional evidence. Nielsen's approach is to identify the etymology of the term. This is usually a verb relating to the action associated with the installation, or a Greek word from which the Latin term derives. She then gives a physical description of the installation, and establishes the function of the room. Where possible she makes suggestions about the origins of the room type or fixture, and attempts to establish any

¹ This chapter is principally concerned with Latin terminology and sources, since this is the language of the Western part of the empire, and of the majority of sources on baths. Scholars in the Eastern Mediterranean deal principally with Greek inscriptions on baths, and this forms a separate area for study.

² I. Nielsen, *Thermae et Balnea. The Architecture and Cultural History of Roman Public Baths*, 2d ed. (Aarhus 1990) appendix.

³ R. Rebuffat, "Vocabulaire thermal," *Les Thermes Romains* (CEFR 142, Rome 1991) 1-34.

indication of evolution over time. She then cites where the term occurs in ancient sources. The physical description, drawn from the archaeological record, gives the impression that these Latin terms are solidly attributable to the remains. This is a problem with her approach, since some of the references to the room types or architecture may be ambiguous in the ancient sources, and the literary examples grouped under one term may actually give a different term for the installation. Naturally, this approach relies heavily on the archaeological material of the baths. The attempt to outline the evolution of the elements of the baths in literature is an interesting avenue of research. This does concern the study of bathing architecture, since early literary references may denote one form of the installation, and later references an evolved one, which may have very different physical characteristics from the earlier installation. However, an examination of the architectural remains, oriented towards the development of individual elements of both public and private baths, has not yet been published. Casual observation of the archaeological remains in Italy, especially at Pompeii and Herculaneum, supports Nielsen's suggestions, but problems such as the dating of different phases of the early baths still need to be resolved or accounted for.⁴

The recent study by Rebuffat also addresses the problems involved with citing ancient passages in modern literature to describe ancient bathing architecture.⁵ His intention is to provide archaeologists with a guide for publishing baths, and a primary concern is the identification of the different room types in baths for archaeological reports. He takes a useful and important approach by attempting to establish the route which the bather would most probably use. The principles on which his study rests are the contrast between hot and cold, the basis of Roman bathing, and the assumption that the ritual of bathing is constant. This ritual consists of a gradual heating of the body, sweating, bathing with hot water, and counter-action in cold water, by splashing, immersing or swimming.

⁴ N. de Haan is currently working in this area. Her research on private baths in Italy indicates the important role they play in the development of public bathing facilities, especially from the mid-first century BC to the mid-first century AD. This is particularly important for understanding the evolution of the hypocaust system, and the evolution of the standard set of heated rooms in baths. (Forthcoming in the proceedings of the Second International Conference on Baths; Varna, Bulgaria, April 1996.)

⁵ *Vocabulaire thermal*.

Rebuffat, unlike Nielsen, is cautious in fixing the identification of Latin terms on the basis of architectural remains, or vice versa. He separates the architectural notes from the ancient references. With some of the passages he offers an amendment to the standard French or English translation. Most importantly, he examines the details of passages which actually help in identifying functions or aspects of particular rooms. His approach is thus an important step forward in this area of balneology. The passages are given chronologically in catalog format, and it is regrettable that the only synopsis in the text concerns a few of the most problematic terms.

Yegül, in his recent general work, provides a good example of current practice in the use of literary terms for baths.⁶ He uses a wide variety of Latin and Greek terms, but avoids any discussion of their meaning. Instead, he provides the reader with a glossary, explaining what each term represents in his book. He does not appear very concerned with how this identification of the terms is made, nor with any of the problems associated with translating them. Nevertheless, his application of Latin terms to architectural remains is largely consistent with Nielsen's catalog,⁷ and represents the standard modern practice.

This chapter is necessarily selective in the ancient sources used, and the principal authors consulted are listed here. The focus is on those authors who illustrate the architecture and activities of the baths. While references to public and private baths appear as early as Plautus, in his comedies of the late third, early second century BC,⁸ it is not until the first century BC that we find descriptions of physical aspects of specific baths in Italy by Cicero. These occur in his letters and one judicial speech.⁹ He supplies evidence for

⁶ *Baths and Bathing*, 487-494.

⁷ As set out in *Thermae et Balnea*, appendix.

⁸ Such as *Asin.* 356-357; *Rud.* 385-388; *Poen.* 976-977; *Trin.* 405-408. The baths of this period were probably quite different from the type which evolved from the early first century BC. This evolution in the archaeological remains, however, is not well-documented, and problematic; see for example J. DeLaine, "Recent Research on Roman Baths," *JRA* 1 (1988) 14-17 and "Roman Baths and Bathing," *JRA* 6 (1993) 354-355; G. Fagan, "Three Studies in Roman Public Bathing; Origins, Growth and Social Aspects," (Ph. D. diss., McMaster University 1993) especially ch. III.

⁹ *Cic. Att.* 2.3.4; 4.10.2; 13.29.2; *Q. fr.* 3.1.1-2; *Fam.* 14.20; *Cael.* 67.

terminology of both public and private baths. The most important passages for this study are references in his letters to villa baths. These passages are, however, brief and not directly oriented towards bathing practices. Use of these sources for understanding the terminology of the fully developed form of Roman baths should be made with caution, since we have little evidence from him on the complete form of the baths.¹⁰ The baths of his age are also not well represented by the contemporary archaeological evidence of the early to mid-first century BC.

From the end of the first century BC and the first century AD more solid references to baths and bathing are known from two sources. The first consists of the architectural specifications of Vitruvius.¹¹ The second, concerning activity in the baths, is provided by Celsus in his prescriptions for maintaining good health.¹² These two sources are not comprehensive on the architecture or on the activities of the baths, but provide helpful evidence for the sequence of rooms. Celsus also indicates at which point in the bathing ritual and in which rooms specific activities take place.

The architectural components of the baths are supplemented by later accounts. The layout of two private baths is described by Pliny the Younger in his letters.¹³ These works, dating from the end of the first century AD to the beginning of the second century, are useful for the terminology he uses and the sequence and installations of the bathing rooms in his villa baths. From the second half of the fifth century, a letter by Sidonius Apollinaris also describes a set of villa baths.¹⁴ This is the latest preserved description of the architectural layout of a bath.

¹⁰ Such as Rebuffat's interpretation of *Q. Fr.* 3.1.1-2; see below p. 34, n. 93.

¹¹ *Vitr.* 5.10. The preface of book one demonstrates that Caesar was deified and Octavian/Augustus was the leader of the Roman world when the work was dedicated. The problem is whether the bulk of it was completed prior to 27 BC, and therefore in a Republican tradition; or during the principate of Augustus, and in the new imperial tradition (see B. Baldwin, "The Date, Identity and Career of Vitruvius," *Latomus* 49 [1989] 425-435 for a discussion of the evidence and arguments on the topic). The date of completion is probably after 27 BC, and quite likely before 11 BC.

¹² Celsus 1.3.3-4,10; 1.4.2; 2.17.1,8; 3.21.6; 3.27.1; written during the reign of Tiberius, mentioned by Pliny the Elder (W.H.S. Jones, Introduction to Celsus, *De Medicina* [Loeb edition 1935] vii).

¹³ *Plin. Ep.* 2.17.11; 5.6.25-27.

¹⁴ *Sidon. Epist.* 2.2.4-9; *carm.* 19.

In addition to these sources, casual references to bathing occur in several writers of the early and late empire. Seneca (4 BC-65 AD) comments on the physical details of baths and on bathing practice, although with a moralizing tone.¹⁵ The public baths of Rome as a source for a free meal are mentioned by Martial (c. 40-104 AD).¹⁶ Petronius, a contemporary of Nero, uses the baths, public and private, as a backdrop to several of the scenes in the *Satyricon*.¹⁷ From the late fourth century AD, the lives of the Caesars in the *Historia Augusta* are occasionally illustrated with an anecdote set in the baths.¹⁸ Use has been made in recent years of references to baths in the *Corpus Glossariorum Latinorum*, which offers Greek and Latin equivalents for the texts. Translations for several bath terms appear in the bilingual glosses. The *Hermeneumata* also include bilingual dialogue for a visit to the baths.¹⁹ Although Greek terminology is not included in this discussion, the baths of Hippias described by Lucian are important for studying the sequence of rooms in public baths. *Hippias, or the Bath* gives a detailed account of a set of public baths purportedly from the second century AD.²⁰

¹⁵ Sen. *Ep.* 51.6, 56.2; 83.5, 86.5-7;

¹⁶ Mart. *Epig.* 3.44.12; 3.93.4.

¹⁷ Petron. 27-28; 73.

¹⁸ *SHA Alex. Sev.* 25.5; *M.Ant.* 17.5. Originally thought to be composed during the reign of Constantine by six authors cited in the text, the *Historia Augusta* is now considered the work of one author in late fourth century Rome (A. Cameron, *The Later Roman Empire* [Cambridge 1993] 203; T.D. Barnes, *The Sources of the Historia Augusta* [Brussels 1978] 14-18; and I. Marriot, "The Authorship of the Historia Augusta: Two Computer Studies," *JRS* 69 [1979] 65-77). Marriot's study determines that the various sections show little deviation in syntax and vocabulary, supporting the identification of a single author for the work.

¹⁹ The colloquia of the *Hermeneumata* are bilingual school exercises in Greek and Latin, collected together from various medieval versions of the manuscripts in *CGIL* III. The relevant section goes through the day of a school boy, including a visit to the baths (III 216.15-217 45=III 651.10). The date of composition is generally considered early third century, on the information of the Hyginus preface (56.27-57.4). The *Hermeneumata* are clearly pagan, and reflect life under the Roman Empire. Dionisotti also points out similarities in the colloquia with Ausonius' *Ephemeris*. She suggests that the *Ephemeris* is a literary culmination of this type of school exercise, which evidently had a long period of use, producing the differences in the versions of the manuscript; A.C. Dionisotti, "From Ausonius' Schooldays? A School Book and its Relatives," *JRS* 72 (1982) 89, 123-125.

²⁰ The authorship of this work is disputed; F. Yegül, "The Small City Bath in Classical Antiquity and a Reconstruction Study of Lucian's *Baths of Hippias*," *ArchCl* 31 (1979) 117, n. 22.

Baths in Latin Literature

Vitruvius

The ancient source *par excellence* on bath architecture is Vitruvius. Rarely does a modern work on Roman baths not refer to Vitruvius's *De Architectura*. His terms for the individual elements of the baths are the standard ones found in modern works. It is now general practice to designate the cold room for immersion bathing as the *frigidarium*, the intermediary warm room as the *tepidarium*, the hot room for a vapor bath as the *laconicum*, and the hot room for immersion bathing as the *caldarium*, on the basis of his chapter on the baths.²¹ The following chapter on the Greek palaestra also lists a series of bathing rooms, which supplements this information.²² The manner in which the terms should be translated, however, has not been agreed upon. There are discrepancies in the way the various features are interpreted.²³ Most recently, Rebuffat has criticized modern use of Vitruvius' terms, stating that his references to *frigidarium*, *tepidarium* and *caldarium* indicate nothing more specific than the water heating tanks of the baths. He also suggests that when the term *caldarium* is applied to a room by Vitruvius, it is only used generally to distinguish a room with a furnace, and that it is in any case not a commonly used term for heated rooms.²⁴ Examination of the text demonstrates that, in fact, Vitruvius' use of vocabulary is useful for identifying the components of baths, and that the information, while incomplete, agrees with later authors. Applying this information to the physical remains of baths has been done in a limited way by Nielsen.²⁵ Indeed, the components of Pompeian and Herculanean baths appear readily identifiable in the description of Vitruvius, and Nielsen cites the physical

²¹ Vitr. 5.10.

²² Vitr. 5.11.

²³ Some of the variations are cited in L. Callebaut and P. Fleury, eds., *Dictionnaire des termes techniques du De architectura de Vitruve* (Hildesheim 1995) 169-174. Differences also appear in the translation by F. Grange of Vitruvius, *De Architectura* (Loeb edition 1931; reprint 1983) 5.10-11; J. Delorme, "Étude architecturale sur Vitruve V,II,2," *BCH* 73 (1949) 398-420.

²⁴ *Vocabulaire thermal*, 2.

²⁵ *Thermae et Balnea*, appendix.

remains from these baths within her own study of Latin terminology.²⁶

The directions for situating the baths begin with the location and orientation of the heated rooms, referred to as the *caldaria* and *tepidaria*. These rooms need to be situated to take advantage of the sun's heat and light.²⁷ Vitruvius then specifies that the *caldaria* of the men's and women's baths should be adjoining. This is a practical arrangement, since it permits the *vasaria* and *hypocaustis* to be shared.²⁸ Three bronze tanks for heating the water are placed above the furnace. The first is the *aeneum caldarium*, with hot water, the second is the *aeneum tepidarium* with warm water, and the third is the *aeneum frigidarium* with unheated water. These tanks are to be arranged so that when the water is drained off from the hot tank, an equal amount is replenished from the warm tank, and the warm tank is

²⁶ With the exception of the Central baths at Pompeii, these remains are the result of several rebuildings. They offer visible traces of changing bathing practices, which culminate in the forward-looking architectural form of the Central baths, incomplete at the time of the eruption (see above, pp. 5-6). The passages of Vitruvius, as illustrated in the following section, are not comprehensive on the elements of a Roman bath of his time. The most obvious elements in the archaeological record are included below, and follow Nielsen's study of the remains; see below, pp. 41-45.

²⁷ Vitr. 5.10.1: *Primum eligendus locus est quam calidissimus, id est aversus ab septentrione et aquilone. Ipsa autem caldaria tepidariaque lumen habeant ab occidente hiberno...*

²⁸ Vitr. 5.10.1: *Et item est animadvertendum, uti caldaria muliebria et virilia coniuncta et in isdem regionibus sint conlocata; sic enim efficietur, ut in vasaria et hypocaustis communis sit eorum utrisque.* The preposition *in* governs *utrisque*. The word *vasaria* designates the water tanks of the baths, evident from what follows, but it is the only occurrence of this meaning. The form and gender of the word is not clear. Callebat and Fleury (*Dictionnaire des termes techniques*, 174) take this reference as a feminine singular nominative, but it could also be a neuter plural nominative. The following *hypocaustis communis sit* demonstrates that it should be taken individually, as *utisque* warrants. *Hypocaustis*, a nominative singular, appears only in Vitruvius (5.10.1, 2), and refers to the furnace of the hypocaust, also evident in what follows in 5.10.2. The word is derived from the Greek, ὑποκάτω, "to set on fire from below" (*Thermae et Balnea*, 162).

in turn filled from the unheated tank.²⁹ Vitruvius also specifies that the bronze tanks (*testudines*) below the hot pool (*alveolus*) of the men's and women's baths be heated from a common furnace.³⁰ These provisions for the water heating system specify that a hot room for bathing with water is understood in the term *caldarium*.

Vitruvius next outlines how the *suspensura* of the *caldaria* should be built. This is the suspended floor of heated rooms. His discussion is still limited to the heated rooms. He continues to refer to the *caldarium* in the plural (*suspensurae caldariorum*). This is presumably because he is still referring to the adjoining *caldaria* of the men's and women's baths, rather than to the hot rooms of a bath in general. He must continue with the *caldarium* in each of the two adjoining baths, since in the preceding sentence he specifies the heating of the *testudines alveolorum* from a common furnace. The lower floor is lined

²⁹ Vitr. 5.10.1: (1) *Aenea supra hypocaustim tria sunt componenda, unum caldarium, alterum tepidarium, tertium frigidarium, (2) et ita conlocanda, uti, ex tepidario (aeneo) in caldarium (aeneum) quantum aquae caldae exierit, influat de frigidario (aeneo) in tepidarium (aeneum) ad eundem modum . . .* Granger's translation is misleading. He translates this passage as follows (my italics); "Three bronze tanks are to be placed above the furnace: one for the hot bath, a second for the tepid bath, a third for the cold bath. They are to be so arranged that the hot water which flows from the tepid bath into the hot bath, may be replaced by a like amount of water flowing down from the cold into the tepid bath." The Latin does not indicate that the water is for specific baths of different temperature. The first part of the sentence does not specify different baths; "*caldarium*", "*tepidarium*", and "*frigidarium*" are adjectives modifying "*aeneum*", specifying three different temperatures for the water in the three tanks over the furnace. The second part of the sentence describes the system by which the hot, warm and cold tanks are connected, evidently in order that the hot tank is not filled directly with cold water, which would be less economical, and take more time to heat. The cold tank would not be the one to fill the large cold immersion bathing pool, which would probably need to be filled from a larger cold reservoir of water. See *Thermae et Balnea*, 22-24, for the supply and heating of water for the baths.

³⁰ Vitr. 5.10.1: *testudinesque alveolorum ex communi hypocausti calfaciantur*. *Hypocaustis* clearly designates the heating element of the baths, the furnace. In 5.10.2 it is described as part of the hypocaust, see below. The *testudo alvei alveoli* is accepted to be a lead or bronze tank with a convex top and flat bottom (tortoise-shaped), placed over the furnace and connected to the hot pool (*alveus*). This receptacle allows the water of the pool to circulate and be heated by the furnace. The *alveus* is normally situated in front of the furnace opening to the hypocaust of the *caldarium*, and Nielsen describes the *testudo* as immediately behind the rear wall of the *alveus*, with the bottom of the *testudo* slightly lower than the bottom of the *alveus*, based on the preserved archaeological examples (*Thermae et Balnea*, 16). The form *alveolus* is taken by Nielsen to be a diminutive of *alveus*. It has caused commentators difficulty, often translated as "vault of the *alveus*" (Callebat and Fleury, *Dictionnaire des termes techniques*, 172).

with brick, and inclines towards the furnace.³¹ This confirms that the *caldarium* is a room heated directly by a furnace, and probably the same furnace mentioned above in connection with the heating of water in *vasaria*. The suspended floor is supported by piers made of bricks (*pilae*), two Roman feet high, over which the corners of four two-foot tiles (*bipedales tegulae*) meet.³² The floor of the baths is then laid on these upper tiles.

Vitruvius next describes the vaulted ceilings of the baths. These are of two types; one a solid construction in concrete, and the other a more delicate type made of wood and tile.³³ The second type must be made double, by hanging a false ceiling of tiles, so that the wood will not be harmed by the humid atmosphere of the hot baths.³⁴ This precaution illustrates that the *caldarium* is a humid room, as one expects where there is heated water.

Vitruvius moves on to discuss two water receptacles, the *labrum* and *alveus*. He does not, however, specify where the basins for water are within the baths; it must be inferred that they are in the *caldarium*, which he is continuing to describe. He first mentions the two receptacles for water together when giving the relative size of the baths. This should be appropriate to the number of bathers using the facilities. The width ought to be two thirds of the length, excluding the *schola labri et alvei*.³⁵ The passage then indicates how the *labrum* should be arranged, under the light, to prevent the bathers standing around

³¹ Vitr. 5.10.2: *Suspensurae caldariumum ita sunt faciendae, ut primum sesquipedalibus tegulis solum sternatur inclinatum ad hypocaustum, uti pila cum mittatur, non possit intro resistere, sed rursus redeat ad praefurnium ipsa per se; ita flamma facilius pervagabitur sub suspensione. Hypocaustum and praefurnium are evidently the same installation, with praefurnium perhaps designating the opening of the furnace in particular. This prescription for a sloping floor is seldom found in the archaeological record (J.-P. Adam, *Roman Building; Materials and Techniques* [Paris 1994] 265, n. 88; *Thermae et Balnea*, 14, n. 4).*

³² Vitr. 5.10.2: *Supraque laterculis besalibus pilae struantur ita dispositae, uti bipedales tegulae possint supra esse conlocatae; altitudinem autem pilae habeant pedes duo.* The measurements for the tiles are in Roman feet, as is the height of the *pilae*.

³³ Vitr. 5.10.3: *Concamarationes vero si ex structura factae fuerint, erunt utiliores; sin autem contignationes fuerint, figlinum opus subiciatur.*

³⁴ Vitr. 5.10.3: *Sed hoc ita erit faciendum. Regulae ferreae aut arcus fiant, eaeque uncinis ferreis ad contignationem suspendantur quam creberrimis; eaeque regulae sive arcus ita disponantur, uti tegulae sine marginibus sedere in duabus invehique possint, et ita totae concamarationes in ferro nitentes sint perfectae...Eaeque camerae in caldariis si duplices factae fuerint, meliorem habebunt usum; non enim a vapore umor corrumpere poterit materiem contignationis, sed inter duas camerae vagabitur.*

³⁵ Vitr. 5.10.4: *Magnitudines autem balnearum videntur fieri pro copia hominum; sint ita conpositae. Quanta longitudo fuerit tertia dempta, latitudo sit, praeter scholam labri et alvei.*

it from obscuring the light by their shadows.³⁶ Still concerning the space for bathers, Vitruvius states that the apses of the *labra* (still plural, and evidently referring to the men's and women's apse and *labrum*) should be spacious enough so that when the first bathers have occupied the area around the basin, the remaining onlookers are able to stand upright.³⁷ In both instances, the *labrum* is translated by Granger as a bathing tub, which indicates that Granger misidentifies the *labrum* as the pool for immersion bathing.³⁸

The *labrum* and *alveus* can certainly be understood to indicate two separate installations in the baths, a fact which is evident from what follows. The final sentence in the passage concerning the bathing pools provides specifications for the size of the *alveus*. The width of this, from the back wall to the parapet, should be six feet, two feet of which are occupied by the lower step and the "seat".³⁹ The characteristic parapet and interior step identify the *alveus* as the immersion bathing tub commonly found in baths. The *labrum*, on the other hand, is arranged so that bathers can stand around it, indicating a circular shape. This must be the pedestaled circular basin known archaeologically in the *caldarium* of several baths.⁴⁰ The *labrum* is used for washing, not immersing. The two pools are dealt with separately by Vitruvius, who gives instructions for the positioning of first one, and then the other, basin.

The last passage in the chapter on the baths mentions the location of other hot rooms. Vitruvius states that the *laconicum* and the *sudationes* should be adjoining the

³⁶ Vitr. 5.10.4: *Labrum utique sub lumine faciendum videtur, ne stantes circum suis umbris obscurant lucem.*

³⁷ Vitr. 5.10.4: *Scholas autem laborum ita fuerit oportet spatiosas, uti, cum priores occupaverint loca circum, spectantes reliqui recte stare possint.*

³⁸ Granger, *ad loc.* (Loeb edition, 1931, reprint. 1983) translates *schola labri et alvei* as "the apse containing the bathing tub and the basin in which it stands."

³⁹ Vitr. 5.10.4: *Alvei autem latitudo inter parietem et pluteum ne minus sit pedes senos, ut gradus inferior inde auferat et pulvinus duos pedes.*

⁴⁰ Nielsen interprets this passage in the same way (*Thermae et Balnea*, 158). She illustrates this arrangement with examples from the Stabian and Forum baths at Pompeii, where the *caldaria* have a basin for aspersion bathing and a pool for immersion bathing. In the Stabian baths, she connects the use of the *labrum* in the *caldarium* with the introduction of the communal immersion pool (*ibid.*, 30, n. 39; and on the apse with *labrum* in these baths, *ibid.*, 33; and see below, pp. 44-45).

tepidarium.⁴¹ He does not specify the location of these installations in relation to the *caldarium*, nor indicate that these are spaces without water, which must be inferred. These are clearly different types of heated spaces. He describes the roofing of the domed *laconicum* and *sudationes* separately from the roofing of the *caldaria*.⁴² If the text is understood to deal with the various components of the baths in some order, the separation of the last two elements supports a distinction between the heated parts of the baths with and without water. Here, Vitruvius evidently separates heated rooms without water from those used for bathing with water, the *caldaria*. The water tanks are included in the layout of the *caldaria* in the early part of the chapter, and the hot pools are discussed following the details for building the *caldaria*. The ceiling of the *caldaria* also anticipates a humid atmosphere. The roofing of the domed room, on the other hand, is constructed so that the temperature of the *sudationes* can be regulated by an opening.

Interestingly, Vitruvius gives no information on the unheated rooms of the baths. The common term adopted in modern literature for the unheated bathing room, *frigidarium*, appears in the following chapter on the Greek palaestra.⁴³ Washing and bathing facilities are arranged on the south side of the porticoed courtyard of the *palaestra*. There are two unheated rooms for washing. In the right-hand angle Vitruvius lists the *frigida lavatio*, and at the left end the *frigidarium*.⁴⁴ The first one Vitruvius states is called a *loutron* in Greek,

⁴¹ Vitr. 5.10.5: *Laconicum sudationesque sunt coniungendae tepidario*. The meaning of *sudationes* is not agreed upon: it is generally thought to designate a room for sweating (Callebat and Fleury, *Dictionnaire des termes techniques*, 171). Granger, *ad loc.* (Loeb edition, 1931, reprint 1983), translates *laconicum sudationesque* in the singular, as “the domed sweating chamber.”; Nielsen, on the other hand, considers *sudatio* to indicate an area for the activity, rather than a separate room (*Thermae et Balnea*, 159).

⁴² Vitr. 5.10.5: *aeque quam latae fuerint, tantam altitudinem habeant ad imam curvaturam hemisphaerii. Mediumque lumen in hemisphaerio reliquatur, ex eoque clypeum aeneum catenis pendeat, per cuius reductiones et dimissiones perficietur sudationis temperatura.*

⁴³ Vitr. 5.11.2.

⁴⁴ Nielsen does not distinguish between the *frigida lavatio* and the *frigidarium*, considering them equivalent terms for an unheated bathing installation (*Thermae et Balnea*, 152). Yegül identifies the *loutron* as the traditional facility of the gymnasium, evident in gymnasia from the Greek world and depictions of athletes washing on red and black figure vases. In his view, the bathing facilities to the left of the *ephebeum* represent a technically advanced installation, possibly representing a fusion of the bath with the gymnasium. He states: “Vitruvius describes rather elaborate bathing facilities in the palaestra, which utilize a technically advanced system of heating and water distribution, as well as specialized bathing and service spaces, in fixed relationship to one another” (*Baths and Bathing*, 21).

while the second installation is part of a series of rooms, and so must be different. The *loutron*, an installation for washing, makes the function of this bathing room self-explanatory. The presence of a pool is not explicitly stated for the *frigidarium*, which makes it impossible to determine whether or not this is a cold bathing room with immersion pool. The term, nevertheless, designates a particular type of room, just as *frigida lavatio* does.

The *frigidarium* of the palaestra provides access to an installation, the *propnigeum*, which is located in the corner of the *porticus*. The identity of the *propnigeum* has caused difficulty to commentators, who translate it most often as a furnace or furnace room. A more probable identification is with the term *tepidarium*, a warm room for the bathers.⁴⁵ Next to this is the vaulted sweating room, *concamerata sudatio*, in some way related to the orientation of the *frigidarium*.⁴⁶ In one corner of this room is the *laconicum*, apparently a separate unit, since he says that it is built in the same manner as he describes for the *laconicum* of the baths in 5.10.5. Opposite this, that is on the other side of the *concamerata sudatio*, is the hot bathing room. Here, the room is designated as the *calda lavatio*, indicating its function.⁴⁷ There is no mention of a hypocaust system for the palaestra baths, or of the method of heating the chambers, if, as seems probable, *propnigeum* designates a room of the baths rather than the furnace. The bathing elements are similar to those of a Roman bath, but probably have some differences relating to use which this passage does not elucidate.

⁴⁵ Granger translates *propnigeum* as “furnace” *ad loc.* (Loeb edition 1931, reprint 1983), as do Nielsen (*Thermae et Balnea*, 162) and Delorme (“Étude architecturale sur Vitruve,” 403-405). Sherwin-White identifies the *propnigeon* in Pliny 2.17.11 as a room for a vapor bath, and includes Vitruvius’ application of the term in this identification (*The Letters of Pliny: a Historical and Social Commentary* [Oxford 1966] 192); Rebuffat, following the usage of the word in *CGIL* III 217= III 652, translates *propnigeum* as the *tepidarium* (*Vocabulaire thermal*, 4), which in fact suits the position of this feature in Vitruvius and Pliny; for further discussion of *propnigeum*, see below, pp. 28-30.

⁴⁶ The arrangement of these palaestra rooms is treated at length by Delorme, “Étude architecturale sur Vitruve,” 415-419.

⁴⁷ Vitr. 5.11.2: *Proxime autem introrsus e regione frigidarii conlocetur concamerata sudatio longitudine duplex quam latitudo, quae habeat in versuris ex una parte laconicum ad eundem modum, uti quam supra scriptum est, compositum, ex adverso laconici caldam lavationem.* Granger places the *laconicum* in the angle of the colonnade, but it should be entered from the angle of the *concamerata sudatio*, *ad loc.* (Loeb edition 1931, reprint 1983).

It is evident, in summary, that Vitruvius' technical descriptions are brief or general. He suggests the appropriate proportions for the baths, but does not give any indication of the relative sizes of the different room types, or the sequence of rooms. He is more explicit in the description of heated floors and ceilings in the *caldaria*, but does not elucidate the heating of different room types. His descriptions of the *alveus* and *labrum* are also ambiguous.

Thus Vitruvius, as a guide to vocabulary of the baths, their layout and functioning mechanics, may appear less than helpful, as Rebuffat suggests. When we turn to more varied sources on baths, a richer and more developed vocabulary is found for their rooms and installations.⁴⁸ It is in the survey of other sources, however, that the nature of rooms and features mentioned by Vitruvius is clarified. The same terms are used by other writers to designate rooms in the baths. The following section begins with terms applied to the unheated bathing rooms, and then follows the route of the bather through the heated rooms, with emphasis placed on Latin sources illustrating the function and name of the rooms.

The Rooms of the Baths

The changing room (*apodyterium*)

The *apodyterium* is a space in the baths for undressing and storing clothes before the bath. The word is a Latinized form of the Greek word *αποδυτηριον* from *αποδυω*, "to undress".⁴⁹ The meaning of the term has posed no difficulty in identification, although it is seldom used in literary sources. Cicero refers to an *apodyterium* in the baths of his brother Quintus, without giving any specific details on the layout and features of the room.⁵⁰

⁴⁸ With the exception of Cicero and Celsus, these other sources are later, and must be considered to designate the more complete bathing architecture and layout which appears by the late first century AD.

⁴⁹ Lucian (*Hipp.* 5) identifies the room by another word in Greek, but uses *ἀποδύω* to describe the action of the people using the room; *μετὰ δὲ τοῦτον ἑκατέρωθεν διαρκεῖς τοῖς ἀποδυομένοις ὑποθεσεῖς*.

⁵⁰ Cic. *Q. Fr.* 3.1.2; in conjunction with an *assa*, see below, p. 34, n. 93.

Pliny gives the location of the room in sequence with the other rooms of his baths at his Tuscan villa.⁵¹ The *apodyterium* is the first room of the baths, providing access to the *cella frigidaria*. In the *Corpus Glossariorum Latinorum*, *apodyterium* appears in the glosses.⁵²

The cold bathing room (*cella frigidaria*; *frigidarium*)

The principal cold room of the baths is characterized by the presence of an immersion pool which is not heated. It generally comes first in the sequence of rooms. Bathing in this room, however, normally follows the hot bath.⁵³ Pliny begins his descriptions of the baths in his Laurentine and Tuscan villas with the cold room, from which the other rooms of the baths may be reached.⁵⁴ In both villas, the unheated bathing room is called the *cella frigidaria*, and both have pools of unheated water. In Sidonius' description of his baths at Avitacum, the term *cella frigidaria* identifies the room with the cold bathing pool.⁵⁵ Not all sources explicitly name the room; the presence of a pool, or use of a cold

⁵¹ Plin. *Ep.* 5.6.25: *Inde apodyterium balinei laxum et hilare excipit cella frigidaria*. No changing room is mentioned for the baths of his Laurentine villa (2.17.11).

⁵² *CGIL* II 289.47: *ekduthrion apodyterium, spoliatorium* (edition Goetz, *ad loc.* [Leipzig 1892]). Rebuffat records a longer entry for this passage: *apodyterium ἐκδυτήριον locus ubi mittuntur vestimenta balnientium. graecum est, ubi ponuntur res, id est in balneum* (*Vocabulaire thermal*, 20). Nielsen also cites a reference which "explains the function of the 'apotisterium'" (*CGIL* II 567.12): *Apotisterium. locus ubi mittuntur vestimenta balnientium*. The alternate readings appear in the fragm. Deycksianum for the *Glossae Nominum* 12: *mittunt, balnientium*.

⁵³ Lucian (*Hipp.* 5-7) praises the convenient arrangement of the rooms which allow the bather to reach the cold bath after the heated bath is completed. See *Vocabulaire thermal*, 14-15, for a commentary on the text. Rebuffat notes that the description of the baths begins with the cold bathing room, before the heated rooms, which follows the route of the bathers, but not the successive acts of the baths. The rooms of Pliny's baths are also described in this order, and it is the one which is followed here in the thesis.

⁵⁴ Plin. *Ep.* 2.17.11: *Inde balinei cella frigidaria spatiosa et effusa, cuius in contrariis parietibus duo baptisteria velut eiecta sinuantur, abunde capacia si mare in proximo cogites*; 5.6.25: *Inde apodyterium balinei laxum et hilare excipit cella frigidaria, in qua baptisterium amplum atque opacum*.

⁵⁵ Sidon. *Epist.* 2.2.5: *hinc (cella) frigidaria dilatatur, quae ...*

room at the end of the bathing ritual, attests its presence.⁵⁶

Two words used most commonly now for the cold pool are *piscina* and *baptisterium*. *Piscina*, however, generally refers to an external swimming pool in the Latin sources, as in the descriptions of private baths by Pliny and Sidonius.⁵⁷ More generally, when used in the plural and modified by *publica*, it can refer to a bathing complex.⁵⁸ Sidonius also gives *baptisterium* as the Greek name for his external swimming pool. He refers to the pool of the *frigidarium* as the *sigma*, apparently indicating a semi-circular shape.⁵⁹ *Baptisterium* is the term used for the indoor pools in the *cella frigidaria* of Pliny's baths.⁶⁰

The warm room (*tepidarium, cella tepidaria, propnigeum*)

Once in the baths, the bather begins the gradual heating of the body. The warm

⁵⁶ *SHA M. Ant.* 17.5 on the use of very cold water in Carinus' baths; also a *piscina* filled from a tepid spring. Petr. 28: *Itaque intravimus balneum, et sudore calfacti momento temporis ad frigidam eximus*. Smith in his commentary states that here Petronius alludes to a swift progression through the different stages of the bath, including the hot bath, a hot sweat-chamber and a cold bath, which Smith identifies as the *frigidarium* (M. Smith, ed., *Petronii Arbitri Cena Trimalchionis* [Oxford 1975] 56-57). The passage really only identifies two stages, sweating in a hot room, and counter-action by going to the cold, whether simply in the form of an unheated room, or, as generally accepted, in the form of unheated water. Cf. Celsus 1.1: *prodest etiam interdum balneo, interdum aquis frigidis uti*.

⁵⁷ Plin. *Ep.* 5.6.25; Sidon. *Epist.* 2.2.8.

⁵⁸ Early references are to public swimming pools, such as Cic. *Quinct* 3.7.1; Livy 23.32.4; Sidonius (*Epist.* 2.2.5) also mentions "*piscinas publicis operibus*," public baths to which he compares his own villa baths. Other references indicate that a pool is meant by the term: Seneca (*Ep.* 56.2), complaining about the noise he must endure while living over a bathing establishment, mentions bathers plunging into the *piscina*, and splashing around, so possibly a swimming pool. In contrast to the simplicity of the baths at the villa of Scipio Africanus, Seneca (*Ep.* 86.5) mentions the fashion of having *piscinae* lined with costly marble. These are evidently cold water pools, used after the vapor bath; *in quas multa sudatione corpora exaniata demittimus*. Martial (3.44.12) mentions going to the *piscina* to swim, referring to a swimming pool possibly belonging to the *thermae* of the preceding line; *SHA Alex. Sev.* 30.4 mentions a *piscina* in which Severus Alexander would stay for up to an hour, indicating that it is a swimming pool (*Thermae et Balnea*, 154); In *SHA Elagab.* 19.8, Elagabalus refuses to swim in a *piscina* unless it is perfumed with saffron; and in 20.6, his *piscina* and *solium* are scented. Nielsen says, however, that *piscina* means pool in the *frigidarium* usually, and prefers to designate the outdoor swimming pool as the *natatio*. *Natatio*, however, appears rarely, but its root from *nato*, to swim, makes it understandable. Celsus (3.27.1) recommends the use of *natationes*, either natural or man-made, for a weak or paralyzed limb, and so perhaps he is recommending swimming.

⁵⁹ Sidon. *Epist.* 2.2.8: *ita ut ministeriorum sese non impediante famulatu tot possit recipere sellas quot solet sigma personas*.

⁶⁰ Plin. *Ep.* 2.17.11; 5.6.25.

room is called the *tepidarium* in at least two ancient sources, Vitruvius and Celsus, and is the term which modern scholars choose for the room.⁶¹ Celsus is more informative than Vitruvius on the use of this room. He instructs a person suffering from fatigue to sit first in the *tepidarium*, and instructs those with a weak head to sweat first in the *tepidarium* and be anointed there, before going into the hot bathing room.⁶² Celsus indicates that the sweating process begins here, and anointing can also take place, as the bather acclimatizes to increased heat. The term, however, is mentioned in only these few examples, and has a limited usage.

It is probable that *propnigeum* (*propnigeon*) also designates a warm room. This identification is based on two passages. It first appears in Vitruvius' description of a Greek architectural type, the palaestra,⁶³ where the *propnigeum* is a room entered from the *frigidarium*. The other application of the term is in Pliny's description of his villa baths.⁶⁴ Sherwin-White attempts to identify the features of these baths in his commentary.⁶⁵ He is puzzled by the arrangement of the Laurentine baths, which include a cold room, an *unctorium*, the *hypocauston* and *propnigeon*, and then two more rooms with the hot pool. He suggests that the *propnigeon* is a damp heat room, in contrast to the dry heat room called the *hypocauston*. He believes that these are two sweat-rooms, located between the *unctorium* and the hot bathing rooms, and that the baths lack a *tepidarium*. Neither Vitruvius nor Pliny provides any information on the nature of the *propnigeon*, beyond the fact that it appears to be a room rather than a specific installation. *Hypocauston* in the passage of Pliny should probably be identified as an adjective modifying *unctorium*, rather than a substantive.⁶⁶

⁶¹ Vitr. 5.10.1: *tepidarium* oriented to the sun like *caldarium*; 5.10.5: the room to which the *laconicum* and *sudationes* are adjoining; Celsus 1.3.4; 1.4.2. *CGIL* III 217=III 652: *cella prima tepidaria*.

⁶² Celsus 1.3.4; 1.4.2.

⁶³ Vitr. 5.11.2; *propnigeum*; see above, p. 24, for layout of palaestra baths and application of the term.

⁶⁴ Plin. *Ep.* 2.17.11: *Adiacet unctorium, hypocauston, adiacet propnigeon balinei, mox duae cellae...cohaeret calida piscina...*

⁶⁵ Sherwin-White, *The Letters of Pliny*, 192-193.

⁶⁶ *Vocabulaire thermal*, 13.

The *propnigeum* has in the past been translated as the furnace or stokery.⁶⁷ Nielsen equates *propnigeum* with *praefurnium* and *hypocaustis*, the furnace or stokery of the baths. The Greek root of the word is *πνιγεύς*, the cover for the fire place, and so she translates the term as “room in front of a *πνιγεύς*”, equivalent to the Latin *praefurnium*. She suggests Vitruvius uses *hypocaustis* for the furnace of the baths, but *propnigeum* for the palaestra because the latter is a Greek construction.⁶⁸ In Pliny *Ep.* 2.17.11, Nielsen states that *hypocauston* designates the hypocaust of the *unctorium*, rather than a separate room, and *propnigeon* should be identified as the stokery of the furnace, giving one room only, the *unctorium*.⁶⁹ Yegül also translates Vitruvius’ usage of *propnigeum* as a furnace room, reached by a corridor from the *frigidarium*.⁷⁰

Rebuffat, who notes the difficulty translators have had with this term, suggests use should be made of the *Corpus Glossariorum Latinorum*, which gives *propnigea* as the Greek equivalent of the *tepidarium*.⁷¹ Indeed, it would be odd for Pliny and Vitruvius to interrupt the description of the sequence of heated rooms with the furnace, which should be located at the end of the row of rooms, and in conjunction with the heated pool. In Pliny’s description the *propnigeon* lies between the unheated rooms and the heated rooms, which is not the logical position for the furnace. Vitruvius places the *propnigeum* in conjunction with the various rooms of the baths, entered from the unheated *frigidarium*, and adjacent to the heated sections of the baths. It appears, in these passages, to be a room, not simply the furnace. Pliny gives the description of the baths from the perspective of what the bather would encounter, and particularly focuses on the elegant and pleasing elements. The stokery and other technical workings of the baths have no place on the route for the bather, which may also point away from identifying the *propnigeon* with the furnace, or space used

⁶⁷ Delorme (“Étude architecturale sur Vitruve,” 398-420), for example, concludes that *propnigeum* must be the stokery for the hypocaust in Vitruvius and Pliny.

⁶⁸ *Thermae et Balnea*, 162.

⁶⁹ Ibid. The term *hypocausta* also appears in *Ulpian* D 17.1.16; here Nielsen suggests that it may designate a heated room in the baths (*Thermae et Balnea*, 161).

⁷⁰ *Baths and Bathing*, 21.

⁷¹ *CGIL* III 217.2 *probnigea depidaria*=III 652.10 *προπνιγέα (cella) tepidaria*.

exclusively by the attendants of the baths. Ultimately, the term *propnigeon/propnigeum* cannot be conclusively interpreted on the basis of the sources available, and the translation should be made with caution. There is, however, nothing other than etymological thinking to support its identification with the *praefurnium*. The testimony of the *Corpus Glossariorum Latinorum*, on the other hand, identifies it as the Latinized version of a Greek term for the *tepidarium*.

Body temperature can also be raised by exercise. A space can be set aside for exercise in private baths, as Pliny indicates. Both his Laurentine and Tuscan villas have a *sphaeristerium*. The *sphaeristerium* of the Laurentine villa baths is exposed to the late afternoon sun, possibly an open court.⁷² At his Tuscan villa, the *sphaeristerium* is located above the *apodyterium* of the baths, and is large enough to accommodate several types of exercise and several groups of people.⁷³ Sidonius also mentions a *sphaeristerium* at his Avitacum villa, where he and his guests play ball games in the shade of the trees.⁷⁴ This area is not connected to the baths, but located near the portico and garden of the villa.

Rooms for strigilating and oiling (*dstrictarium, unctorium, cella unguentaria*)

A recognizable bathing activity, associated with exercise, is the scraping off of dirt, sweat and oil from the body. None of the literary sources provide evidence of a specific room set aside for this activity. Rebuffat, noting this omission, suggests that this part of bathing was perhaps too commonplace to mention. He also admits that this part of bathing tends to receive less attention from modern scholars than the other acts of bathing.⁷⁵ This room is, nevertheless, named in two inscriptions, which demonstrate that baths could have such a room. The first is from the Stabian baths at Pompeii, dated to Sulla's time. It mentions the construction of the *laconicum* and *dstrictarium*, and the restoration of the

⁷² Plin. *Ep.* 2.17.12: *nec procul sphaeristerium quod calidissimo soli inclinato iam die occurrit.*

⁷³ Plin. *Ep.* 5.6.27: *apodyterio superpositum est sphaeristerium, quod plura genera exercitationis puresque circulos capit.*

⁷⁴ Sidon. *Epist.* 2.2.15.

⁷⁵ *Vocabulaire thermal*, 4.

porticus and palaestra.⁷⁶ The second, dating to 42 BC, was found at Carpis-Korbous in Tunisia. This inscription commemorates the building of the *assa dextrictar(ium) solariumque*. The first two terms are identified as referring to separate rooms.⁷⁷ In neither example can the physical location and form of the room be determined. The activity logically follows exercise, before entering the heated part of the baths, and is tied to the activity of the palaestra.

Another activity, closely related to the previous one, is anointing with oil. A room for this purpose is called the *unctorium* by Pliny and the *unguentaria* by Sidonius.⁷⁸ These sources locate the room in the sequence following the *frigidarium*. The exact nature of Pliny's *unctorium* in his Laurentine villa baths is unknown, since there is confusion about the interpretation of the associated *hypocauston* and *propnigeon*. Pliny does not record the presence of a *tepidarium*, which may be the *propnigeon*, and the *hypocauston* may be a feature of the *unctorium*, indicating that it is heated.⁷⁹ Sidonius, on the other hand, mentions no other room that could serve as a *tepidarium*.⁸⁰ These baths have only two heated rooms, the *cella aquarum coctilium* and the *unguentaria*. Here, the room for anointing is heated, and possibly indirectly heated like the *tepidarium*. Lucian describes this room at the beginning of the bathing circuit in the baths of Hippias, situated for those entering from the palaestra.⁸¹ A *cella unctuaria* is also mentioned in an inscription from Numidia.⁸²

Literary sources demonstrate that anointing with oil need not be confined to a special room. Celsus illustrates people being anointed at various points in the bathing

⁷⁶ *CIL* X 829; *ILS* 5706. Nielsen believes that this room is identifiable archaeologically next to the rotunda in her period VI of the Stabian baths (Eschebach's period V; *Thermae et Balnea*, 31).

⁷⁷ *CIL* VIII 24106; *ILS* 9367. See below, pp. 34-35, on *assa*. *Solarium* may also refer to a room (*Thermae et Balnea*, 161).

⁷⁸ Plin. *Ep.* 2.17.11: Sidon. *Epist.* 2.2.4.

⁷⁹ See above, p. 28, concerning the problems of interpreting this passage. R. Förtsch (*Archäologischer Kommentar zu den Villenbriefen des jüngeren Plinius* [Mainz am Rhein 1993] 6) leaves the terms untranslated, and does not offer a discussion of the baths.

⁸⁰ Sidon. *Epist.* 2.2.4: *hinc aquarum surgit cella coctilium, quae consequenti unguentariae spatii parilitate conquadrat excepto solii capacis hemicyclo...*

⁸¹ Lucian *Hipp.* 6. The room is identified by the activity which takes place; ὀλειψασθαί.

⁸² *CIL* VIII 4645; *ILS* 5714: *cella unctuaria* which had fallen into disrepair was restored, at Thagura (modern Taoura), Numidia, 290-294 AD.

circuit, based on individual states of health. He tells his readers when and where oiling is beneficial. It is interesting to note that bathing is frequently recommended by him for people in good health, or with some minor health problem. In these examples, he prescribes bathing to restore well-being rather than to cure a serious affliction. He tells the fatigued bather to be anointed in the hot room, after descending into the hot pool, and then to descend into the pool again.⁸³ The next prescription is for the traveler who has become overheated by the sun. Celsus recommends going immediately to the baths. This man must have oil poured over the head and body, and then be immersed thoroughly in the hot tub.⁸⁴ The person who is very cold, on the other hand, should be anointed after sitting in the baths until he sweats.⁸⁵ Neither of the last two references give a location in the baths for the oiling. Celsus then gives instructions for those who are infirm in some part of the body. To cure a weak head the bather should first sweat for a while under a cover in the *tepidarium*, and be anointed there before going into the hot bath.⁸⁶ The second book deals with illnesses and especially fevers. In most cases, Celsus recommends avoiding the baths, at least until the fever abates. Fever requires anointing when sweat first appears, before or after descending into the hot pool, depending on the bather's condition.⁸⁷

Celsus does not anywhere prescribe anointing in a separate room. This activity usually takes place in the warm room or the hot bathing room, which are the only two rooms he mentions in connection with baths. The baths to which Celsus sends his patients, whether public or private, appear to have a limited number of rooms, which is a feature attributable to baths of the early empire. The baths from the mid first century AD display a certain amount of evolution in bathing practice, evident in the greater number of rooms. A

⁸³Celsus 1.3.3: *ante omnia in tepidario sedere, deinde ubi paululum conquirerunt, intrare et descendere in solium; tum multo oleo ungui leniterque perfricari, iterum in solium descendere.*

⁸⁴Celsus 1.3.10: *huic in balneum protinus eundum perfundendumque oleo corpus et caput; deinde in solium bene calidum descendendum est.*

⁸⁵Celsus 1.3.10: *opus est in balineo primum involuto sedere, donec insudet; tum ungui, deinde lavari.*

⁸⁶Celsus 1.4.2: *sub veste primum paulum in tepidario insudare, ibi ungui; tum transire in caldarium; ubi sudavit, in solium non descendere*

⁸⁷Celsus. 2.17.8: *tum in solio descendendum est. . . . Ante vero an postea quam in aquam calidam se demittat aliquis perungui debeat, ex ratione valitudinis suae cognoscat.*

later source shows personal preference to dictate where the bather is oiled. After exercising, Severus Alexander was anointed and washed, although he rarely used the *caldaria*, but used the *piscina*, where he would remain for up to an hour.⁸⁸ He was not oiled in the heated section of the baths.

Sweat rooms and vapor baths (*laconicum, sudatorium*)

Raising a sweat is one of the basic rituals of Roman bathing, an important part of cleansing, while use of the hot pool might be omitted. The literary record provides a number of terms for a hot room designed to bring on perspiration. The *laconicum* and *sudatorium* are two terms which have been adopted in modern literature for this room. The distinction which may have existed between these two terms, however, has not been preserved in the literature, and their meaning is not agreed upon by scholars.

Celsus includes the *laconicum* with the methods of encouraging a sweat by dry heat, in contrast to the humid heat of the baths. These passages indicate that in his time it was separated from the bathing process. He never includes the *laconicum* in the references to heating, oiling and bathing with water as remedies for other ailments.⁸⁹ Celsus also supports the persistence of the term *laconicum* after the development and flourishing of the hypocaust system, despite Nielsen's suggestion that the function of the room was replaced by the *sudatorium* after the development of the hypocaust system. The term *laconicum* is also used in a poetical fashion to refer to the whole bath in the context of literature from the late Republic and early Empire.⁹⁰

The *sudatorium* can be a room for sweating through dry heat, as identified by

⁸⁸ *SHA Alex. Sev.* 30.4: This reference, although one of the fanciful accounts designed to illustrate the emperor's character, is helpful for illustrating that alternate routes and manner of bathing could be used.

⁸⁹ Celsus 2.17.1: *Sudor etiam duos modis elicitur, aut sicco calore aut balneo. Siccus calor est et harenae calidae et Laconici et clibani et quarundam naturalium sudationum.* ; Celsus 3.21.6: *Evocandus est sudor non per exercitationem tantum, sed etiam in harena calida vel Laconico vel clibano similibusque aliis; maximeque utiles naturales et siccae sudationes. . . . Balineum atque omnis umor alienus est.*

⁹⁰ Cic. *Att.* 4.10.2; Cicero speaks of a villa's *ambulatio* and *laconicum* which his architect Cyrus is working on; Dio Cassius (53.27) states that Agrippa referred to his bath-gymnasium as the *laconicum* (λακονικόν πυριατήριον).

Seneca.⁹¹ The setting here is bathing at Baiae, probably in the spas for which Baiae was famous in antiquity. He does not apply the term directly to baths of his time. Nielsen identifies this room as the successor to the *laconicum*, resulting from the invention of the hypocaust system and heated walls.⁹² However, the application of this term is limited in literature, and the attempt to connect it with the evolution of the baths does not rest on very firm ground.

The term *assa* is used in a few references, either alone, or in combination with another word, to indicate a room in the baths. Cicero informs his brother that he has had the *assa* moved from one corner of the *apodyterium* to another, because fire was escaping from the *vaporaria* which were under the *cubicula*.⁹³ Rebuffat suggests that the baths had an *apodyterium* from which one moved directly into a hot room, called the *assa*, with no intermediary rooms.⁹⁴ However, this is an example of a mid-first century BC private bath in a rural setting, and the components of the bath could be quite reduced.⁹⁵ Since Cicero's description does not refer to the whole bath, the plan of these baths cannot be further commented upon. Celsus uses the term *assa* in conjunction with the bath, *balnea assasque sudationes*.⁹⁶ Rebuffat takes this to indicate a distinction between the humid heat of the baths and the dry heat of the *assa sudatio*. The *Corpus Glossariorum Latinorum* equates

⁹¹ Sen. *Ep.* 51.6, on the morals of Baiae, calls them *sudatoria* with *siccus vapor* which exhausted the body. The *calentia stagna* and *sudationes* are translated as hot baths and sweating rooms by R. M. Gummere, *ad loc.* (Loeb edition 1917); Rebuffat suggests that Seneca refers to a type of room, *Vocabulaire thermal*, 12. The earliest reference is to Greek baths in Plautus, *Stich.* 226.

⁹² *Thermae et Balnea*, 159.

⁹³ Cic. *Q. fr.* 3.1.1-2: *In balneariis assa in alterum apodyteri angulum promovi, propterea quod ita erant posita ut eorum vaporarium ex quo ignis erumpit esset subiectum cubiculis*. In this passage, *assa* is a neuter plural. It is not entirely clear what fixtures of the baths are being referred to, but it is clearly something which involves a fire source like the furnace.

⁹⁴ *Vocabulaire thermal*, 9.

⁹⁵ It is expected that the baths of this period will not contain all of the elements of fully developed baths, which do not appear archaeologically before the late first century AD. Thus it would not be surprising if the hot room were entered directly from the *apodyterium*. An interesting aspect is the *vaporarium*. It is translated in the commentary by Shackleton Bailey, *ad loc.* (Cambridge 1980) 204, as a steam-pipe. If connected with steam, rather than hot vapors, it could indicate the presence of heated water in association with the *assa*.

⁹⁶ Celsus 3.27.1.

this room (*assa cella*) with the Greek ἀφιδρωτήριον, a vapor bath.⁹⁷ An inscription from Carpis-Korbous, Tunisia, dated to 42 BC, also mentions the *assa*. It commemorates the building of the *assa, dstrictar(ium) solariumque*. Separate rooms are evidently being referred to, but the inscription does not aid in their identification.⁹⁸

Rebuffat prefers the term *assa sudatio* to indicate the hot room without pool, but ancient use to support this application is again scarce. Pliny calls the room between the *frigidarium* and the *caldarium* of his Tuscan villa baths the *cella media*.⁹⁹ Rebuffat identifies this with the hot vapor bath because of its location, but there is no other application of this term for the hot room. *Media* could simply be used because there appear to be only three rooms in this bath, of which it occupies the middle location. Nielsen points out its use for the warm room in a Greek author, Galen.¹⁰⁰ Here the term is the μέσος οἶκος, again located between the *frigidarium* and the *caldarium*. It is evident that the heated sweat bath was called a variety of terms. Which term was preferred or even the most common one, however, is not discernible from the literature. Only *laconicum* appears to specify a particular type of room, and probably belongs to an architectural form of early public and private Roman baths. *Sudatorium, cella sudatio, (cella) assa* and *assa sudatio*

⁹⁷ *CGIL* III 353.79; for the translation of ἀφιδρωτήριον, see Herod.Med. *ap Orib.* 10.40.1.

⁹⁸ *CIL* VIII 24106; *ILS* 9367. There are two other references to an *assa* in the baths, but both are problematic. One is an inscription found at Bulla Regia, *IL Afr* 459, from the *tepidarium* (24) of the thermes Memmiens (H. Broise and Y. Thébert, *Les Thermes Memmiens* [CEFR 28/II,1, Rome 1993] 368-372). Much of the inscription is missing. It refers to restoration *a solo u-- /sed et assa*. *Sed* must go with something, but followed by *et*? Carton takes *sedetassa* as one word ("Découvertes faites en 1914 dans les fouilles de Bulla Regia," *BAC* [1915] 187). Rebuffat also notes the use of *assa* in the *Altercatio Hadriani et Epicteti philosophi*. (Original text not seen by me. It is found in *Not.Dign.*, ed. Gelenius Bas. 1552 appendix, in Paris, Bibliothèque Nationale J 1225 and Réserve J 454. If the group of texts in this manuscript are original, Rebuffat states that this text may date to the late fourth or early fifth century, but could be much later; text quoted in *Vocabulaire thermal*, 20). In this passage, the development of man through his life is equated with the progression through the baths. Epictetus, replying to Hadrianus's question "*Quid est homo?*" says a man is like a bath, going through different phases. The second hot room is given as the *cella sudatoria* and is equated with boyhood. It follows the *cella tepidaria unctuaris*, which is birth. The *assa* is the third stage, young manhood, and the *cella frigidaria* is old age. *Assa* and *cella sudatio* should designate the same installation. Rebuffat suggests that the *cella sudatio* is here perhaps equivalent to the *dstrictarium*; but this is apparently inferred by him, since he attempts to identify two terms normally equated with the sweat bath. He also suggests that the hot bathing room, *cella soliaris*, missing from the sequence, would be a mature man.

⁹⁹ Plin. *Ep.* 5.6.26.

¹⁰⁰ *Thermae et Balnea*, 156; Gal. 11.10.

all designate heated rooms, ostensibly for the vapor bath.

The hot bathing room (*caldarium*, *cella soliaris*)

The last in the series of heated rooms is the one with a heated immersion pool. The term most often employed in modern literature to designate the hot bathing room is the *caldarium*. Rebuffat maintains that this is not the common ancient term, and he attributes its application to Vitruvius' use of the term to describe the hot water tank.¹⁰¹ However, the passages on building baths support Vitruvius' use of this term to refer to the hot room of the baths.¹⁰² According to his description, it has a hypocaust directly heated by a furnace, and has pools for bathing.

The activity of hot bathing characterizes this room. Frequently, the passages only mention the heated pool, without specifying the room type. Two terms for the heated pool are *solium* and *alveus*. *Solium* is the most frequently used term. *Alveus* appears earlier, and may originally designate an installation for one person, whether a hip bath or immersion pool. *Alveus* designates an immersion pool in *Rhetor ad Herennium*, about 86-82 BC.¹⁰³ The author says that the bather descends into the pool. In Cicero's defense of Caelius, delivered in 56 BC, the *alveus* of the baths is described as something that one can (or cannot) hide in.¹⁰⁴ It is not found in later sources, while *solium* is, which suggests that it is superseded by this term. *Alveus* designates a bath tub, of whatever nature, in a number of examples.

The term *solium* appears more frequently, in literature and inscriptions. Celsus prescribes sitting in the *solium* as a remedy at least three times.¹⁰⁵ In each instance, he

¹⁰¹ *Vocabulaire thermal*, 2 on Vitr. 5.10.1.

¹⁰² Especially Vitr. 5.10.1,4; discussed above, pp. 21-22

¹⁰³ *Rhet. Her.* 4.10.14.

¹⁰⁴ Cic. *Cael.* 67. The comic effect produced by this passage does not take away from the identification of the immersion pool. Hot pools for immersion are known in the first century BC from private and public examples in Italy (discussed below). The comic effect would rely on the audience recognizing this feature. The other probability is that the *alveus* would not offer enough cover for the conspirators, adding to the humor of this scene.

¹⁰⁵ Celsus 1.3.4; 1.4.2; 2.17.7.

clearly states that the bather must descend into the *solium*, indicating that it is the immersion pool. The *Satyricon* supplies the same information, where the bather must descend into the pool.¹⁰⁶ In the *Historia Augusta*, Severus Alexander reportedly calls the *solium* the *Oceanus*, and the text states that in Trajan's days the term *solia* was common.¹⁰⁷ Sidonius calls the hot pool of his baths the *solium*, described as a capacious semi-circle.¹⁰⁸ This term also gives its name to the room, *cella soliaris*, which especially in North Africa is used to designate the hot room for immersion bathing.¹⁰⁹

The references to the *labrum* in ancient literature give some indication of its physical nature. In a letter to his wife, Cicero asks for a *labrum* to be placed in the baths of his villa at Tusculum, illustrating that it was a portable item, and not necessarily a permanent fixture.¹¹⁰ He calls it a necessity of comfort. The reference is to a private villa bath. The passage in the *Satyricon* where people stand around the *labrum* recalls the arrangement prescribed by Vitruvius for the basin.¹¹¹ In the *Satyricon*, however, *circa solium* is also used.¹¹² The material from which the *labrum* is made is given as bronze in several inscriptions.¹¹³

Celsus identifies the *solium* as situated in the *caldarium* in one passage, where he counsels the bather with a weak head not to immerse himself in water after perspiring in this room.¹¹⁴ The bather should perspire in the *caldarium*, but not go into the hot pool. The text does not specify that the pool is in the *caldarium*, but as Rebuffat points out, Celsus does

¹⁰⁶ Petron. 73; *in solium descendimus*. This is the only reference which demonstrates communal bathing in the *solium*, although the pool was being prepared just for Trimalchio.

¹⁰⁷ *SHA Alex. Sev.* 25.5.

¹⁰⁸ Sidon. *Epist.* 2.2.4.

¹⁰⁹ This term appears in several inscriptions, indicating to Rebuffat that it is the more appropriate term for the room (*Vocabulaire thermal*, 4). *CIL* VIII 14700 Thurnburga; *ILAlg* I 2102 Madaurus; *CRAI* (1917) 73 Thurburbo Maius; *AE* 1975 no. 873 Abbia Maius; *ILT* 622 Hr. Haouli.

¹¹⁰ Cic. *Fam.* 14.20: *Labrum si in balineo non est, ut sit*.

¹¹¹ See above, pp. 21-22, on Vitruvius' discussion of the placement of the *labrum*.

¹¹² Petron. 92.6.

¹¹³ *CIL* XI 3677 Marsi Marruvium (*labrum* of bronze with a furnace); *CIL* XIV 2119 Lanuvium (bronze, with three spouts in the shape of *rostra*, not specified where in the baths); also in Stat. 1.5.49, where it is made out of silver.

¹¹⁴ Celsus 1.4.2: *tum transire in caldarium; ubi sudavit, in solium non descendere, sed multa calida aqua per caput se totum perfundere*.

not indicate that the bather has changed rooms between sweating and entering the pool, as he would normally.¹¹⁵ Pliny does not give a name to the two rooms following the *propnigeon* in the baths of his Laurentine villa, and says that the *calida piscina* is attached to these rooms.¹¹⁶ For the Tuscan villa he uses the term (*cella*) *caldaria*, saying that it projects from the building and has *tres descensiones*, the hot pools.¹¹⁷ Sidonius Apollinaris calls the hot bathing room the *cella aquarum coctilium*.¹¹⁸ This room has a semicircular pool, the *solium*. He does not use a specific term for the room, as he does for the other rooms of the bath. The hot bath completes this part of bathing, and the bather returns to the unheated rooms.

Activities, circuit and layout of the baths

Several of the sources discussed above help in the identification of the sequence of bathing activities and the circuit followed by the bathers. Celsus mentions the activities of sweating, anointing, immersion bathing in the *solium*, and aspersion bathing.¹¹⁹ Counseling anointing either before or after using the *solium* suggests that a normal order of activities existed, from which his prescription deviates for individual situations. This is also evident in his advice for anointing in the *tepidarium* or *caldarium*, the only two rooms which he mentions. The activities are confined to a limited number of rooms.

Pliny, while not informative on the activities involved in bathing, lists a group of rooms with retrograde arrangement for his baths. He describes the rooms in the order that the bather encounters them as he moves through the various phases. In the Laurentine baths, the first room is the *cella frigidaria* with two pools, followed by the *unctorium*

¹¹⁵ *Vocabulaire thermal*, 11. Attention should also be drawn to the fact that Celsus appears to specify a multifunctional *caldarium*, where a sweat bath, immersion bath, and aspersion bath takes place.

¹¹⁶ Plin. *Ep.* 2.17.11: *mox duae cellae magis elegantes quam sumptuosae; cohaeret calida piscina mirifica*. Here, *piscina* is used for the headed immersion pool, and is qualified by *calida*.

¹¹⁷ Plin. *Ep.* 5.6.26: *caldariae magis, prominet enim. In hac tres descensiones, duae in sole, tertia a sole longius, a luce non longius*.

¹¹⁸ Sidon. *Epist.* 2.2.4: *hinc aquarum surgit cella coctilium, quae consequenti unguentariae spatii parilitate conquadrat excepto solii capacis hemicyclio, ubi et vis undae ferventis per parietem foraminatum flexilis plumbi meatibus implicata singultat*.

¹¹⁹ Celsus 1.3.4; 1.4.2; 2.17.5-8; discussed above, pp. 31-35.

hypocauston, the first heated room, and the ambiguous *propnigeon*.¹²⁰ The anointing room and the *propnigeon* are presumably two moderately heated rooms. Finally, there are two elegant rooms, to which the hot water pool is attached. Although a heating system is not mentioned for the two rooms, they lead to the hot pool, and so it is inferred that they are heated.¹²¹ In these baths, there is one unheated room, the *frigidarium*, and four heated rooms. Two are presumably moderately heated rooms, the *unctorium hypocauston* and the *propnigeon*, and two are more intensely heated, the *cellae* preceding the hot pool. There is also a *sphaeristerium*, located near the baths.

Pliny's baths at his Tuscan villa have slightly different components, also arranged in a retrograde plan.¹²² These baths have an *apodyterium*, from which the *cella frigidaria* with large pool is reached. Adjoining the cold bathing room is a *cella media*, which is temperate from its exposure to the sun, and no doubt also because it adjoins the *cella caldaria*. The *cella caldaria*, projecting from the building, has the most exposure to the sun and contains three heated pools. In these baths, there are two unheated rooms, the *apodyterium* and the *cella frigidaria*. There are only two heated rooms. The *cella media* is presumably a *tepidarium*, less heated than the *cella caldaria*.¹²³ A *sphaeristerium* also accompanies these baths, this time built over the *apodyterium*. In addition, these baths have a larger pool for swimming in a courtyard, which is warmer than the pool of the *cella frigidaria*.

Sidonius describes his villa baths at Avitacum in reverse order, starting with the *cella aquarum coctilium*.¹²⁴ This room, which contains the *solium*, is the hot bath. It adjoins the *cella unguentaria*, the second room of the baths. This is presumably a warm room.¹²⁵

¹²⁰ Plin. *Ep.* 2.17.11. *Hypocauston* is an adjective modifying *unctorium*, rather than a substantive. (*Vocabulaire thermal*, 14). The *propnigeon* is a room of the actual baths, rather than a service room, most probably to be equated with the *tepidarium*; see above, pp. 28-30.

¹²¹ Rebuffat identifies the two *cellae* as the vapor bath and the room with hot pool (*Vocabulaire thermal*, 13). This identification appears to be correct. The hot pool is evidently located in the second room, rather than in a third room.

¹²² Plin. *Ep.* 5.6.25-26.

¹²³ Rebuffat suggests that the room is a sweat bath and hot, but its intermediary position is more suitable for a *tepidarium*, and it is not as exposed as the hot bathing room to the sun's heat (*Vocabulaire thermal*, 14).

¹²⁴ Sidon. *Epist.* 2.2.4-8.

¹²⁵ *Vocabulaire thermal*, 19.

There is also the *cella frigidaria* with a cold pool, and a large open-air pool. These baths must have a retrograde plan. There are only three rooms, respectively hot, warm, and cold, in the order in which he describes them. They are modest facilities when compared to the baths of Pliny, and yet contain sufficient amenities for bathing.

The most detailed description of the sequence of rooms comes from a Greek source, Lucian's encomium on the baths of Hippias.¹²⁶ These baths are public, and have numerous rooms to accommodate the various bathing activities. The baths have a vestibule with various reception and lounging rooms, including one for the rich and space for the attendants and servants. Next there are changing rooms on either side of the cold bathing room, which has three pools. Following this, there is a moderately heated room, to acclimatize the bather to the heat. This leads to the anointing room, which also has an entrance for bathers coming directly from the palaestra. Next there is a large room where the bather can linger. From here, a hot passage leads to the room with three heated pools. Once the bather finishes with the hot bath, he need not retrace his steps, but can return to the room with cold bathing pools by a moderately heated room. The rooms are described in the sequence that they are encountered, and can cater to different bathing circuits. The main distinction is between bathers who warm up in the palaestra with exercise, and those who warm up by an acclimatizing warm room. Both groups move on to the anointing room. These baths have an annular pattern of circulation, since the bather does not retrace his steps to the cold bath after finishing the hot bath.

Archaeological Interpretation of Latin Terms for Bathing Rooms

Since the characteristics of certain room types and installations are not described in Latin literature, it is common practice to illustrate the physical features of the Latin name through the archaeological remains of baths. The archaeological material can also support the identification of evolutions in bathing architecture which are discernible in the literature.

¹²⁶ Lucian *Hipp.* 5-8. For a commentary on the text, see Yegül, "The Small City Bath," 117 ff.; and cf. Y. Thébert, "Circulation dans les thermes d'Afrique du Nord," *Les Thermes Romains* (CEFR 142, Rome 1991) 139-140, n. 3.

This is particularly true for the *tepidarium*, *laconicum*, *sudatorium* and the pools of the *caldarium*.

The similarities between the baths described by Vitruvius and the baths at Pompeii and Herculaneum are frequently noted by modern scholars. In the first instance, the arrangement of the water heating unit and the men's and women's baths with shared heating facilities are well documented in the Republican baths, the Stabian baths, and the Forum baths at Pompeii, and in the Forum baths at Herculaneum.¹²⁷ The furnace room with the water heating tanks is placed between the men's and women's *caldaria*.¹²⁸ While the other water heating arrangement mentioned by Vitruvius, the *testudo alveolorum*, has disappeared, Nielsen identifies the convex bronze water tank below the hot pool from the preserved cavities above the heating channel of the furnace.¹²⁹ The general arrangement of the *suspensura* is also readily visible in the baths at Pompeii, and the identification with Vitruvius' description has posed no problem for scholars.¹³⁰ Similarly, the arrangement of the *labrum* and *alveus* in the *caldarium* described by Vitruvius is found in the baths at Pompeii.¹³¹ The last element recognizable in the Pompeian baths is Vitruvius' description of the domed *laconicum*.¹³² The description of particular elements by Vitruvius and their physical identification is only appropriate for this select group of public baths. The transformation which bathing architecture undergoes from the mid-first century AD appears to make some of these features obsolete.¹³³ This includes the *testudo alveolorum*, the arrangement of the *labrum*, and the *laconicum*.¹³⁴ The arrangement of men's and women's sections in baths is also not common.

When one attempts to identify the installations found in remains of baths on the

¹²⁷ Vitr. 5.10.1. Discussion here concerns these four Campanian baths. See *Baths and Bathing*, 57-66, figs. 57, 59, 65, and 66, for the arrangement of these baths; and *Thermae et Balnea*, 16, on the water heating arrangement and Vitruvius' description, and above, pp. 19-21.

¹²⁸ The identification of men's and women's bathing is addressed by Nielsen (*ibid.*, 147).

¹²⁹ Vitr. 5.10.1; *Thermae et Balnea*, 16.

¹³⁰ *Ibid.*, 14.

¹³¹ Vitr. 5.10.4; *Thermae et Balnea*, 156-157.

¹³² Vitr. 5.10.5; *Thermae et Balnea*, 158-159.

¹³³ Also, see above, pp. 5-6.

¹³⁴ *Thermae et Balnea*, 156-160 *passim*.

basis of literary directions, problems are also encountered. This results, in part, from the briefness and inexplicit nature of the references. Some help is provided by the sources which indicate the circuit followed by the bather, as outlined above. Thus one may identify possible spaces on the basis of the potential bathing circuit. The more ambiguous or problematic terms are considered here.

Nielsen establishes the physical form of the *tepidarium* from the architectural remains, since literature offers no help. It is heated indirectly, usually by means of a hypocaust floor. She suggests that the room may have evolved with the introduction of the hypocaust system, which made it possible to regulate the heat of the baths.¹³⁵ Nevertheless, no comprehensive study of the evolution of this room from archaeological remains has been undertaken. Identifying the anointing room architecturally is also difficult, since it does not have any physical peculiarities. Nielsen proposes that it may be a heated room, in which case it could be the same as a *tepidarium*, but also suggests that it could be heated at a lower temperature, through adjoining heated rooms.¹³⁶

There may be more than one moderately heated room in a set of baths. Among the public baths in North Africa Thébert has identified architectural evidence of rooms which made allowances for two possible circuits.¹³⁷ The first is for those who wish to bathe only, and enter the hot baths through the *tepidarium*. A second circuit allows people who have warmed up by exercising in the palaestra to join the flow of bathers in the next stage, in the room he identifies as the *districtarium*. This pattern of use is described only by Lucian in the baths of Hippias.¹³⁸ The convenience of this arrangement is praised.¹³⁹ This passage does not provide a specific term for this room. Although it has a function different from the *tepidarium* as outlined above, modern practice is to designate this room as a second *tepidarium*. This room is found archaeologically in baths with a pattern of circulation which does not require the bather to retrace his footsteps once he has completed the hot bath

¹³⁵ Ibid., 155-156.

¹³⁶ Ibid., 161.

¹³⁷ Thébert, "Circulation dans les thermes d'Afrique du Nord," 139-149.

¹³⁸ Ibid.

¹³⁹ Lucian *Hipp.* 6.

and wishes to rejoin the cold room for the final stage of the bath. Rebuffat uses the term *tepidarium* for both warm rooms.¹⁴⁰

Since it is likely that references to the hot vapor bath may demonstrate an evolution of the installations,¹⁴¹ use of the Latin terms can be problematic. Nielsen suggests that the *laconicum* is replaced by the *sudatorium* with the evolution of the hypocaust system.¹⁴² She identifies the round form of the *laconicum* as Greek, noting that the Romans identified the form with the Greeks, but states that the term is apparently of Italic origin. She includes a physical description of the *laconicum*: circular, domed, and heated by a brazier rather than a hypocaust. This is obviously based on both the Pompeian examples and Vitruvius' description of the *laconicum*.¹⁴³ She concludes, with reason, that the term may have come to denote the function of a dry-air bath, regardless of the room's shape, but is rarely found after the mid-first century AD.

All of the sources appear to support the identification of dry heat in the *laconicum*, and these are early references. The *laconicum*, in early Pompeian examples, appears to be located adjacent to the heated baths, and not on the direct line from the cold to heated section.¹⁴⁴ This arrangement results from the necessity of keeping the wet heat of the baths separate from the dry heat of the *laconicum*. Rebuffat suggests that the *laconicum* occupies an annex of the baths, to maintain a dry atmosphere.¹⁴⁵ This feature appears to be supported by the archaeological evidence at Pompeii, which is the only site for which a group of published baths, both public and private, are known. These baths span this period of development in bathing architecture, and the evolution appears to be supported by the

¹⁴⁰ *Vocabulaire thermal*, 6, and on this room in public baths of North Africa, with a commentary on the baths of Hippas, see Thébert, "Circulation dans les thermes d'Afrique du Nord," 140-141, n. 3.

¹⁴¹ Discussed above, in relevant section of Vitruvius, and the sweat baths, *laconicum* and *sudatorium*.

¹⁴² *Thermae et Balnea*, 158-159.

¹⁴³ Vit. 5.10.5.

¹⁴⁴ Nielsen identifies this evolution from the late first century BC to mid-first century AD remains at Pompeii and Herculaneum (*Thermae et Balnea*, 30-36). Ling points out that the circular domed *laconicum* of Late Republican and Early Imperial baths, like the one in the casa del Menandro, is always separated from the rest of the bath (R. Ling, "The Baths of the Casa del Menandro at Pompeii," *PompHercStab* [1983] 53-54,58; and see above, p. 7).

¹⁴⁵ *Vocabulaire thermal*, 3.

evolution of the architecture.

Concerning the possible physical manifestations of the *sudatorium*, Nielsen states that a round hypocaust room heated directly in the baths of imperial times will be a *sudatorium*.¹⁴⁶ This room she identifies with dry heat, but suggests that humidity could be induced by pouring water over the floor. She continues in the discussion, identifying the room in imperial times as most often having a rectangular form. A consideration, however, should be its proximity to the *caldarium*. The directly heated room adjacent to the *caldarium* is generally identified as the *sudatorium*. Apart from the *caldarium* itself, this appears to be the only room with sufficient heat to be a sweat bath. Its proximity and connecting doorway to the *caldarium*, on the other hand, indicates that this room will naturally have a humid atmosphere. As such, it differs from the Pompeian examples which are kept separate from the *caldarium*. This observation is based purely on archaeological evidence. Although *sudatorium* is not commonly found in ancient literature, it is becoming the term most frequently used by modern scholars to indicate a well-heated room in the baths without a built immersion pool.

The *caldarium* is recognizable by the presence of one or more heated pools. The literary sources do not illuminate the evolution of the heated immersion or bathing pool, but archaeological material demonstrates that from the second century BC to the Late Republic, there was a transformation in the characteristics and use of the installation. Nielsen states that the early references are to hip-baths, later ones to immersion baths, and finally to communal pools, but the early sources contain no information to illustrate this evolution.¹⁴⁷ Her assertions are based on the remains of the pools, but indeed a comprehensive study of the evolution of hot pools from archaeological remains has not been undertaken, and the examples are sparse.

Rebuffat states that the archaeological evolution of the *labrum*, and particularly the *schola labri*, would be interesting to pursue.¹⁴⁸ Nielsen applies the term *labrum* to a low

¹⁴⁶ *Thermae et Balnea*, 157-158.

¹⁴⁷ *Ibid.*, 157.

¹⁴⁸ *Vocabulaire thermal*, 7.

basin raised on a pedestal fed by cold water piped in directly for washing.¹⁴⁹ The location of this feature is normally in the *caldarium*, in an apsidal recess called the *schola labri* by Vitruvius.¹⁵⁰ This identification is derived from Vitruvius' directions for building a bath, which place the *labrum* in an apse of the *caldarium*, and from the Pompeian examples. Nielsen suggests that this is an early feature, rarely found after the first century AD.¹⁵¹ The *labra* that have been found are of stone or bronze, and there are examples situated over a *praeurnium*.¹⁵² *Labra* could be used elsewhere in the baths, especially in connection with the palaestra. On their origins, Nielsen suggests that they were introduced at the same time as the *caldarium*, and originally contained hot water.¹⁵³

Excavated bath complexes frequently have more rooms than the literary sources account for, and facilities which are not mentioned, such as latrines. Variations are also encountered in the number of unheated rooms and heated rooms in individual baths. These variations, however, are anticipated in the few detailed descriptions of baths that are preserved. Pliny's two baths and the bath belonging to Sidonius, already discussed above, are all three private baths in a villa setting. They each have slightly different components. In turn, they all have more limited facilities than the public baths described by Lucian. On the other hand, they are all capable of providing the necessary amenities for bathing. The numerous rooms in the baths described by Lucian each serve a different activity, or aid in the movement of the bathers through the various stages of bathing. All of this would accommodate the greater number of clientele expected to use public baths. The private baths certainly had a more controlled or limited clientele, consisting presumably of the household members and guests.¹⁵⁴ These baths also have size restrictions, depending on

¹⁴⁹ *Thermae et Balnea*, 158.

¹⁵⁰ Vitr. 5.10.4.

¹⁵¹ *Thermae et Balnea*, 158.

¹⁵² Ibid.

¹⁵³ Ibid., 30.

¹⁵⁴ Cicero places his private baths at the disposal of guests, and has them specially prepared for the arrival of guests (*Att.* 2.3.4; *Fam.* 14.20). After dinner at Trimalchio's house, the party moves into the (tiny) baths of his house (Petron. 72-73). Apart from this last example, there is no other source which illustrates the use of urban domestic baths.

how they are integrated into the house plan. Naturally, one can expect fewer rooms, serving multiple purposes.

Summary

This overview of the principal Latin terms for the bathing rooms and fixtures demonstrates that interpretation of the literary material by the physical remains of baths is necessary to resolve difficulties in identification, and vice versa. Rebuffat questions the use of this vocabulary.¹⁵⁵ He urges that one should avoid using the Latin terms during preliminary analysis of remains. He recommends in French: *salle froide, salle tiède, sudation, salle du bain chaud, bain chaud, vasque, foyer, vestiaire, palestre, latrine, douche, salle d'onction, piscine*. Indeed, this is a prudent method from which to proceed, since the Latin terms may have connotations which when incorrectly employed would confuse the reader about the nature of the room being described. However, even with the use of modern labels for the rooms, misidentification can result in confusion. This results when the physical features which may identify a particular room are not understood.

It is therefore very important to establish precisely which term is used for which of the typical bathing rooms in each archaeological report. As the discussion of terms above demonstrates, there is a certain consistency found in Latin authors. By being consistent in application, and following an acceptable choice for the rooms with multiple names, the use of Latin can be more precise than trying to develop a name in a modern language to which this type of bathing is essentially foreign. The Latin terms also offer a more concise manner by which rooms and basins may be designated.

While it is common practice in modern studies to designate bathing rooms of specific function by Latin terms, it is important to remember that the terms will have physical and functional associations for the reader. Since use of these terms in ancient texts is not without a certain amount of confusion for the modern reader, arriving at a satisfactory English translation for a term is not always possible. Ancient applications can be difficult to

¹⁵⁵ *Vocabulaire thermal*, 7.

interpret; either the specific installation described cannot be explicitly identified, or the term is applied to two or more different installations, or several terms apparently describe the same feature. It is clear that some terms are more common earlier, and some later, and that different terms may be preferred in certain geographical locations. Since most of the literature we have stems from Rome-based authors, the latter problem is not as great as it may be when using inscriptional references to restorations of individual rooms from the provinces. Another problem is created by modern scholars' use of these terms, which may vary with each individual report of excavated baths. Terms are frequently applied to rooms which do not strictly suit the normal identification.

The question, of course, is which terms to use. Some offer little ambiguity in the texts concerning what they identify, such as *frigidarium*, *tepidarium*, and *caldarium*. These terms are also combined with *cella*, but are understandable alone. While other terms can identify these rooms, I propose to use these, the simplest forms, and those most commonly encountered in modern reports. These terms also underline the climatic relationship between these rooms. The hot room for perspiring, on the other hand, is one of the most difficult to apply a term to, and is known under a variety of words connected to dry or wet heat and perspiring. *Laconicum* is frequently used in modern sources for this room, but since it may relate to a specialized, early type of room, it is not used here. The collective *assa* is not frequently encountered, although it evidently indicates a hot, dry heat room. *Sudatorium* is clear in what it entails, a room for sweating, the preferred modern word for this room. The identification of this term with the hot room without a pool in the baths is not made explicitly in the sources, so that its application is a modern one. This is the term which will be followed here for a highly heated room without a pool. Other rooms, such as *detrictaria* and *unctuaria*, are less easy to identify in the archaeological record. The actions indicated by the names of the rooms can also be carried out in the other rooms. Since the private baths rarely have an extra room which could be reserved for these purposes, the terms do not directly affect this study. A variety of words are used to indicate the pools and basins of the baths. The cold pool is normally identified as the *piscina*, but

whether or not this was the common ancient term for the interior plunge pool is not clear in the sources. The pool of the *frigidarium* is simply referred to as such in this thesis. It belongs to an unheated room and is itself unheated. The hot immersion pool is most commonly called the *solium*, which is the term employed here, to distinguish it from the unheated pool of the *frigidarium*. The raised pedestal basin, the *labrum*, is a recognizable installation of the hot room. However, its remains are not encountered among the North African private baths.

CHAPTER TWO

THE DOMESTIC BATHS OF NORTH AFRICA

Discovery and Preservation

Excavations in North Africa have exposed forty-three private baths associated with Roman domestic architecture. In Morocco, the baths are found at Volubilis, and in Algeria at (Iol) Caesarea, Cuicul, Timgad (ancient Thamugadi), Hippo Regius and Cirta. In Tunisia private baths have been identified at Bulla Regia, Carthage, Utica, Althiburos and Puppit. The sites where they are found and the density of baths at each site are dictated by the nature of archaeological exploration. These baths are nearly all found in peristyle houses, the architectural form of the residences of the wealthy. Most of these houses and baths have been published, but understanding their layout is frequently hindered by the lack of detail in the reports of the individual houses and baths, and especially by the quality of the excavation.

While domestic architecture has often been neglected by archaeologists in favor of more impressive public architecture, the presence of elegant mosaic floors in the North African *domus* has inspired extensive excavation of the buildings. Several factors have hindered the uncovering of these houses. Foremost is accessibility. The sites were frequently subject to continuous or subsequent occupation, and the earlier building material often reused, which restricts access to and damages the remains. In modern times, rapid expansion of urban centers frequently located on the site of earlier Roman settlements intensifies this problem.

The sites of Volubilis, Timgad, Cuicul, and Bulla Regia have remained largely free from modern occupation, with the result that larger portions of the city can be cleared. The residential areas of the city can be studied in more detail, with the result that excavation has exposed several private baths at each of these sites. Other cities in North Africa were not

encumbered by modern occupation, but they have been either only partially excavated, as in the case of Althiburos, where the emphasis of work has been on the civic center and public architecture, or, as at Utica and Thuburbo Maius, poorly preserved. Utica, though free of later occupation, underwent only partial excavation. One private bath has been discovered among the houses. At Thuburbo Maius only public baths have been found, despite the presence of excavated houses, and this is true of the majority of sites.¹ Three sites, Caesarea, Constantine and Carthage, are covered with often rapidly expanding modern occupation, and excavations are restricted to small, undeveloped areas. Nevertheless, the ancient historical importance of these sites has encouraged extensive exploration, and several private baths have been uncovered. Most of these baths are in houses which were not or could not be completely excavated. Indeed, few baths from these three sites could be completely excavated, and can therefore only be identified by a few of the features normally present in baths.

Another factor in identifying these baths and their components is the manner in which they were excavated. French archaeologists were largely responsible for the archaeological exploration of these sites, from the late nineteenth century to the end of colonial administration in the three Maghreb countries in the mid-twentieth century. Many of the principal sites were extensively uncovered, but this was a time when archaeological exploration was in its infancy. Excavations, conducted quickly, without stratigraphic controls and detailed records, destroyed valuable information. The resulting publications from the excavations are brief and insufficiently documented for a detailed study of the architecture. The material necessary for dating the remains, such as the stratigraphy and ceramics, was not collected. In the absence of this information, the mosaic decoration has often become the most valuable evidence for establishing a relative chronology.

¹ A hypocaust system in a house at Thuburbo Maius was originally considered to belong to a private bath (L. Poinssot and P. Quoniam, "Mosaïques des bains des Protomés à Thuburbo Majus," *Karthago* 4 [1953] 153-167). It has been identified with certainty as heating a group of residential rooms in the house (A. Ben Abed-Ben Khader, *CMT II.3: Thuburbo Majus* [Tunis 1987] 1).

The North African *domus*

The private baths are found in the residences of the well-to-do. The basic form in Roman North Africa is the peristyle house, but the layout, types of rooms, and facilities within the house can vary considerably. Rebuffat undertook the only study which surveyed the majority of excavated peristyle houses known at that time.² The two catalogs document 152 recognized houses, a figure increased by findings of more recent excavations. He concentrated on the principal features, partly as a result of the difficulty of determining the identity or function of many of the rooms. Rebuffat established characteristics for the terms he uses in the two articles to specify particular spaces in the houses. The central feature is the peristyle, a courtyard surrounded by porticoes. The peristyle can be complete, with porticoes on all four sides, or incomplete, when one side may lack a portico. Around this space three principal room types are identified, for which he establishes the terminology he uses. The first is the *triclinium*, which he identifies as a reception room with normally direct access to the peristyle, of relatively large size, with a tripartite entry. The most distinctive feature is the shape of the mosaic floor decoration. A U-shaped mosaic of three bands indicates the location of couches for dining, and the negative space often forms a T-shaped mosaic. The *oecus*, a dining room with interior colonnade, is the second room type, which according to Rebuffat's definition may contain more than three couches.³ The third type of reception room identified by Rebuffat is the *exedra*, which he characterizes as a reception room opening more-or-less directly to the peristyle, normally with an entry bay larger than a doorway. As Wallace-Hadrill points out, however, the terms *triclinium* and *oecus* define an architectural form,⁴ from which more complex social functions cannot be interpreted.⁵ He

² R. Rebuffat, "Maisons à péristyle d'Afrique du nord," *MEFR* 80 (1969) 659-687; "Maisons à péristyle d'Afrique du nord II," *MEFR* 85 (1974) 445-469.

³ Rebuffat states that Vitruvius 6.3.8-9 and 6.7.3 is the only suitable use of the word, otherwise not current in the literary sources, and he can only identify six examples which he considers to suit the Vitruvian description. However, he does not pursue the distinction between different architectural forms and the different *oeci* listed by Vitruvius. The rooms are simply distinguished by the presence of an interior colonnade (Rebuffat, "Maison à péristyle I," 662, n. 1).

⁴ An architectural form derived from Vitruvius' description of important rooms in the house in Vitruvius 6.

⁵ A. Wallace-Hadrill, *Houses and Society in Pompeii and Herculaneum* (Princeton 1994) 52, 54.

also criticizes the practice of labeling certain examples of grand reception rooms as *triclinia* at Pompeii and Herculaneum, which would limit the function to dining rooms, when their architecture suggests something grander.⁶ These arguments are valid for the study of North African domestic architecture, where the three terms, *triclinium*, *oecus*, and *exedra*, are often applied without distinguishing even specific architectural forms.

Additional features identified by Rebuffat are apsidal spaces and apses containing a fountain.⁷ Other recognizable spaces found in houses, such as *cubicula*, shops, baths, separate apartments, and spaces for industrial work or storage, are not included. The discussions are restricted to the use of the published reports or plans for most of the houses, rather than reexamination of the remains.

The same terminology used by Rebuffat, derived from Vitruvius, appears in the publications of the houses which contain baths, but the terms do not necessarily conform to the usage set out by Rebuffat. Many of the reports were published in the first half of this century, when the terms *triclinium*, *oecus*, and *exedra* are often used to describe the large rooms with wide openings to the peristyle with little distinction made between them. In addition, the terms *atrium* and *atriolum*, which Rebuffat avoids,⁸ are frequently used to identify small and secondary peristyles or colonnaded courtyards.⁹

Peristyle houses are not the only type found at the sites. Nearly all houses have a central courtyard or light well, from which the main rooms are accessible. A small group of houses have more than one courtyard, and occasionally two or more sizable peristyles. In some examples, on the other hand, there is only a simple, small courtyard at the center, and these buildings are not included in Rebuffat's catalog.

Several recent studies focus on the domestic architecture of a specific site. Volubilis

⁶ Ibid., 19-20.

⁷ In the second article the term *abside-nymphée* is applied to apses containing a basin or fountain of water, "Maisons à péristyle II," 446.

⁸ Rebuffat, "Maisons à péristyle I," 661, fn 2. He excludes this term since the characteristic *impluvium-compluvium* combination is not attested in the North African houses he discusses. See also Wallace-Hadrill (*Houses and Society*, 82-84) for a definition of the Roman *atrium*, based on the Campanian examples and Vitr. 6.3.3.

⁹ This is particularly true of Ballu's early twentieth century reports on the houses at Timgad.

has the most extensive information available on the domestic architecture. The individual houses were first published by the excavator, Thouvenot, in a series of articles.¹⁰ Etienne, also working with Thouvenot, published a detailed study of the peristyle houses in the northeast quarter of Volubilis.¹¹ At Caesarea, a site rich in excavations, the houses remain largely unstudied.¹² Leveau has collected all references to houses from published reports and field notes to give a list of thirty-five examples, of which a number may not actually be houses.¹³ He hopes to provide a working bibliography and plans for the domestic architecture, but does not pursue further analysis of the houses. Only one house at the site is fully excavated,¹⁴ and only three other houses have identifiable peristyles. These houses are found in isolated excavations throughout the area of the ancient city, or the surrounding ancient suburbs. Blanchard-Lemée is more detailed in her discussion of the houses of the central quarter at Cuicul.¹⁵ A valuable aspect of her study lies in the reappraisal of the early excavation reports and photographs from the site, since it was heavily restored. She also made soundings below the exposed floor levels to ascertain details of stratigraphy and architectural rebuilding in one of the houses.¹⁶ Unfortunately, not all of the houses from the quarter are studied, and the small number of large houses known outside of the central quarter are not well published, and have not been the subject of more recent research. This

¹⁰ These articles appear in *PSAM* between 1941 and 1958. The unstratigraphic excavations destroyed a great deal of information, but Thouvenot is meticulous and clear in these reports, making them valuable for the examination of the architecture of the houses.

¹¹ *Quartier nord-est*. The palais de Gordien is not included in the publication, since excavation of the building was on-going at the time of publication. Etienne describes the layout and water system of the quarter, the architecture of the individual houses, commercial and work spaces, sheds and storage areas in the houses, and the public latrines in the first part. In the second part, he summarizes the construction, plans and decoration of the house, and in the final part he proposes an outline of the evolution of the quarter and its economic life. The publications of the individual houses by the excavator, Thouvenot, are more detailed and frequently more accurate, but lack the synthesis of the material provided by Etienne.

¹² P. Leveau, "Les maisons nobles de Caesarea de Maurétanie," *AntAfr* 18 (1982) 109-165. Rebuffat identifies only three houses at the site; "Maisons à péristyle I" 672 (number 3= Leveau's catalog no. 9b, numbers 1 and 2= Leveau's nos.13 and 14 in Leveau, "Maisons nobles".)

¹³ *Ibid.*

¹⁴ *Ibid.*, catalog no. 24 (maison de la propriété Kaïd-Youssef, C.9).

¹⁵ *Maisons à mosaïques*.

¹⁶ Soundings were conducted in the maison de l'âne (C.11).

is entirely the case for Timgad, which is the most extensively excavated site, and contains the greatest number of excavated private and public baths. One must rely entirely on the brief, and occasionally conflicting, reports of Ballu¹⁷ and his successors¹⁸ as director of the excavations. The study of the mosaics from Timgad by Germain is a useful aid for the decoration and relative dating of the mosaics, but leaves aside the complex problems of the architecture.¹⁹ The baths at the other North African sites are generally isolated finds, and have not been subject to intensive study after the initial reports. Only two of these, at Carthage and Puppit, are the product of modern archaeological investigation with detailed information about the stratigraphical evidence.²⁰

There still remains a great deal of information on these houses which has not been exploited, particularly in light of recent developments in approaches to the study of domestic architecture. Thébert looks beyond the architectural features of the houses, building an impression of the owners and the use of space.²¹ He illustrates the lifestyle of the rich using specific, well-known examples from across North Africa. He considers the house as an entity within an urban environment, as a place for both public and private activity, and he also includes a discussion of appearance and function of the various spaces in the houses.

¹⁷ *Ruines de Timgad I, Ruines de Timgad II, Ruines de Timgad III*; and annual reports appearing in *BAC* from the 1890s until the early 1920s.

¹⁸ Especially annual reports of M. Christofle, director in the late 1920s and 1930s, appearing in *BAC*.

¹⁹ *Mosaïques de Timgad*.

²⁰ No final report on the maison des bains at Carthage has appeared ("The Swedish Carthage Excavations; Preliminary Report of the Second Campaign, September-October 1979," *Medelhavsmuseet* 15 [1980] 75-77), and the maison du péristyle figuré at Puppit is only published in a summary form (A. Ben Abed Ben Khader, "Les mosaïques de la Maison du 'Péristyle figuré' et de ses thermes à Puppit (Hammamet)" in *Fifth International Colloquium on Ancient Mosaics held at Bath, England, on September 5-12, 1987*, Part I, ed. P. Johnson, R. Ling, D.J. Smith [JRA suppl 9, Ann Arbor 1994] 180-185).

²¹ Y. Thébert, "Private Life and Domestic Architecture in Roman Africa," in *A History of Private Life. 1: From Pagan Rome to Byzantium*, ed. P. Veyne (Cambridge, 1987) 313-409.

PART I: MOROCCO
MAURETANIA TINGITANA

Volubilis

Volubilis received Roman municipal status under Claudius, and developed as the principal urban center of inland Mauretania Tingitana until Roman administration of the province was abandoned in 285 AD. Public and domestic architecture show that the main urban development occurred under the Flavians and Antonines, and the principal public monuments of the forum date to the Severan period.²² The fate of the city after 285 AD is not well documented, partly due to neglect of the later material during excavations. Reports of “*tardive*” and “*berbère*” walls and late burials inside some of the houses, as well as finds of late ceramics and coins during the excavations, attest to continued habitation of the site into the Islamic period.²³

Six private baths have been excavated at the site in the late 1940’s and 1950’s (fig. 7). They were published in detail after excavation, and the remains are well-preserved and maintained, without heavy modern restoration or reconstruction. For these reasons, they form an important group for this study of the domestic bath in Roman North Africa. The maison d’Orphée (C.1) stands apart, the only large residential building in the area of the city to the southwest of the forum. The other five, the maison aux travaux d’Hercule (C.2), the maison au cortège de Vénus (C.3), the palais de Gordien (C.4), the maison au Cadran solaire (C.5), and the thermes de l’îlot ouest (C.6), lie in the quarter to the northeast of the forum (fig. 8). The other nineteen excavated houses in the northeast quarter are without baths. This quarter gives the appearance of being planned as a coherent unit, enclosed by

²² A. Akerraz and E. Lenoir, “Volubilis et son territoire au 1er siècle de notre ère,” *L’Afrique dans l’Occident romain (1er siècle av. J.-C. - IVe siècle ap. J.C.)* (CEFR 134, Rome 1990) 216-219.

²³ E. Lenoir, “Volubilis des Baquates aux Rabedis: une histoire sans paroles?” *BAM* 15 (1983-84) 299-309.

the city wall, and containing mostly elegantly built and decorated peristyle houses.²⁴ Houses fronted by shops line the colonnaded *decumanus maximus*, which runs approximately southwest to northeast, from the square of the fountain to the northeast city gate. The block of seven houses along the northwest side of the *decumanus* is uninterrupted by an intersecting *cardo*. The area behind these houses, and to the east, is largely unexplored, and the architecture that has been uncovered is unpublished.

The area southeast of the *decumanus maximus* is more fully excavated. Peristyle houses also line the two secondary *decumani* to the southeast, with *cardines* dividing the houses into irregular-sized blocks of one to three houses. The orientation of these two *decumani* changes at *cardo* south V and again at *cardo* south I, creating blocks with the shape of a trapezoid. In addition to the houses of this quarter, large peristyle houses have also been excavated to the north and northwest of the forum, but none are provided with baths.²⁵

Maison d'Orphée (C.1)

The maison d'Orphée (fig. 9), located to the southwest of the forum in close proximity to two of the three public baths, contains the best preserved baths at the site.²⁶

²⁴ Opinions on how the quarter came into existence vary among scholars. Discussed below, pp. 72-77

²⁵ A set of baths was excavated to the north of the arch of Caracalla, on the north side of the *decumanus* north 1. They are a small establishment, measuring only 14 m x 11 m. These baths were covered by the later construction of the maison à la citerne. There is no evidence that they were part of a house, and they only have a doorway to the street. The construction of the baths is dated by pottery and coins to the last quarter of the first century AD. The construction of the house, dated to the third century by pottery, lamps and coins, gives a *terminus ante quam* for the baths. They were apparently in use for about a century before they were partially razed and filled in for the construction of the house. Zehnacker and Hallier suggest that these were probably the first Roman baths known at the site: H. Zehnacker and G. Hallier, "Les premiers thermes de Volubilis et la maison à la citerne," *MEFR* 77 (1965) 87-152. E. Lenoir establishes that the thermes du nord were built about 80 AD, which calls for a revision of this assertion ("Les thermes du nord à Volubilis: recherches sur l'époque flavienne au Maroc", Ph. D. diss., Paris-Sorbonne, 1986). The length of time that the baths were in use also indicates that they could be contemporary with some of the private baths in the northeast quarter, which can only be broadly dated between the end of the first century and the third century.

²⁶ This house has only been published at the time of excavation (R. Thouvenot, "La maison d'Orphée à Volubilis," *PSAM* 6 [1941] 42-66).

This house is unique in its size and elaboration for this part of the city, with an area of 1700 m².²⁷ Earlier phases of the building are evident, but have not been studied. The chronology of these phases is unknown, and no date is attributed to the final form of the house, a result of the early excavation techniques.²⁸ The excavator, Thouvenot, suggests that the present structure results from the uniting of perhaps four or five separate lots.²⁹ In this final phase distinct units within the house are evident. The west part of the house is identified as public space by Thouvenot, with installations for pressing olive oil.³⁰ The three rooms (a, b, and c) opening onto the street to the north are probably shops, with no access to the interior of the house. Room 3, an ornate room facing the uncovered basin in room 2 through a screen of two columns, contains the mosaic of Orpheus which gives the name to the house. The east half of the house, rooms 5 to 15, is residential. The house is built on a slope, with the large courtyard 16, rooms 11-14, and the baths occupying the higher ground. The baths occupy the northwest corner of the higher ground, flanked on the east and south sides by the residential section, and by the more public space on the west side.³¹

Entry to the baths from the interior of the house is possible through a doorway between rooms A and 15 in the east section. A narrow corridor (15b) connects room 15, identified as the kitchen, to the northwest corner of courtyard 16.³² A second interior entry to the baths exists in the west end of the baths, where they can be reached from vestibule 1 of the lower part of the house by climbing stairway e. The principal entrance for the baths, however, is from the exterior. Two elegant doorways, set side-by-side, give entry from the

²⁷ A. Jodin gives 1860 m² (*Volubilis Regia Jubae* [Paris 1987] 150).

²⁸ Jodin suggests that the thick wall of room 10, separating it from room 14, may be vestiges of an earlier city wall, possibly a bastion or tower, of the pre-Roman period at the site, but cannot offer more information of the fusion of the independent units to form the house (*Volubilis Regia Jubae*, 150).

²⁹ Thouvenot, "La maison d'Orphée," 62.

³⁰ *Ibid.*, 43-47.

³¹ *Ibid.*, 47-60.

³² *Ibid.*, 51. Thouvenot identifies room 15 as the kitchen. He infers this from the presence of charred material from an oven near one of the doors (unspecified), and also a small niche for the shrine of the Lares in one of the walls (also unspecified). Perhaps more telling: the room is unadorned, the large tank or basin at the north end drains (used?) water to the latrine in corridor 15b, and this corridor separates room 15 from the large reception room 13. Room 13, which opens to courtyard 16 through a triple bay doorway, is presumably a dining room. The U-shaped panel of the mosaic delineates the location of dining couches.

street to the north of the house into area A (fig. 10). The western doorway is reduced in size on the interior side by the walls of room T, indicating that these doors were already standing before the baths were built.³³

There are four unheated rooms in the baths (A, B, C and D) and four heated rooms with hypocaust floors (T, L, C1 and C2). Room A is a large entry room accessible from room 15 and the street (fig. 11). The room is divided by four pillars arranged lengthwise down the center, with the two pillars on either end engaged. The flooring is made up of large stone slabs and a coarse mortar floor with crushed terracotta, perhaps indications of a reused earlier stone paved flooring and repairs in mortar.³⁴ The communication between rooms A and B is unclear in their present state. Room B is slightly lower, and a step leads down to it in the preserved doorway, but the dividing wall between the two rooms is currently only a mass of unconsolidated rubble. Rooms B and C each have a cold pool (P1, P2). The two rooms are separated by a wall built on top of a floor paved with large stone slabs (figs. 12,13), and cuttings for the socket of a doorway are present in the stones between rooms B and C, and from room C to D, indicating that these rooms could be shut off from one another (fig. 14). The pool of room C (P2) is very small, located beside the stairway (e) to the lower part of the house. Room D, accessible from room C, has no distinctive installations, but may be indirectly warmed by room C2. A rectangular opening extends under the floor of room D from the hypocaust of room C2.

The first room with a hypocaust (T) is entered from room B. In the heated section, it is possible to progress from rooms T and L, without furnaces, into room C1 and then C2, each with a heated pool located over their furnaces (f1, f2). Thouvenot states that there is no indication of whether the two hot bathing rooms (C1 and C2) communicated.³⁵ After

³³ In this area of the baths, there are a number of features, such as the earlier paving of the floors and reused paving discussed below and in chapter 3, which are part of a phase preceding the building of the baths. These features were not identified by Thouvenot in his publication of the house.

³⁴ At the south end of the room the flooring is not well-preserved, and the stump of a wall running east to west is revealed. This wall may belong to the baths, indicating that room A was divided in two, but it is more likely to be a wall that was razed at some time, possibly before the baths were built. Thouvenot does not discuss this feature, nor illustrate the difference in floor level between rooms A and B. The relationship of this razed wall could probably be illuminated by excavation.

³⁵ *Ibid.*, 60-61.

clearing the debris on the wall, however, the mortar bedding for a threshold between the two rooms was revealed (figs. 20, 21).³⁶ It is certain that room C2 is accessible from room C1. Currently an opening also exists between rooms C2 and D (figs. 15, 21), but Thouvenot states that the doorway from C2 to the unheated section is not preserved. Since the current doorway may be a modern restoration, one cannot determine if the two rooms truly communicated.

Room L still preserves the *tubuli* on the east side which lined the brick walls (fig. 17). Room C1 has *tubuli* on the north wall, and a few on the south wall. Room C2, also lined with brick, may have had *tubuli* lining the walls, but these are not preserved. The two heated pools are partially preserved. In room C1 the central section of the pool has collapsed (fig. 18), and in room C2, the interior, eastern wall of the pool is heavily restored.³⁷ The service room for furnaces f1 and f2 is on the lower level, with a doorway to the street on the north side and a doorway to the interior of the house on the south side. A spur wall projects into the room between the two furnaces.

Evidence of a long period of use for the baths comes from the repairs to and repaving of floors. The mosaic in room T was repaired with large white tesserae. In room D, the mosaic floor was covered with a second pavement, only preserved at the northwest end of the room. A few irregular-shaped pieces of white and rose colored marble are embedded in mortar, the bedding for an *opus sectile* floor.³⁸

Maison aux travaux d'Hercule (C.2)

The maison aux travaux d'Hercule (fig. 22) is a large peristyle house, measuring 2000 m², which lies between the *decumanus maximus* and the *decumanus* north 1, at the west end of the northeast quarter. The front of the house on the *decumanus maximus* is given over to a row of eight shops, and the principal entrance to the house is through the

³⁶ Along the south wall of room C1 there is a gap in the *tubuli*, at the point where the threshold is located, which indicated to this researcher that a doorway would be found there.

³⁷ The wall is restored as though the pool was sealed off from the room, since Thouvenot believed that the pools were heating tanks rather than bathing pools. See below, pp. 176-177.

³⁸ This second paving is not mentioned in the publication.

wide vestibule 1 on the *cardo* north 2, which leads to the central peristyle. The house was excavated by Thouvenot, who published the architecture in detail.³⁹ The baths, a later addition to the northwest corner of the house, are entered from the *cardo*, into a spacious room (26) (fig. 24). This appears to be the principal entry. A small doorway preserved in the east wall of room 26 provides entry to this room from within the house, from corridor 16.⁴⁰ Thouvenot states that the baths appear too large to be termed private. Etienne suggests that without a doubt the corridor was later attached to the baths, but does not identify the doorway itself.⁴¹ He believes that the baths were private, despite the doorway from the street. The service rooms for the two furnaces of the baths, on the other hand, are clearly connected to the interior of the house. The east wing of the peristyle extends north to form corridor 15, which provides access on either side to service rooms 29 and 33.

The baths contain two unheated rooms (26 and 27) and three heated rooms with hypocaust floors (32, 31, and 30), and a third room (34) at the level of the heated rooms but not obviously heated. The house is not built on a pronounced slope, so that the upper surfaces of the hypocaust floors were raised up above the surrounding ground level. Room 26 is a large room with entrances from the exterior and the interior of the house. The cold bathing room (27), raised up to the level of the hypocaust floors, is reached by stairs in the north corner of room 26 (fig. 26). Room 34 is apparently also reached by these stairs, but the doorway is not identifiable. The four walls of this room still stand, preserved to about the height of the hypocaust floor of the neighboring heated room (32). A door sill in the form of a flat stone slab is preserved on the side to service room 33 at the level of the hypocaust floors.⁴² The apsed cold pool (28) of room 27 is built above ground, projecting

³⁹ Thouvenot, "La Maison aux Travaux d'Hercule," *PSAM* 8 (1948) 69-108.

⁴⁰ *Ibid.*, 79. The doorway, still visible, is not mentioned, only the connection of corridors 16 and 15 to the baths.

⁴¹ *Quartier nord-est*, 33.

⁴² The floor of room 34 would be considerably higher than the floor level of the adjacent service room (33). If room 34 showed evidence of interior plastering, I would suggest that it was a cistern, which would account for the access to the service room and lack of communication with the adjacent heated rooms. This is one possibility. The other is that it was a mildly heated room for the bathers. I think that the latter is more likely, considering the presence of similar rooms in the maison d'Orphée (D) and maison aux Cortège de Vénus (23a). These rooms are discussed further under room types; see below, pp. 183-184.

beyond the facade of the house into *decumanus* north I.

Three heated rooms are accessible from the northeast of room 27. The internal walls of these rooms have perished along with the hypocaust system. Room 32 is without a furnace, room 31 is heated by furnace f2, and room 30 is the hot bathing room heated by furnace f1. The apse a2 in the southeast wall of room 30 is the location of one pool (fig. 25), and brick piers at the northeast end mark out a space 1.40 m wide in front of the furnace for a rectangular pool (a1).⁴³ Service room 29 for furnace f1 has a door to the exterior, reached by climbing four steps. Service room 33 for furnace f2 has no doorway to the exterior, but like room 29 has a doorway leading to the north end of corridor 15, from which the interior of the house is reached.

Maison au cortège de Vénus (C.3)

The maison au Cortège de Vénus (fig. 27) is a peristyle house on the *decumanus* south I, bound by the *cardo* south VI to the west, the *decumanus* south II on the south, and the maison au portique on the east.⁴⁴ The large reception room (11), the peristyle, and vestibule 2 are axially aligned with the principal entrance from the *decumanus* south I. This house has no commercial dependencies such as boutiques, or evidence of industrial activity on the premises. It is notable for the elegant mosaics of mythological scenes, including the one after which the house is named. The facade on the *decumanus* south I was altered when the street portico was appropriated for the expansion of the house. The baths apparently belong to this undatable expansion, since room (19) of the baths is part of the converted portico.⁴⁵ They occupy the northwest corner of the block.

Thouvenot identified the main entrance to the baths as exterior, through the well-constructed doorway in the west wall of 19 (fig 29).⁴⁶ The apsed room (19a) is quite

⁴³ This pool is not identified in any report. Discussed further below, pp. 177-178.

⁴⁴ R. Thouvenot, "Maisons de Volubilis," *PSAM* 12 (1958) 49-86; *Quartier nord-est*, 77-79.

⁴⁵ Thouvenot, "Maisons de Volubilis," 49.

⁴⁶ *Ibid.*, 58.

evidently a later construction than room 19, since it is not bonded to the exterior wall of 19.⁴⁷ Its construction effectively blocks off the entrance to room 19 from the street, but during the operational period of the baths, this would indeed be the main entrance to the baths. Both Thouvenot and Etienne mention a doorway from the interior of the house, from room 8 into room 19.⁴⁸ The extant opening, however, is not preserved in its original state.⁴⁹ The doorway is obscured by the modern construction of a step across the north end of room 8, and a modern wall on the east side of the opening. The space for the doorway between rooms 8 and 19 is also partially filled with large stones on the west side of the opening, suggesting that it was not thoroughly cleared of debris. The only evidence still preserved for a doorway is the mosaic of room 19, which extends into the opening, and under the large stones of the debris against the west side of the opening. This indicates that the house also had a private entrance to the baths.

The baths have two unheated rooms (19 and 20), and three or four heated rooms with hypocaust floors (21, 22 and 23), a gently warmed room (23a), and two water reservoirs (25 and 26). In room 19 benches are preserved along the north and east walls (fig. 30). It provides access to room 20 with a sunken cold pool (P). From room 20 a step leads down to room 21, the first hypocaust room. This room has no furnace of its own, but the hypocaust is opened to room 22 on the west and room 23 on the east. A doorway is located above the hypocaust opening to room 22.

Room 22, the second hypocaust room, is extremely poorly preserved, and the brick lining of the hypocaust has almost completely decayed. The features are not correctly recorded on the plan (fig. 27), although most are described by Thouvenot.⁵⁰ Etienne divided the room into 22 and 22bis, the spaces north and south of wall *ab*.⁵¹ This dividing wall is

⁴⁷ This construction is identified as a lime kiln of the medieval period (Thouvenot, "Maisons de Volubilis," 49).

⁴⁸ Ibid., 58; *Quartier nord-est*, 79.

⁴⁹ According to Thouvenot, the north wall of room 8 was altered when the portico was transformed, and a doorway pierced to connect the interior of the house to room 19; "Maisons de Volubilis," 53.

⁵⁰ Ibid., 59, and n. 1.

⁵¹ Etienne divides the room into 22 and 22bis (*Quartier nord-est*, pl.17). Otherwise, Etienne's plan follows the original plan of Thouvenot.

shown as a continuation of wall *ac* on the published plan. Wall *ab* is actually located further south in the room, approximately 1.44 m north of furnace *f2* (fig. 28). It is constructed in brick, with a central opening in front of the furnace, and must have existed only in the level of the hypocaust. It is evident that this wall is an alteration to the original hypocaust, since it is not bonded to the walls of the hypocaust on the east or west. The width of the space created between the furnace and wall *ab* is in the normal range of hot pools at the site, making wall *ab* identifiable as a support wall for a pool. It indicates that one was added to this room.⁵² It is certain that this room was not divided as the original plan suggests. However, there may have been a proper wall dividing the room in half, located north of the division shown of the published plan. In the east wall, just south of the doorway from 21, a stump projects into the room, suggesting a cross-wall bonded to the east wall of room 22 (designated *aa* on fig. 28).⁵³ The presence of a wall, however, is not evident in the hypocaust, where piers normally support the wall in the room above. Room 22 seems to be a single, long room.

Room 22 provides access to room 23. Again, the published plan is not entirely accurate. Wall *ad* does not extend between rooms 23 and 22 to join wall *ac* as shown on the plan (fig. 27). In reality, it is formed by three piers, the northern and southern ones bonded to the adjacent walls, and the central one large and free-standing (fig. 31). The piers form two openings between the hypocausts of rooms 23 and 22. The south face of the northern opening still preserves the brick face of the southern jamb of the doorway. Room 23 is the hot bathing room heated by furnace *f1*. The apsed projection to the southeast of the room, above the furnace, contained the heated pool, which is destroyed. The hypocaust and mortar floor are preserved against the east wall of the room. Additional support from a

⁵² This is presumably the added support wall for a basin identified by Thouvenot ("Maisons de Volubilis," 59, n.1).

⁵³ Not identified in the publications.

wall (*ae*) has preserved this section of the *suspensura*.⁵⁴ The wall is pierced by a U-shaped channel open at both ends to the hypocaust of room 23. The channel extends under the floor of room 23a.

Room 23a can only be reached from room 23. Wall *af* is destroyed to floor level, a barely discernible divider of the two rooms. My cleaning of the wall revealed a door sill and step down into room 23a at the north end of the wall (fig. 32). The indentations in the mortar door sill for the wall are still preserved. The U-shaped channel under the floor allows hot air to circulate below the walking surface of this room.

Rooms 25 and 26 are water reservoirs, and only room 26 has a doorway to 23a.⁵⁵ The floors of rooms 25 and 26 are more than a meter below that of room 23a (fig. 33). The interior walls are thickly plastered, indicating that they were for water storage. The cistern mentioned by Thouvenot is presumably room 26, but he did not entirely excavate it.⁵⁶ Apparently he did not clear out the other cistern, room 25, since he includes it with room 23a as two rooms forming a cul-de-sac reached from room 23. Etienne is mistaken in his description of the two cisterns, calling them “*petites chambres de soins ou de repos*”.⁵⁷

The service room for the two furnaces of the baths is located in room 18. It is not possible to determine whether this room had access to the main part of the house through room 24, or where the doorway to the *cardo* was located, since the walls were completely destroyed in this area. They have been restored to a considerable height with doorways to the street, which Thouvenot states is not based on secure evidence.⁵⁸

⁵⁴ M. Ramdani identifies the preserved floor in room 23 as the hot pool (*solium*) of the baths, and the apse over furnace f1 as the *labrum* (“Système de Chauffage dans les thermes: Volubilis,” Thèse 2^{ème} cycle des Sciences, Institut National des Sciences d’Archéologie et du Patrimoine [Rabat 1991-1992] 44). No structure suggesting a pool exists, and since there is a doorway in wall *af* to room 23a, this identification is most certainly wrong.

⁵⁵ The doorway illustrated in fig. 27 between 23a and 25 does not exist.

⁵⁶ Thouvenot, “Maisons de Volubilis,” 59.

⁵⁷ *Quartier nord-est*, 79

⁵⁸ The doorways indicated on the plan of the house in this area are conjectural, and reflect the modern restoration. Thouvenot, “Maisons de Volubilis,” 57.

Palais de Gordien (C.4)

The so-called palais de Gordien (fig. 34) is a large building on the north side of the *decumanus maximus*, the easternmost of the excavated and published houses along this street.⁵⁹ This building has a special distinction at Volubilis. It is the largest building with a peristyle, covering an area of 4554 m², and an inscription from the building commemorates the restoration of a house with baths by the procurator, M. Ulpus Victor, under Gordian III.⁶⁰ At some point, not necessarily during the restoration mentioned in the inscription, the house was expanded, annexing the space of the *decumanus* north I which formed the boundary of the rear of the house.⁶¹ The size of the house and the inscription have led to the identification as the residence of the procurator at the site, and hence an official building.

The front of the building along the *decumanus maximus* is occupied by shops, and the principal entry to the house is at the west end of this facade (1). Several of the shops also have doorways to the interior, and in some instances the doorway was replaced by a solid wall. Thouvenot identifies the west half of the building as domestic and official, and the east half as commercial space, with the baths occupying the north end of this half.⁶² Distinguishing what is official about the west half is difficult. It has many of the features found in the other houses of the quarter, such as the large entry vestibule (1), central peristyle, *triclinium* (7) and other rooms arranged around the peristyle, and a smaller courtyard (17, the so-called *atriolum*) with rooms opening onto it. On the other hand, there is a third courtyard (22) with a basin, and a series of rooms occupying the north end, which

⁵⁹ Thouvenot, "Maisons de Volubilis," *PSAM* 12 (1958) 26-32

⁶⁰ *Imp(erator) Caes(ar) M(arcus) Antonius Gordianus Pius, Felix, invictus, Augustus, domum cum balineo / vetustate conlapsam / a solo restituit, curante / M(arco) Ulpio Victore, v(iro) e(gregio), proc(uratore) / prolegato. ILAfr 614; ILM I 74; ILM II 404.* The inscription was discovered in 1921, in the entry to the palais de Gordien, below the portico. The inscription is on a small plaque of marble, 0.44 x 0.544 m, 0.017 - 0.018 m thick, broken in six pieces; now in the museum of Volubilis.

⁶¹ It should be noted that excavations have not been conducted beyond the north limit of the house, making it impossible to know how this annexation affected the area between the building and the city wall. Most of the area behind the *decumanus* north I has not been excavated. Isolated excavations have uncovered portions of two unpublished houses, behind the maison de Dionysos et des Quatre Saisons, maison au bain des Nymphes and maison des Fauves along the north side of the *decumanus* north I.

⁶² Thouvenot, "Maisons de Volubilis," 44-45. Note that the rooms of the west and east halves of the building are independently numbered.

do not appear elsewhere in the quarter. Another aspect which raises questions about whether it was a residence is the “openness” of the rooms. They all connect with open spaces of the house, and are linked by long corridors (16, 24 and 30). The *triclinium* is also open on the north and south ends by triple bay doors, not a feature of the rooms identified as *triclinia* in the other houses at Volubilis.

Thouvenot found evidence of an earlier building in soundings conducted below the preserved level of the west half of the building.⁶³ He found an earlier phase for the architecture, and four inscriptions buried in vestibule 1.⁶⁴ The inscriptions demonstrate that part of the building once belonged to the Pompeii, and that it was constructed at the latest under Marcus Aurelius. The house must have resembled the other houses typical for this quarter.⁶⁵

The construction of the baths is generally identified with the restoration of the house commemorated by the inscription, when the building may have been expanded into the *decumanus* north I. The inscription, however, suggests that the house already had baths, since the house and baths are both said to have collapsed with old age.⁶⁶ This inscription also raises the question of whether the reconstruction was done *a solo*, or consisted of minor or major repairs to the extant set of baths.⁶⁷

The baths, in the northeast corner of the building, are entered through 35 from the area to north, which has not been excavated. This doorway provides an entrance to the baths from the exterior of the building. They can also be reached from the interior of the building

⁶³ Since the inscription commemorating a restoration implied the existence of an earlier structure, Thouvenot investigated below the preserved building; Thouvenot, “Maisons de Volubilis,” 41.

⁶⁴ *Ibid.*, 46; *ILM* II 427, 444, 445, 467

⁶⁵ Akerraz slightly alters the limits of the house determined by Thouvenot. He identifies an entrance (16b) onto a *cardo* which formed the original east boundary of the house of the Pompeii (A. Akerraz, “Nouvelles observations sur l’urbanisme du quartier nord-est de Volubilis,” *L’Africa Romana: Atti del IV convegno di studio, Sassari 12-14 dicembre 1986* [Sassari, 1987] 448).

⁶⁶ Thouvenot thought that the heated rooms (34 and 35) of the west half may have been the earlier baths, but rejected this identification since there is no solid evidence of provisions for water, and the isolated rooms would not form a complete bathing unit. Possibly an earlier set of baths were suppressed when the large baths were built. He states that in the final phase of the building, rooms 34 and 35 were evidently a heated apartment (Thouvenot, “Maisons de Volubilis,” 19).

⁶⁷ There is evidence of both repairs and alterations to the baths, see below, p. 68.

by a doorway in the southwest corner of room 32, although the exact route cannot be determined from the ruined state of this part of the house.⁶⁸ The unheated section has eight rooms. Six rooms are lined with benches (35, 32, 38, 36, 43, 33). Room 35 is the entry room, providing access to the long room (32), from which the other rooms of the bath are entered. Room 38 is apparently open across its length to room 32, and faces east through room 43 to the cold bathing 39 (fig. 35). Room 43 is also open along its length to the cold bathing room, with a central supporting pillar in both openings. The cold bathing room (39) has two pools (P1 and P2). Rooms 36 and 33 are accessible from room 32. Room 33 also opens to the cold bathing room (39) (fig. 37), while 36 is apparently a dead end.⁶⁹ The small circular room (44) is an unusual feature of the baths, and is accessible from the cold bathing room (39). It also leads through a deep doorway to room 45 of the heated section (fig. 40). There is currently a rough opening between rooms 33 and 44, but cleaning revealed the foundation of a wall continuing around the southeast circumference of the room (fig. 39).⁷⁰ The doorways to room 39 and room 45, on the other hand, have clearly identifiable sills, which still preserve some of the marble paving. Another unusual feature is the presence of a small peristyle in the northeast corner of the baths (40), entered by a corridor on the south side from room 39. It provided access and light to room 42 to the north. Along the east side, room 41 is a later addition, divided off from the peristyle. Built of reused material from the hypocaust, and plastered, it forms a water reservoir which post-dated the baths.⁷¹

The baths have three heated rooms. The first is the octagonal room (45) without a furnace. It can be entered from the cold bathing room and from the intermediary room 44. The hypocaust in this room has completely disappeared, but it is evidently connected to room 30, from where it draws heat. Room 30 is heated by furnace f2, located in the apsed east side. Room 29 was heated by furnace f1 (fig. 42). Thouvenot thought that 29a would

⁶⁸ A massive drain runs south to north under rooms 46 and 47 (east half). The floors appear to have collapsed into the drain.

⁶⁹ See below, p. 69.

⁷⁰ Thouvenot identifies a doorway between rooms 33 and 44 ("Maisons de Volubilis," 28-29).

⁷¹ Ibid., 29-30.

have been a separate room, but the debris of a collapsed pool shows that 29a actually marks the location of the heated pool over furnace f1 (fig. 43). Furnace f1 evidently warmed the water tanks for the pool, since a stairway was built along the southwest side of the furnace. The service room, 25/28, could only be reached from courtyard 18. The baths may have been connected to the north courtyard (24), which may have been an exercise area associated with the baths.

Evidence of restorations and alterations demonstrates that the baths were used for an extended period of time. The hypocaust of room 29 was supported by *pilae* constructed of two different materials. Some were built with bricks, which are destroyed. Others are columns carved from a single piece of "grès", complete with a circular drum for base and capital (fig. 44).⁷² Thouvenot suggests that the small columns originate from an earlier structure, such as an earlier bath, and are of poor quality material. These were replaced by columns built of semicircular bricks, perhaps as the limestone columns broke.⁷³

The north end of the cold bathing room was quite evidently modified from the original form. The pool (P2) is most certainly an addition to this end. The mortar used on the walls of the pool is different from the mortar used elsewhere. This is most obvious where the east end of the front of the pool joins wall *a* (fig. 46). A sandy yellow mortar covers the west side of wall *a* and extends behind the mortar on the front of the pool, which is redder from a higher crushed ceramic content. The addition of this pool also resulted in the blockage of doorways. A wall extended from wall *a* to *b*, across the opening shown on the plan to room 42. Several courses of this wall are still present, and appear not to be bonded to the south end of wall *a*. The stairs illustrated on the plan also do not exist. It is likely that an earlier doorway was blocked, probably when pool P2 was constructed. This also appears to be the case for a doorway between rooms 39 and 36. Wall *c* has collapsed between the west end of the pool and the east end of wall *d*. Cleaning of the debris in this gap revealed the presence of a large paving stone (*e*), rather than the foundation of a wall

⁷² The material of the columns is identified as sandstone (ibid., 26). The presence of fossilized marine organisms demonstrates that it is one of the yellow limestones quarried in the region.

⁷³ Ibid., 26-27.

(fig. 36). The doorway from room 33 to room 39 has a similar paving stone forming the threshold (fig. 37), confirming the presence of a doorway between rooms 36 and 39.

Although these baths are undated by archaeological criteria, the inscription suggests that the form of the baths is the result of a rebuilding in the mid-third century. However, the nature of the repairs to the baths recorded in the inscription cannot be easily determined from the architectural remains. There is no evidence of an earlier bath below the current one. It is possible that the inscription refers to modest repairs, in which case the form of the baths could be earlier than the reign of Gordian. There is evidence in the baths themselves of additions, alterations, and even repairs. The archaeological evidence includes the modifications to the *frigidarium* and the addition of different columns in the hypocaust of the heated rooms, which can hardly be equated with restorations carried out *a solo*. On the other hand, if the inscription is to be given its full weight, it suggests that the form of the baths as they are preserved is datable to the reign of Gordian III, and that the modifications and repairs to the structure are later. Only renewed archaeological investigation can resolve this question. The direct supply from the aqueduct is probably an important factor for determining when the baths were built, but again this is undatable. At the very least, the inscription is evidence that the baths were in operation during the reign of Gordian.

Maison au cadran solaire (C.5)

The maison au cadran solaire (fig. 47), excavated in the summer and fall of 1938, was not published until Etienne incorporated it into his study of the northeast quarter.⁷⁴ The house is bounded on the north by the *decumanus maximus*, where the principal entry (7) is flanked on either side by three shops, and on the south by the *decumanus* south I, where the aqueduct is laid down close to the rear of the house. To the east and west, the house is bounded by the maison au Bacchus de marbre and the maison aux deux pressoirs. The house, covering an area of 1060 m², is arranged around a peristyle and small courtyard.

⁷⁴ *Quartier nord-est*, 57-59. Etienne's discussion of the house is problematic, lacking a detailed study of the extant architecture. Note that the baths and house are independently numbered, reflecting Etienne's belief that they are unconnected.

The house shows considerable evidence of remodeling, in the subdivision of room 7 (7, 7bis and 7ter) and room 11 (11, 11bis and 11ter), and the rebuilding of walls in the shops (3 and 6). The most extensive changes took place when the baths were added. These are built in the former *cardo* which separated the maison au cadran solaire from the maison au Bacchus de marbre. The rear of the house, along the *decumanus* south I, also appears to be extended, filling the space left vacant between the house and aqueduct. Etienne does not discuss this part of the house in any detail, and one can only conjecture where the original house ended. The walls of the rooms at the rear of the house do not run parallel to each other. The current southeast limit of the house is, on the other hand, in line with the southeast limit of the maison au Bacchus de marbre, and both of these houses extend further southeast than the neighboring houses of the block to the southwest.⁷⁵

The baths, inserted into the space of the *cardo*, are restricted in width to 5.70 m. Etienne dismissed the idea that these baths belong to the maison au Cadran solaire, identifying the entry through rooms 1 and 2 from the *decumanus maximus*.⁷⁶ Certain features in their layout, however, strongly suggest that not only do they belong to the house, they are also only accessible from the interior. The rear wall of room 2 is solid, with no evidence of a doorway between it and room 2bis, which does communicate with the cold bathing room (3,4,5) of the baths.⁷⁷ The baths can only be entered from within the house by a corridor (a) extending off the east corner of the peristyle. Cleaning of debris revealed that the brick tile paving of room 3/4 extends into the threshold to corridor a. This confirms that the doorway is contemporary with the construction of the baths, despite Etienne's

⁷⁵ This raises questions about the organization of the quarter relating to the aqueduct. Do these two houses precede or follow the construction of the aqueduct? Were they later extended to fill the space left vacant after the construction of the aqueduct, or did the original construction of the houses fill the irregular space already created by the change in the axis of the aqueduct? Discussed below, pp. 74-77.

⁷⁶ *Quartier nord-est*, 100.

⁷⁷ Rooms 1 and 2 were probably commercial spaces, like the other rooms of the house fronting the *decumanus maximus*.

reservations.⁷⁸ The baths also occupy space belonging to the house. Furnace f1 and the hot pool 9 are located in what would originally have been a room of the house, room 11 of the baths. Communication between the various parts of room 11 (11, 11bis and 11ter) is not well-preserved. It does appear that corridor b leads to 11bis and 10, indicating that this area belonged to the house. From room 10, there is an exit onto the *decumanus* south I, with a modern bridge crossing the aqueduct to the *decumanus* south I. There are also the latrines (c), but these are not connected to the baths. Evidence for access to the latrines from the house itself is not preserved in the architecture, but they were probably accessible from the adjacent street.⁷⁹

The baths have two unheated (2bis and 3/4) and three heated rooms (6, 7 and 8). No features distinguish the function of 2bis, and it is not on the route through the baths to the heated rooms. Room 3/4 contains the cold pool (5), with the entrance at the south end to room 6. Rooms 6 and 7 are not heated directly by a furnace, and they provide access to room 8, which has two furnaces, f1 and f2 (fig. 48). In room 8, a hot pool (9) was located over furnace f1, but nothing remains of the installation. Furnace f1 was stoked from room 11, and furnace f2 from room 10. The hypocaust of the heated section has completely disappeared.

Thermes de l'îlot ouest (C.6)

The last baths at Volubilis (fig. 49) are situated behind the so-called west block of the *decumanus maximus*, installed between the rear of the maison aux néréïdes and the

⁷⁸ "Un couloir se dirige vers l'est, sans qu'on puisse assurer qu' une port communiquait avec les thermes." He continues with the description of this part of the house, mentioning that a corridor (b) extends south from the northeast corner of the peristyle between rooms 10 of the house and 11 of the baths, with doorways at the south end to rooms 10 and 11 of the baths (*Quartier nord-est*, 58). Under the description of the baths, he also writes "La porte de communication entre le promenoir et la Maison au Cadran solaire ne semble pas appartenir au plan primitif des thermes; ce serait donc seulement plus tard que le propriétaire de la Maison au Cadran solaire s'en serait rendu maître, sans pour cela qu'on puisse croire à une transformation en thermes privés" (ibid., 102).

⁷⁹ Ibid., 107. The latrines are evidently public. They are typically three-sided, but the surrounding wall and seating are not preserved. It is impossible in their current state to identify how and from where they were accessible.

aqueduct, in the *decumanus* south 1.⁸⁰ They have no communication with the neighboring house, either at the entrance to the bathing rooms or at the service area. The doorway of the service room (5) opens to a narrow space left between the aqueduct and the southwest wall of the baths.

The baths, sandwiched between the house and the aqueduct, are reached from the *decumanus maximus* by *cardo* south III, which separates the maison aux néréïdes from the maison aux deux pressoirs. The *cardo* must have become a blind alley after the construction of the aqueduct, which reaches a considerable height and blocks the south end of the street. The maison aux néréïdes has three doorways to this *cardo*, and the maison aux deux pressoirs one door, blocked with the addition of the two oil presses here. At some point, a substantial doorway was built across the opening of the *cardo* to the *decumanus maximus*, of which the door sill with cuttings for the leafs of the door is still in place (fig. 50). This door appears to transform the street into a private alley, connected to the two houses and baths, and indicates restriction of access. The street has not been completely excavated to the level of the ancient surface, which would help to determine how it relates to the entrances of these three units. Akerraz suggests that it was the blocking of the *cardo* by the aqueduct which provided the opportunity for appropriating this space, and also freed the portion of the *decumanus* south I immediately behind the house for construction of the baths.⁸¹

The baths are simply laid out in a single row, consisting of three unheated rooms (1, 2 and 3) and probably three heated rooms (4a-c). The first two rooms (1 and 2) are lined with mortared masonry benches, and room 3 has the cold pool on the south side. Beyond this lies the area of the heated rooms (4). The interior walls and hypocaust have disappeared, but traces of the walls which separated the heated area into three rooms are still visible in the north and south walls of the baths. These rubble and concrete walls are preserved to a considerable height, and the bonded stones from the root of the cross walls

⁸⁰ Ibid., 102; Thouvenot, "Le quartier nord-est; la rive sud du Decumanus Maximus," *PSAM* 8 (1948) 129-131.

⁸¹ Akerraz, "Nouvelles observations," 453.

are still visible.⁸² The first two rooms have no furnace (4a and 4b). The hot bathing room (4c) has a furnace at the west end, where there is evidence for a heated pool. The south wall of room 4c has an apse in it, perhaps for another pool, or for a basin. The service room for the baths opens on the south side to the narrow space between the baths and the aqueduct.

The chronology of the houses and baths in the northeast quarter

In the absence of ceramic dating or stratigraphic distinctions from the excavations of the 1940's and 1950's, determining the chronology of this part of the city has been difficult. Three scholars have proposed chronologies for the quarter, based on assessing the urban expansion from the earlier center around the forum. The development of this quarter and dating of the houses were first examined by Etienne.⁸³ His basis for attributing a date to the urbanization of this quarter is a sounding completed in 1958, in the *decumanus maximus* near the maison au Bacchus de marbre. He only identifies material of the third century AD, and maintains that nothing supports development of the quarter prior to the end of the second century. Two other points of reference he uses are the city wall which surrounds the northeast quarter and the palais de Gordien. He believes that the wall surrounded an undeveloped piece of land, with only the palais de Gordien predating the wall in this quarter.⁸⁴ The building up of the quarter occurred after the area was enclosed by the wall. He also assumes that the original building on the site occupied by the palais de Gordien was completely rebuilt from the foundations up when the baths were constructed, under Gordian III, as attested by the inscription. On the basis of this information, he suggests that the plan of the palace, construction material, method of construction and

⁸² These walls are marked on the plan by parallel lines instead of solid lines.

⁸³ *Quartier nord-est*, 143-155.

⁸⁴ *Ibid.*, 4. Etienne states that he follows J. Carcopino (*Le Maroc antique* [Paris 1948] 167-190), who believes Juba II must have had a residence in this central town in Mauretania Tingitana. The works of art found at the site, Carcopino also reasons, must come from the dispersed royal collection. He suggests that the residence of the Roman procurator could only be in the location of the large palace of the king. This theory was dismissed by the exploration of Thouvenot into the earlier architecture of the building ("Maisons de Volubilis," 41-47). He clearly reveals that the building, on the basis of four inscriptions found in the vestibule of the west half of the house and archaeological soundings, was a typical house belonging to the family of the Pompeii (see above, p. 66).

decorative elements such as column capitals must serve as a point of reference for dating the other houses in the quarter, either earlier or later than 238-244 AD.

Etienne dates all of the houses in this quarter according to these criteria and the stylistic and iconographic dating of the mosaics. He identifies the maison aux travaux d'Hercule as the earliest, dated to the time of Commodus by the mosaic of the *triclinium*,⁸⁵ and the maison au cortège de Vénus as the latest.⁸⁶ He proposes the development of the north side of the *decumanus maximus* as proceeding from west to east.⁸⁷

Rebuffat rejected Etienne's criteria for dating the evolution of the quarter.⁸⁸ He proposes a different chronology, based on the results of the excavations, and a reappraisal of the urban expansion in this quarter. Three different axes apparent in the plan of the quarter are identified, representing three different phases of development. The aqueduct, dated to the end of the first century, is the earliest of the axes, with the maison au bassin tréflé and the maison sans péristyle aligned to it. The second is the axis of the insula of the maison au cortège de Vénus and the thermes du nord, attributed to the early second century. The third axis is defined by the construction of the wall, and the urban growth contemporary or slightly later.

More recent exploration of the architecture in this quarter has suggested a different approach. Akerraz begins with an identification of datable features within the quarter.⁸⁹

⁸⁵ Etienne associates the theme of Hercules with allusions to Commodus (*Quartier nord-est*, 34), following G. C. Picard's dating of the maison de M. Asinius Rufinus at Acholla ("Deux sénateurs romains inconnus," *Karthago* IV [1953] 119-135). Akerraz is much more cautious in using this as a basis for dating the house, discussed below.

⁸⁶ *Quartier nord-est*, 148-149. The discovery of two coins of Volusian in the drains of the house is used by Etienne to support a date of the mid-third century (*ibid.*, 144). However, the coins in this context would have to be deposited after the construction of the drains, at any time during the existence of the house.

⁸⁷ *Ibid.*, 148, where he provides a table for all of the houses in the order in which he believes they were constructed.

⁸⁸ R. Rebuffat, "Le développement urbain de Volubilis au second siècle de notre ère," *BAC* n.s. 1-2 (1965-66) 231-240.

⁸⁹ Akerraz, "Nouvelles observations," 445-457; followed by additional material for dating the northeast quarter in A. Akerraz and E. Lenoir, "Volubilis et son territoire au Ier siècle de notre ère," *L'Afrique dans l'Occident romain: 1er siècle av. J.-C. - IVe siècle ap. J.-C.* (CEFR 134, Rome 1990) 213-229.

The construction of the wall is fixed at 168-169 AD by inscriptions.⁹⁰ Contrary to Etienne, Akerraz does not believe that the wall surrounded an undeveloped piece of land. He points out that if, as Etienne suggests, the *maison aux travaux d'Hercule* dates to the reign of Commodus, the quarter would have been empty for ten years. He agrees with Rebuffat's arguments that the wall followed the expansion of houses into the quarter. The other datable feature is the earlier phase of the *palais de Gordien*. The four inscriptions found in the vestibule establish that the west part of the house belonged, before its enlargement, to the family of the Pompeii. This phase is dated by the inscriptions to the time of the Antonines.⁹¹ The evidence supports the existence of at least this house by the middle of the second century.

Reinvestigation of the *maison sans nom* and the *maison aux gros pilastres* clearly shows that houses were built in the southwest end of the quarter by the end of the first century, contradicting Etienne's assertion about the third century development.⁹² Akerraz determined that the *maison aux gros pilastres* also precedes the construction of the city wall.⁹³ The aqueduct, which has a strong relationship to the layout of the quarter, is undated, except for the circumstantial finds of coins dated to the reign of Antoninus Pius in it. It is unlikely, however, that the *thermes du nord* would have functioned without this major water source, and these baths are now securely dated to the Flavian period, around 80 AD.⁹⁴ Akerraz is also able to demonstrate that the aqueduct respects the orientation of the houses along the south side of the *decumanus maximus*, confirming that these houses are earlier than the aqueduct.⁹⁵ Those houses which are built obliquely to this orientation respect the axis of the aqueduct, and follow its construction, the opposite of Rebuffat's proposed pattern for the growth of the quarter. Thus development of the quarter began in the last

⁹⁰ E. Frézouls, "Inscriptions nouvelles de Volubilis, II," *MEFR* 68 (1956) 122.

⁹¹ Akerraz, "Nouvelles observations," 447; Thouvenot, "Maisons de Volubilis," 47.

⁹² Akerraz, "Nouvelles observations," 455; Akerraz and Lenoir, "Volubilis et son territoire," 216-218.

⁹³ Cf. observations of M. Makdoun on the relationship of the house and the city wall, "Encore sur la chronologie du quartier nord-est de Volubilis," *L'Africa Romana: Atti del X convegno di studio, Oristano, 11-13 dicembre 1992* (Sassari, 1994) 275-276.

⁹⁴ Akerraz, "Nouvelles observations," 457; date of *thermes du nord* by Lenoir, "Therms du nord."

⁹⁵ Akerraz, "Nouvelles observations," 454-455.

quarter of the first century AD, and preceded the construction of the wall.⁹⁶

Dating the individual houses, and more importantly the houses with baths, has been done with limited success. Only the baths of the palais de Gordien are dated, rebuilt according to the inscription under the reign of Gordian III. Even so, this is problematical. Although the house and baths of the inscription are identified uncontestedly with the palais de Gordien, it is uncertain how extensive the restorations are. The inscription indicates that the baths were functioning in the mid-third century.

A relative chronology of development has been determined for the maison aux Travaux d'Hercule. A recent study of the portico in front determined that the house, considered the earliest by Etienne, followed the construction of the maison de Flavius Germanus, and developed in three phases. The boutiques and portico on the *decumanus maximus* preceded the construction of the maison aux travaux d'Hercule, and the baths are a later addition to the house.⁹⁷

The two baths on the south side of the *decumanus maximus*, the baths of the maison aux cadran solaire and the thermes de l'îlot ouest, are linked to the construction of the aqueduct.⁹⁸ The houses on this side of the *decumanus maximus* precede the construction of the aqueduct, and both baths are constructed after the houses. In both examples, the baths are built in space freed up by the construction of the aqueduct. The space left between the aqueduct and the rear of the houses was separated from the *decumanus* south I. The *cardo* in which the baths of the maison au cadran solaire were built and the *cardo* which provides

⁹⁶ The various discussions of urban growth in this quarter have made scant use of renewed archaeological investigation. Attempts to rectify this problem have been undertaken recently by students of the Institut National des Sciences de l'Archéologie et du Patrimoine. Numerous soundings have been conducted as research for theses, although reports from these soundings have not been formally published. The soundings of Makdoun ("Encore sur la chronologie," 263-281) and A. Ouahidi ("Nouvelles recherches archéologiques sur les huileries de Volubilis," *L'Africa Romana: Atti del X convegno di studio, Oristano, 11-13 dicembre 1992* [Sassari, 1994] 289-299), while not fully published, continue the accumulation of material demonstrating that the urbanization of the northeast quarter began before the end of the first century AD, and that the development is more complex than the earlier theories suggest.

⁹⁷ Unpublished. Cited by Akerraz, "Nouvelles observations," 452, n. 22

⁹⁸ *Ibid.*, 453.

access to the thermes de l'îlot ouest are blocked or partially blocked by the aqueduct.⁹⁹

The maison au cortège de Vénus, on the south side of the *decumanus* south I, follows the axis of the aqueduct, which turns slightly eastward at this block. According to Akerraz, this suggests that the block follows the construction of the aqueduct, which determines its orientation.¹⁰⁰ The baths of the house are clearly added in a remodeling of the portico, but there is no satisfactory dating material to fix the date of the house or the baths.

It seems likely, in any event, that the presence of the aqueduct was important for the development of these small bathing establishments in the northeast quarter. The baths could have been built any time after the construction of the aqueduct, as early as in the late first century or early second century AD. There is evidence that the baths were in use for some time, since they required repairs to the hypocausts and floor mosaics.

⁹⁹ New soundings revealed the original paving of the *decumanus* south I below the extensions of the maison à la monnaie d'or, confirming the observations of Akerraz (Makdoun, "Encore sur la chronologie," 274).

¹⁰⁰ Akerraz, "Nouvelles observations," 454-455.

PART II: ALGERIA
MAURETANIA CAESARIENSIS

Caesarea (Cherchel)

Caesarea (fig. 51) was founded under Juba II (25 BC-23 AD), on the old Numidian city Iol, as the capitol of the new Numidian kingdom. After the annexation of Numidia in 40 AD, it became the capital of the new province, and received colonial status shortly after under Claudius as Colonia Claudia Caesarea.¹⁰¹ The urbanization of the city can only be studied through small isolated excavations, which reveal the orthogonal layout of some of the city.¹⁰² The later history of the city, particularly the fourth century, is not well represented among the epigraphic sources¹⁰³ or the monuments, but Leveau demonstrates that there is enough evidence to contradict the impression of decline usually identified for this period.¹⁰⁴ In particular, he cites the evidence of late mosaics from domestic architecture.

From the distribution of remains of the houses of the rich, Leveau is able to demonstrate that there does not appear to be a specific area which can be referred to as the aristocratic quarter at Caesarea.¹⁰⁵ The houses are found throughout the area of the ancient city, and the scattered traces of industrial and commercial activity also demonstrate that the different areas of the city housed a variety of buildings alongside the residential.¹⁰⁶

¹⁰¹ *Bas-Empire II*, 513.

¹⁰² *Caesarea*, 71-73. Excavations in the 1960's in the west end of the city, on the propriété Kaïd-Youssef (J. Lassus, "L'archéologie algérienne en 1959 et 1960," *RAfr* 105 [1961] 441) uncovered 300 m of a *decumanus*. Evident in the orientation of the grand temple ouest to the north of the street, this *decumanus* was intersected by a *cardo* at right angles. In the east end of the city, salvage excavations undertaken when the new *gendarmerie* was built uncovered the placement of *cardines*, with a space of 35 m between their axes, but the spacing of the *decumanus* that was uncovered had to be theorized. The orientation of the streets and public monuments conforms to a regular layout, with very little difference. Leveau concludes that Caesarea already had buildings in the west quarter by the end of the first century BC, and the layout of the center and eastern part are dated by the theater and amphitheater to Juba's reign (*Caesarea*, 78).

¹⁰³ *Ibid.*, 88.

¹⁰⁴ *Ibid.*, 213-214. He supports this assertion with the evidence of restorations to the city wall and the thermes de l'Ouest, and material from the forum.

¹⁰⁵ *Ibid.*, 68.

¹⁰⁶ *Ibid.*, 70.

Only four of the 35 houses cataloged by Leveau contain baths. These are the maison des Julii (C.7), also known as maison des Graces after the mosaic from the baths, the maison de la Propriété Marcadal (C.8), the maison de la propriété Kaïd-Youssef (C.9) and the maison de la mosaïque de Minerve (C.10). Three large public baths are also known in the city, and perhaps four small baths.¹⁰⁷

Maison des Julii (Maison des Graces) (C.7)

Explored first in 1882, then again in 1886 by Waille, the maison des Julii (fig. 52) lacks a detailed publication or record of the excavations. Interpretation is based on a plan published by Waille¹⁰⁸ of the partially excavated building. Leveau offers a description of the features shown in the plan, and the material found at the site.¹⁰⁹ He estimates more than 2800 m² for the area of the building, which is evidently no longer visible. The northwest section on the plan is the best preserved, where several figured mosaics were discovered.¹¹⁰ The most notable feature is the large room (A), approximately 12 m by 10 m, which has two apses preserved at the east end, and half of a third apse, called the room of the three apses.¹¹¹ He identifies this room as the reception room or dining room, of the type which becomes popular in the third century.¹¹² There is little else to determine what type of architecture this building represents. The usual features for identifying a residential building, such as a peristyle, *triclinium* and smaller chambers, have not been uncovered.

¹⁰⁷ Ibid., 54-55. The public baths are the thermes de l'Ouest (possibly second century), thermes du Centre (lost, no date), and the thermes de l'Est (no date). The small baths are one on the Volto property, and catalog numbers 31, 33, 34b (Leveau, "Maisons nobles" 146, 148, 152-153). The last three are tentatively identified as domestic baths, although no house was excavated in association with them. They are very small baths, ranging in size from 30 m x 20 m, 16.5 x 9 m, and 16 m x 7 m.

¹⁰⁸ V. Waille, "Nouveau rapport sur les fouilles de Cherchel en 1903-1904," *RAfr* 48 (1904) pl. 8.

¹⁰⁹ Leveau, "Maisons nobles," 112-115, catalog no. 2.

¹¹⁰ In the central aisle of the room with apses is a mosaic of a stag and lion hunt, and at the west end of the room a nereïd and centauress. In the room to the west is the mosaic of the three Graces and to the south a mosaic of the head of Ocean (ibid., 112). The mosaics are dated to the mid fourth century, except for the head of Ocean, which comes from a lower level (K.M.D. Dunbabin, *The Mosaics of Roman North Africa. Studies in Iconography and Patronage* [Oxford 1978] 254).

¹¹¹ Leveau suggests that there is also space for a fourth apse, at the southern end of the room ("Maisons nobles," 112).

¹¹² Ibid., 159.

Waille reports that the mosaic of the three Graces (room B) decorated the baths of the house. The room is apparently reached from the west end of room A, in line with the mosaic-paved aisle, although the mosaic has a different orientation from the mosaics in room A. Waille records two semi-circular pools with lead pipes to supply water, and a cistern that may belong to the baths.¹¹³ The plan, however, gives little detail for identifying the baths, and no traces of hypocaust rooms and furnace are mentioned. Leveau prefers to identify the apse of the room with the mosaic of the Graces as an “*abside-nymphée*”, and does not include this among the houses with baths.¹¹⁴

Maison de la propriété Marcadal (C.8)

Waille excavated only a portion of the maison de la Propriété Marcadal (fig. 53).¹¹⁵ The plan was published with notes, but lacks a detailed commentary. From it Leveau estimates that the area covered by the exposed building is 900 m².¹¹⁶ The northwest part, covered by a grid pattern on the plan, he identifies as a paved area or street, from which five steps lead up to what he identifies as a porch. Southwest of the stairs is a space with what appear to be eight bases indicated, which may be the colonnade of a peristyle (E).¹¹⁷ The room is crossed by a corridor, leading on the southwest to a well connected to a cistern (F). It is difficult to identify any of the other features on the plan, except for the baths.

The baths are located in the east part of the exposed area. One hypocaust room (A) and a larger room (B) with a pool at the southeast end are reported by Leveau.¹¹⁸ The latter appears to have several entrances, from the southwest, the northwest, and the northeast,

¹¹³ Waille, “Nouveau rapport 1903-1904,” 58.

¹¹⁴ Leveau, “Maisons nobles,” 112.

¹¹⁵ V. Waille, “Rapport sur les fouilles exécutées à Cherchel (1901),” *RAfr* 46 (1902) pl. 8.

¹¹⁶ Leveau, “Maisons nobles,” 130 (catalog no. 16)

¹¹⁷ Leveau wonders if this is an elongated peristyle, or a room with columns (*ibid.*, 130). The two bases at the southeast end and the two at the northwest end appear to line up with engaged bases or wall ends to the northeast to southwest. If this is the case they would form a triple bay door for two rooms (E1 and E2), and E3 would be a light well with four columns.

¹¹⁸ It is difficult to determine from Leveau’s suggestion whether he considers room B to also have a hypocaust “*une salle à hypocaustes (A) voisine d’une autre, plus vaste (9 m sur 6 m environ) et terminée au sud-est par une abside occupée par une petite piscine avec gradins à l’intérieur (1,90 m de large, sur 0,90 m de profondeur)*” (*ibid.*).

which communicate with other parts of the building. This ease of access indicates that this is the cold bathing room. Normally it is not possible to determine the depth of the heated pools, which collapse with the hypocaust, but they are generally not as deep as the cold pool.¹¹⁹ The two bases marked in the room may represent pillars, since their size is greater than the *pilae* indicated in the hypocaust room A. How room A was entered is not evident, nor its relationship to rooms C and D, which lie to the northeast of room B. With no indication of floor depths, it is difficult to determine any more about the layout of the baths. There appears to be a doorway indicated between rooms B and C, which could be the beginning of the heated part of the baths. Room D, on the other hand, appears to have a doorway to the corridor located on the northwest side.¹²⁰ It is possible that rooms A, C and D are the heated section, giving at least three heated rooms for the baths. No other features can be determined.

Maison de la propriété Kaïd-Youssef (C.9)

Excavated in the 1960s, this is the only fully exposed peristyle house (fig. 54) from Caesarea, uncovered as a salvage operation and published with a complete plan.¹²¹ The total area of the house is greater than 2330 m², making it one of the largest known from this site. The principal entry is on the south side, opening to the *grand decumanus* through a portico.¹²² Three or more boutiques on the front of the house open to this street. The house

¹¹⁹ The cold pool, which usually has three steps in the interior, is 0.90 to 1.10 m deep. Nielsen suggests a similar depth for the *alveus* (*Thermae et Balnea*, 157), which may be true of large heated pools in public baths. The partially preserved heated pools of the maison de Orpheus (C.1) at Volubilis, however, would not have been this deep.

¹²⁰ The location of hypocaust openings for heat to circulate is not evident on the plan. The opening in the northwest wall of room D may be the location of a furnace, lit from the corridor. In the north corner of room B there appear to be stairs marked, and an opening to the corridor. This suggests that the corridor is at the level of the hypocaust floor, which is appropriate for a service corridor.

¹²¹ The house is mentioned by J. Lassus ("Archéologie algérienne en 1959 et 1960," *RAfr* 105 [1961] 441), and later soundings below mosaics established dates of the first and second centuries AD for the early ones, but the preserved phase and baths are undated (S.A. Baghli and P.-A. Février, "Travaux et recherches en 1966-1967," *BAA* 2 [1967] 1).

¹²² Leveau, "Maisons nobles," 136 (catalog no. 24); Lassus records an area of 3600 m² ("Archéologie algérienne," 441).

is separated by another *decumanus* to the north from the so-called *grand temple*, and borders on an unexcavated house to the east and west. The rooms are organized around a central peristyle, including a *triclinium* (4) on the north side, and another large room (3) with niche at the rear on the west side. A smaller peristyle is adjacent to the latter on the north. The other identifiable space is the storage area with *dolia*, in the northeast corner of the peristyle.

The baths are situated in the northeast corner of the house. The individual rooms are unclear on the plan, and Leveau is not able to offer much clarification. He identifies a doorway to the baths from the north side of the peristyle, without specifying its location, and the cold pool (7) with three interior steps.¹²³ He describes one water channel extending from the peristyle to the area of the baths, and another evacuating the water to the north. The walls of the cold bathing room are difficult to identify. There are several unshaded walls and some type of division of the room running approximately northwest to southeast to the west of the pool. Room 8 may be a cistern, not connected to the other spaces and enclosed by the cold bathing room, room 11 and room 5. Although Leveau states that the position of the heated rooms does not appear on the plan, the hot bathing room at least is identifiable. Room 12 has the location of the heated pool marked at the southern end by the internally projecting walls, and the furnace is evident in the elongated opening in the wide south wall. The entry to this room from the rest of the baths is not indicated. Room 13 must be the furnace room, for which the access is not clear. Possibly it lies to the south through room 14, or it is connected to room 11. Room 11 has an opening to room 13, but the walls of room 11 are presented as not bonded to the adjacent walls. Room 9 has a narrow opening on the south side to room 11, and another one on the north to room 10. Room 10 appears to have an opening on the north side to the *decumanus*. It is probable that rooms 9, 10 and 11 are part of the heated section of the baths, but the function and relationship of these rooms cannot be determined from the plan. These baths appear to have four heated rooms (11, 9, 12 and 10), and one unheated room.

¹²³ Ibid.

Maison de la mosaïque de Minerve (C.10)

The house (fig. 55) on the promontory of the lighthouse, uncovered in 1958-1960 excavations, is only partially excavated, revealing several rooms with mosaics.¹²⁴ The most notable one is the large room (A) with a niche at the south end, in which the mosaic of Minerva was found. This room had a hypocaust floor in an earlier phase, traces of which remain in the north end.

Part of the baths for the house is identified to the northwest of this room by Leveau.¹²⁵ He notes that the baths are inserted into a narrow space, unlike the regular layout of the other rooms of the house. The furnace of the heated room (C) shares the service area (B) of the furnace of the hypocaust originally in room A. The extended passage of the furnace in the southeast end of room C is evident on the plan. Leveau states that the room was originally *trilobed*, but that the two lateral niches were blocked.¹²⁶ This seems unlikely, since a niche on the southwest side would block the only identifiable point of entry from the other rooms to the southwest. The northeast niche may have held a basin, in the manner seen in baths at Volubilis. The indenting of the northeast-southwest walls at this end of the room suggest that a pool was located over the furnace. Rooms D and E to the southeast of room C are paved in concrete, but the relationship of the floor levels here and in room C are not recorded. The only notable aspect is the southeast and northeast wall of room E, and southeast wall of room D. These walls appear to be constructed in a different manner from the wall to the northwest of these rooms, the walls of room C and the walls of the rooms in the house. The access to the baths is not preserved on the plan, and no date is given to the baths or the house.

¹²⁴ Lassus, "L'archéologie algérienne en 1958," 228-230; Leveau, "Maisons nobles," 144 (catalog no. 30).

¹²⁵ Ibid.

¹²⁶ Ibid.; A. Lézine, *Architecture romaine d'Afrique, recherches et mises au point* (publications de l'université de Tunis, Faculté des lettres et des sciences humaines, 1^{ère} série n° 9, Tunis, n.d.) 22, n. 82.

Other small baths from the site

Two baths in Leveau's catalog, located in the suburbs of the ancient city, may be domestic. Due to their partial excavation, they lack decisive features associating them as residences. The first (fig. 56) is located two kilometers east of the modern city, on the Propriété Blasco, uncovered in 1939 and unpublished until Leveau studied it.¹²⁷ It consists of a room with hypocaust floor (B) and a basin (C) at the north end, with another room (D) north of the basin and a water channel. The room to the north may be the service room, but no furnace is evident. Another room (A) to the south of the hypocaust room is partially excavated, evidently without a hypocaust, and with a doorway between it and the previous room preserved at the upper level of the hypocaust. A narrow corridor (E) extends down the west side of the basin and rooms, with no access to them. The total exposed area of the baths measures 16 m by 7 m. A notable feature of the baths is the large number of vaulting tubes from their ceiling found in the excavation. Near the baths, the only other remains uncovered are a series of stepped basins and tombs. Based on this evidence, it is difficult to define these baths as private domestic baths. They could be an independent establishment or belong to some suburban residence associated with the basins.

The second baths, the thermes de la propriété Volto (fig. 57), are located south of the French city wall, by the ancient gate of Miliiana. They were discovered in 1921, and identified as the baths of a house.¹²⁸ The plan provides no indication of doorways or access between the rooms. To the north on the plan are two rooms (A, B) with semi-circular basins on the north side, and a room with hypocaust flooring (C). South of these rooms is a large room with a mosaic floor (1) depicting nine muses in medallions and the latrines with a mosaic of a slave (2). The other areas further south are not discussed by Leveau. The rooms of the baths must be relatively small, since the entire excavated part only measures about 20 m by 20 m. Leveau maintains that latrines are only present in public baths, and

¹²⁷ Leveau, "Maisons nobles," 146 (catalog no. 31).

¹²⁸ E. Albertini, "Découverte à Cherchel de plusieurs mosaïques," *BAC* (1921) xxv-xxvi; "Note sur les fouilles de Cherchel," *BAC* (1923) cxvi-cxvii; Leveau "Maisons nobles," 146 (catalog no. 32).

therefore these cannot be part of a house.¹²⁹

NUMIDIA

Cuicul (Djemila)

Cuicul (fig. 58) is situated on a high plateau between two *wadis* in the extension of the Biban and Mégris mountains. The original city was founded as a colony of veterans, either under Nerva or Trajan.¹³⁰ The location of the original settlement on the promontory can be traced from the early city wall, despite considerable alterations to the urban layout, and covered an area of only 400 m by 200 m. The urban growth to the south of the old city occurred during the middle of the second century AD, and the grands thermes du sud were built under the reign of Commodus, in 183-185.¹³¹ The next major phase in the city's development is the construction of the so-called forum of the Severans, south of the old wall in the newer part of the city. Building of public structures continued into the late fourth century, most notably the basilicas and Christian quarter, and coins attest to continued activity in the fifth and sixth centuries. The latest evidence for the history of the city is the presence of the bishop of Cuicul at the council in Constantinople in 533.¹³² Excavation of

¹²⁹ Ibid., 148. Leveau accepts this argument based on the work of R. Rebuffat, *Thamusida II* (Paris 1970) 195-196; for evidence to the contrary, see maison d'Europe at Cuicul, see below, pp. 185-186.

¹³⁰ The evidence for its foundation as a colony of veterans comes from parallels with inscriptions at Sétif (*Colonia Nerviana Augusta Martialis veteranorum*; CIL VIII 8441). Both colonies had Mars Augustus as their patron deity. The predominance of the tribe *Papiria* also suggests that the original foundation dates to the time of Nerva or Trajan (*Bas-Empire II*, 402; cf P.-A. Février, "Note sur le développement urbain en Afrique du Nord," *CahArch* 14 [1964] 4-6, fig. 1,2,5; founded as a colony for veterans under Nerva, P.-A. Février, *Djemila* [Algiers, 1968] 13).

¹³¹ Février, *Djemila*, 17.

¹³² Ibid., 19-23. The two large basilicas (églises nord et sud), chapel, and baptistery with a small bath complex in the extreme southeast of the expanded city are traditionally dated to the late fourth (église nord) and early fifth centuries A.D. (église sud) (P. Monceaux, "Découverte d'un groupe d'édifices chrétiens à Djemila," *CRAI* [1922] 400-401; cf. Février, "Développement urbain," 15-19). Février has argued for a sixth century date for the basilicas, which he concluded were contemporary constructions, through a reidentification of the people commemorated in the mosaic inscriptions ("Remarques sur les mosaïques de basse époque à Djemila," *BAntFr* (1965) 85-92). The mosaic decoration has been redated by J. Christern to the early fifth century, and later (*Das Frühchristliche Pilgerheiligtum von Tebessa* [Wiesbaden 1976] 137-144). The most recent study (I. Gui et al., *Basiliques Chrétiennes d'Afrique du nord I* [Paris 1992] 93, 96) stresses the tenuous links upon which all of these dates are based.

the city was primarily achieved under Ballu, who extensively restored the public monuments and consolidated the remains of the houses.

The private baths are located in the area designated as the *quartier central* by Blanchard-Lemée. This quarter comprises the old city, located in the northern part of the excavated city.¹³³ The original layout is obscured by successive alterations over three centuries, but it is possible to trace the *cardo maximus*, *decumanus maximus* and regular grid pattern in the alterations.¹³⁴ This quarter contains the original forum, a temple, and public baths and a late cemetery church, but is mostly given over to large peristyle houses and some less distinctive private installations. The most elegant of the houses, all three with private baths, are on the east side of the road identified as the *grand cardo*: the maison de Castorius, the maison de l'âne, and the maison d'Europe. The fourth house with baths, the maison aux stucs, is on the west side of the same street. The other three houses of the central quarter studied by Blanchard-Lemée, the maison aux murs de briques, the maison d'Amphitrite, and the maison aux petits bassins, are without baths. There are more than a dozen buildings in addition to these houses not included in Blanchard-Lemée's study, too poorly preserved to understand their plan or identify the type of building. The areas of the north and west slope of the city have eroded.

Maison de l'Âne (C.11)

The maison de l'âne (fig. 59) is a peristyle house excavated between 1909 and 1910 and published by A. Ballu.¹³⁵ The house covers an area of 870 m² including the porticoes on *cardines* to the east and west, and has stairs indicating a second story. The *cardo*

¹³³ *Maisons à mosaïques*, 15.

¹³⁴ *Ibid.*

¹³⁵ A. Ballu, "Rapport sur les fouilles exécutées en 1909 par le service des monuments historiques d'Algérie," *BAC* (1910) 105; "Rapport sur les fouilles exécutées en 1910 par le service des monuments historiques d'Algérie," *BAC* (1911) 106. Extensive restoration of the architecture was conducted under Ballu and succeeding directors of the site, frequently destroying or obscuring the original features of the building. Using photographs from the time of excavation and from the succeeding decades, Blanchard-Lemée is able to reconstruct the original form of the house and the extent of restoration; *Maisons à mosaïques*, 33-42.

maximus flanks the house to the east, where the only shop (VII) of the house is located. Room VIII opens to the street, and has a second doorway on the north side to room IX and the interior. In its current state, corridor IIb, an extension to the east of the south aisle of the peristyle, opens to the *cardo maximus* with no evidence of a barrier to the exterior. To the west lies the *grand cardo*, onto which the principal vestibule (1) opens. The vestibule leads through a wide doorway flanked by columns to the peristyle on the south. The south facade of the house is separated from a temple of unknown dedication by a *decumanus* four meters wide. On the north side, the house is limited by the enclosure of the temple of *Venus Genetrix*, and the *cella* of the temple is bounded on the east and west by rooms of the house which incorporate the temple walls. The baths (XIV, XVI-XIX) and the fountain room (XI) are built against the *cella* of the temple, in the space between the original north wall of the house and the precinct wall flanking the temple to the east and west.¹³⁶

The baths are evidently an extension to the north of the original house. How they were entered, whether from the exterior or the interior of the house, is not entirely clear from the published accounts or the plan, both of which leave doubt about the point of access. Blanchard-Lemée identifies an entrance in the west and east ends of the cold bathing room (XIV).¹³⁷ However, the west wall is occupied by pool P1, and the east wall by the raised podium of the temple and pool P2. The first door must be in the west end of either the south or north wall of the room, and the second door must be the one that leads from XIV to XVI at the east end of the north wall, adjacent to the podium of the temple. There is evidently a doorway at the west end of the north wall in room XIV, communicating with the service room for the furnaces (XIX), and which is probably Blanchard-Lemée's

¹³⁶ *Maisons à mosaïques*, 17. The original northern limit of the house is marked by points M-M' on the plan (fig. 59).

¹³⁷ *Ibid.*, 29: "la première (porte), à l'ouest, est séparée de la façade par un pan de mur avec deux harpes; le montant droit de la seconde porte s'appuie directement au mur de la cella du temple qui limite la pièce à l'est". The second door described here is definitely the one between rooms XIV and XVI, since that is the only doorway immediately adjacent to the *cella* of the temple. If the first doorway is the one to the service room (XIX), Blanchard-Lemée does not identify the interior doorway on the south side of the room to vestibule I of the house. In the summary on private baths, she does mention a doorway from the baths which communicates with the vestibule (I) (*ibid.*, 209).

west door. This doorway, identified by Ballu¹³⁸ at the time of excavation, is also noted by Blanchard-Lemée in a discussion of the modern restorations to the house.¹³⁹ The easternmost segment of the wall between rooms XIV and XIX is constructed without brick, unlike the rest of the wall and the other walls of the heated rooms, indicating a modern restoration which blocks the doorway. Blanchard-Lemée does not discuss this point of entry in the description of the baths, but mentions that rooms I and XIV may have communicated by a wider door than is currently extant.¹⁴⁰ Ballu identifies traces of a small porch in front of the service room on the *grand cardo*, and considers this to be the main entrance to the baths.¹⁴¹ Février, discussing the articulation of rooms around the principal entrance of a Roman *domus* in North Africa, considers the entry to be from vestibule I.¹⁴²

The baths have two rooms (XIV and XVI) without a hypocaust floor and one or two rooms (XVII and XVIII) with a hypocaust floor. Room XIV is the cold bathing room, paved with the large *Asinus Nica* mosaic. A semicircular pool (P1) at the west end projects into the portico of the *grand cardo*. The second cold pool P2, paved with large white *tesserae*, projects behind the temple on the east side of the room. Room XVI is the first in the row of heated rooms, entered from room XIV. Apparently the room lacks a hypocaust floor, despite the excavator's assertions. The small mosaic of the *Asinus Nica* was removed from here, where Ballu records that it decorated a hypocaust floor.¹⁴³ Blanchard-Lemée states that when she examined the room, there was no communication with the hypocaust of

¹³⁸ Ballu, "Rapport 1909," 105.

¹³⁹ *Maison à mosaïques*, 45.

¹⁴⁰ *Ibid.*, 42.

¹⁴¹ Ballu, "Rapport 1909," 105.

¹⁴² *Approches* II, 61. A photograph taken from the *grand cardo* in 1914 (*Maisons à mosaïques*, fig. 15, p. 36; fig. 60) before restoration is the best evidence. The doorway between the service room and the cold bathing room is evident just to the left of the center. At the center is cold bathing room (XIV) with raised steps of cold pool P1 showing, but the west wall to the *grand cardo* is very low. In this photo, the south wall of XIV has a break, the horizontal surface of which appears as a lighter point along the wall, about mid-point in the length, below the standing column at the rear of vestibule 1.

¹⁴³ Ballu, "Rapport 1909," 105.

room XVII, perhaps as a result of restoration by Ballu.¹⁴⁴ Her soundings made in this room reveal that the mosaic rested on a bed of large stones, unlike the lighter concrete bed used to support a mosaic on a hypocaust floor. The present floor levels of these rooms are not recorded to indicate whether they are at the same level as room XIV or XVII.

Room XVII, where very little remains of the hypocaust, appears to have had a pool. There is plaster preserved in the southwest corner and a collapsed part of the wall covered with a coarse mosaic. The pool was located over the well-preserved *prae-furnium* (f1) at the south end of the west wall. Traces of the pool remain below the height of the furnace arch. A doorway to the north of the furnace in the west wall leads to room XVIII, a long narrow space with a rounded southwest corner and a furnace (f2) at the west end. Again, none of the hypocaust is preserved, and the north wall, originally doubled up against the adjacent precinct wall of the temple, was heavily modified by Ballu when he rebuilt the precinct wall and temple.¹⁴⁵ This space is also identified as a hot pool, separated from room XVII by a small raised wall 0.30 m high. There may be two heated pools, with very little space in the heated area outside of the pools. The service room XIX, from which the two furnaces are tended, has a door to the street on the south side of the west wall, and a doorway to room XIV, blocked by modern restoration.

A final feature of the baths relates to the storage of water. Room XV is a small enclosed space between pool P2 and fountain f1 in room XI. There is a door sill in the south wall to room XIII, but the floor in XV is lower, and there are no visible stairs. The presence of plaster on the wall, its location between the fountain and the pool, and the depth

¹⁴⁴ To test Ballu's assertion about a hypocaust, a sounding was made in the room. If the mosaic rested on a hypocaust, Blanchard-Lemée anticipated finding traces of the concrete lower floor of the hypocaust. None in fact was found, but three fragments which completed the mosaic of the donkey were recovered. These fragments are all set in a foundation with large stones, 0.15 m thick, while the fragments from the hypocaust room XVII are set in a thick concrete base, which she considers lighter, and therefore determines that room XVI was without hypocaust (*Maisons à mosaïques*, 30-31, 58-59). However, the *in situ* segment of the mosaic in the *caldarium* of the the maison au cortège de Vénus at Volubilis has large stones exposed on the underside, which probably once rested on the bricks and formed the base of the floor, which in turn have disappeared. Although the composition of mosaic bedding in hypocausts is not discussed in site reports, examples at Volubilis show that this can be up to 30 cm thick.

¹⁴⁵ *Ibid.*, 38, 44-45.

of the room indicate that it was a water reservoir.¹⁴⁶

There are several phases to the house, none of which are dated, attested only by different building material and technique. The baths appear to belong to a late extension of the house in the space previously associated with the temple. Blanchard-Lemée suggests that construction of the baths is dependent on when the temple ceased to be a religious building protected from private encroachment.¹⁴⁷ When discussing the problems of dating the large mosaic of the *asinus nica*, previously considered mid-fourth century, she cites stylistic features which could extend the date as late as the mid-sixth century.¹⁴⁸ However, she advises that it is impossible to specify with any certainty when the mosaic was made.

Maison de Castorius (C.12)

The maison de Castorius (fig. 63) is the largest peristyle house in the old city, covering an area of 1500 m².¹⁴⁹ Like the maison de l'âne to the north, the house is situated between the *grand cardo* and the *cardo maximus*, which results in a greater width to the south where the streets diverge. Two entrances to the house open from the *grand cardo*, one into the colonnaded hall I, and the principal one through the vestibule (IX, XI) into the peristyle. A portico lines the west facade of the house on the *grand cardo*, where two rooms are identified as shops (VII, VIII).¹⁵⁰ A portico or open pavement is also traceable on the east facade along the *cardo maximus*, reused by the small baths (rooms XXX-XXXIII).¹⁵¹ The house sits on a terrace overlooking the city to the east, since the *cardo maximus* is considerably lower than the house and *grand cardo*. The south side of the

¹⁴⁶ Ibid., 30.

¹⁴⁷ Throughout the city from the mid-fourth century, temples went out of use or were destroyed, and the western part of the old city suffered destruction by fire, dated by coins to the mid-fourth century. The temple may have been a victim of these destructions, which would provide a rough date after which the house could expand up to the enclosure of the temple (ibid., 46). This theory supports the mid-fourth century as the earliest date for the construction of the baths.

¹⁴⁸ Ibid., 88-93; and see below, p. 228 on the date of the mosaic.

¹⁴⁹ Excavated by Ballu in 1911 ("Rapport sur les fouilles exécutées en 1911 par le service des monuments historiques d'Algérie," *BAC* [1912] 483-485; "Rapport sur les fouilles exécutées en 1912 par le service des monuments historiques d'Algérie," *BAC* [1913] 168).

¹⁵⁰ *Maisons à mosaïques*, 158.

¹⁵¹ Ibid., 161.

house runs at an oblique angle to the west and east sides, following the orientation of the wall surrounding the old city between the gate of the *cardo maximus* and the gate of the *grand cardo*. The exterior face of the city wall is decorated with niches and an apse, forming the northwest border of the Severan forum in the new city. A narrow space separates the walls of the house from the city wall, except in the southwest part, where rooms III and II are built against the city wall. To the north, the house is separated from the temple of unknown dedication by a double wall.

The house has four distinct parts. The first is centered around a small peristyle, designated as the *atrium* with an *oecus* (IV) by Blanchard-Lemée.¹⁵² Immediately adjacent to the peristyle along the southwest side is a paved area with a fountain built against the northeast pier of the arch of the city gate. The second part of the house is centered around the large peristyle (XVI), with a large room opening to it (XVII) on the east side. Three mosaics with inscriptions are located in this area. The first decorated the east portico of the peristyle, from which the name Castorius is associated with the building.¹⁵³ The second inscription was placed in the north portico, but is not readable. The third inscription comes from room XX. This one appears to refer to the success of young members of the family, stating that they attended the tribunals in Libya (Africa).¹⁵⁴ The last two parts of the house are the large and small baths. The small baths are considered to be later than the large baths. The small baths are dominated by the rest of the house, since they are located on a lower level, opening to the *cardo maximus* (fig. 64). A stairway of eleven steps and corridor (XXIX) joins the small baths to the cold bathing room of the large baths (XXVIII).

¹⁵² This part of the house, considered to be the earliest part of the standing building, extends as far north as rooms XV and VII, and as far east as the back wall of room IV, the current divider for the service room of the large baths, XXII. Since it is built against the old city wall, it is thought that this could only occur after the transformation of the city wall into a decorative side of the forum built under Caracalla. This gives the first quarter of the third century as the earliest date for the current structure (*Maisons à mosaïques*, 155-158).

¹⁵³ *Viribus /e nostris fac / tu est quotcumque potimur * / ut domus dicatur / Castorius * / feci* (ibid., 167).

¹⁵⁴ These inscriptions are fragmentary. Only partial words are readable in the second inscription, and the third inscription is missing the end of each line (ibid., 167-168). The inscriptions from the house are discussed below, pp. 235-236.

The large baths occupy the southern corner of the house.

The large baths, poorly preserved, underwent considerable modern restoration, obscuring any possible traces of points of access for the rooms or connecting arches of the hypocausts. In their current state, there is no indication of how the baths were entered from within the house, nor of how the service room (XXII) was entered.¹⁵⁵ There is one unheated room (XXVIII) and four heated rooms (XXIV, XXVI, XXV and XXIII). Room XXVIII is the cold bathing room with an apsidal cold pool (XXVII) on the south side. The pool is paved with white *tesserae* and reached by two steps in brick. Very little else of the room remains, since part of it was destroyed along the high embankment to the east. The floor is deeply excavated, revealing a drain crossing it obliquely. Latrines in this area mentioned by Ballu are not preserved.¹⁵⁶ Corridor XXIX is a paved space reached by eleven steps from the lower baths. Blanchard-Lemée identifies the possibility of an external entry to the baths. She believes that the corridor and steps were built at the same time as the large baths, since such substantial facilities could have an entrance independent of the house, as in the baths of the maison d'Europe, and precede the construction of the small baths.¹⁵⁷

The entry to the heated rooms is obscured by a modern wall. Room XXIV, without a furnace, is identified as the warm room by its location between the cold room and rooms with a furnace. Room XXVI is a triangular space between XXIV and XXV, possibly another warm room like XXIV.¹⁵⁸ Room XXV has a large furnace (f1), which widens in the center for a circular water heating drum, but could be completely restored. There may have

¹⁵⁵ Blanchard-Lemée notes that there must have been some access to the service room (XXII) of furnaces f1 and f2, which is now solidly enclosed by a modern wall (*ibid.*, 161).

¹⁵⁶ A. Ballu, *Guide illustré de Djemila* (Algiers 1926) 83. One of the paving stones in the service room of the small baths may come from a latrine, which Blanchard-Lemée suggests was placed there in the restorations, and possibly from above in the large baths (*Maisons à mosaïques*, 164).

¹⁵⁷ *Ibid.*, 162, 164.

¹⁵⁸ If indeed it was part of the baths. The shape of the room is dictated by the adjacent city wall, *ibid.*, 161.

been a pool in this room, if the water drum is accurately portrayed.¹⁵⁹ In room XXII the furnace (f2) is similarly reconstructed as a solid block. Possibly, a heated pool was located over the furnace, occupying the space where f2 is written, and the furnace was at the west end, rather than inside the room. Blanchard-Lemée writes that the interior walls are still lined in brick, but as the early excavation photographs show, these walls could not have been preserved to any height. It is thus very difficult to reconstruct the features of these baths.

The lower baths are much better preserved, protected by the high embankment of the house (fig. 66). They are entered from the *cardo maximus* into a paved room with two cold pools. Pool XXXII is square, paved with large black *tesserae*,¹⁶⁰ and pool XXXI is apsed with two plastered steps, projecting into the embankment under room XIX. Room XXX is the heated room. Blanchard-Lemée's description of this area is confusing.¹⁶¹ She mentions a triangular heated pool. This must be the rectangular area at the south end of XXX, which has the arch of the furnace preserved in the south wall. Blanchard-Lemée also describes XXX as a pool with three steps paved with black *tesserae*, like pool XXXII. This is in fact a room reached by three steps from the entrance hall, a necessity to attain the walking surface of the hypocaust, since the baths are built on flat ground. The service room (XXXIII) has a door to the *cardo maximus* (fig. 67), and a large drain covered by a brick arch opens in the retaining wall below corridor XXIX before exiting to the street.

The different phases evident in the construction of the various sections of the house are not dated. Blanchard-Lemée identifies four major periods of alterations to the house.¹⁶² The first is the construction of the house around "*atrium*" I, built after demolition of the

¹⁵⁹ This form of furnace, well-known from public baths in North Africa, appears only here and in the baths of the maison d'Europe among the private baths. Did Ballu follow what was actually there, or did he extrapolate from the public baths in their restoration? In photographs of the peristyle taken in 1912 and 1914 (*Maisons à mosaïques*, fig. 70, fig. 76), the walls of the baths in the background are virtually non-existent. In the restored house (fig. 64) the furnaces stand out as substantial blocks.

¹⁶⁰ This pool does not appear to have steps to the room. It is unusual to have two cold pools in small baths, and one right by the entrance. Is it actually a cistern? The fact that it is mosaic-paved suggests a pool.

¹⁶¹ *Maisons à mosaïques*, 164-165.

¹⁶² *Ibid.*, 165-166.

ramparts under Caracalla in 211 AD. The second is the construction of a large house around the peristyle with the large baths, and the third is the decoration of the peristyle by Castorius. The fourth is the addition of the small baths on the lower level.

Maison d' Europe (C.13)

The maison d' Europe (fig. 68) is a peristyle house uniting several buildings to cover an area of about 1250 m².¹⁶³ The house is situated on the east side of the *grand cardo*, where a portico beginning at the northwest corner of the forum extends along the facade of the house. The portico is interrupted at the north end, where the rooms on the west side of the peristyle occupy the space of the portico. The east facade of the house opens to the *rue des thermes du capitol*, named from the large public baths on the east side. To the north the house is flanked by a *cardo*, and to the south by another building.

This house has several distinct parts, and like the maison de Castorius has two sets of baths, one large and one small. The principal residential and living area is situated around the peristyle in the north end, with an "oecus" (18) in the center of the north side, a "triclinium" (13) in the center of the east side, evidently two large reception rooms, and another large room, heavily restored, in the center of the west side. The angles of the porticoes provide access to smaller rooms of unknown function. On the south side, stairs in the peristyle lead underground to a vaulted basement room constructed in *grand appareil*. Three entrances on the *grand cardo* (27, 28 and further south, 46) belong to independent shops. The second shop has two rooms at the rear, east of rooms 28 and 27, and the third shop has a second room at the rear. The principal entry and large stone paved vestibule (1) also opens to the *grand cardo*, through a central door flanked by a smaller door on either side. At the east end of the room four steps lead up to a landing (5), which connects to a series of possibly unroofed stone-paved corridors (6, 7, and 8) leading north, to emerge on

¹⁶³ Blanchard-Lemée gives an area of 1250 m² (ibid., 17) and an area of 1366 m² (ibid., 129), a significant difference.

the east side of the peristyle.¹⁶⁴ On the axis of the principal entry and landing 5 is a fountain in the east wall of 6, reinforcing the identification of this entry as the principal one. The landing is also flanked on either side by a raised room (2, 2'), of which the southern one provides an interior access to the baths by a stairway of two steps in the east wall up to the cold bathing room (32).

A final point of entry to the building along the west facade leads into room 29, containing a three-seated latrine. A centrally placed slab in the floor may have supported a basin or table. This room is connected to the large baths of the house by a doorway at the east end. The baths have two unheated rooms (30 and 32) and three heated rooms (33, 34, and 35). Two entrance rooms (latrine 29 and vestibule 31) provide access from the *grand cardo* and from the *rue des thermes du capitole* to room 30. Room 30, paved in cement, is substantial in size.¹⁶⁵ A triple bay entrance opens from this room on to room 32.

Room 32 is the cold bathing room with a pool on the west side. The decoration included fragmentary pieces of a mosaic floor, and traces of the marble revetment on the walls recorded by Allais.¹⁶⁶ A small door to the north of the pool in the west wall leads to the interior of the house through landing 5, passing over the water reservoir below the floor of 2'.¹⁶⁷ Column bases preserved in the four corners of the room indicate a vaulted roof springing from these supports. A door in the east wall leads to room 33 and the other heated rooms, and a door in the east side of the north wall provides access to the service room (37) through a small ante-chamber (36).

Room 33 is currently at the same level as room 32, but Blanchard-Lemée identifies

¹⁶⁴ Ibid., 140

¹⁶⁵ Room 30 measures 9.00 m x 5.30 m, the largest room of the baths; I am very tempted to identify the interior wall of the so-called double wall which Ballu restored on the south side of the room as a bench (*Guide illustré de Djemila*, 53). The evidence for the restoration is the presence of four large stone blocks along the wall, which could easily have supported a bench. Blanchard-Lemée notes that this double wall can only be restored for room 30, where she suggests that it adds extra support to the wall or keeps the heat from the adjacent heated rooms in, neither of which are very satisfactory explanations (*Maisons à mosaïques*, 140).

¹⁶⁶ Y. Allais, "La <<maison d'Europe>> à Djemila," *RAfr* (1939) 39; *Maisons à mosaïques*, 140.

¹⁶⁷ Room 4 is also a cistern, but does not open directly to the baths; it is accessible from 2' (ibid., 138).

traces of plaster and markings on the walls showing that there was a hypocaust floor in room 33 at a higher level than room 32.¹⁶⁸ She suggests that there may have been a few steps at the door to make the transition.¹⁶⁹ Room 34, entered from the north of 33, is a hot room with a hypocaust heated by a well-preserved brick vaulted furnace (f1) which projects into the room. Room 35 is entered from room 34; the sill is still preserved in the wall at a height of 0.70 m above the current floor level. On the plan furnace f2¹⁷⁰ passes through a larger masonry support than f1, which may indicate that there was a hot pool occupying the northern end of the room. Room 36 is reached by steps passing over the extended west flank of the furnace. Room 37, the service room for these furnaces, also contains the furnace (f3) which heats the small baths. Another door leads through area 38 to the northeast part of the house, and a third door leads to the *cardo* on the east side.

The architecture of the second set of baths is confusing. The small size of these rooms and their layout, as well as brief descriptions in the publications, make the designations of the rooms uncertain. Room 41 is the small cold bathing room. The whole room is c. 3.20 m¹⁷¹ by 1.00 m, with a pool occupying 0.80 m of the west end. Room 42, apparently only 1.50 m by 0.50 m,¹⁷² is identified as the warm room, heated indirectly by furnace f3. Room 43 (1.20 m x 2.40 m) is described as a hot pool reached from room 42. The room is rectangular with an apsidal south end, where furnace f3 is located. This would make a rather large heated pool when compared with the rest of the small baths, but comparable to the size of heated pools in other domestic baths. A doorway is indicated in the east wall on the plan between rooms 43 and 42, so it is possible that the whole room was

¹⁶⁸ Ibid., 140-141. The floor of the hypocaust room 34 is 0.80 m below the level of the cold bathing room, but the floor level of room 33 is not provided.

¹⁶⁹ This arrangement is used where the heated section cannot be placed on lower ground than the unheated section, as in the small baths of the maison de Castorius, above p. 93. Here the ground certainly does slope away, but perhaps one or two steps were used to give sufficient height to the hypocaust.

¹⁷⁰ The photograph (*Maisons à mosaïques*, fig. 61) of the furnace labeled furnace f2 is certainly furnace f3, judging from the shape; the right hand corner clearly does not give access by stairs and a projecting spur to the higher room (36), but rather on flat ground turns the corner to room 38.

¹⁷¹ Blanchard-Lemée gives 60 m (ibid., 142), an error, so this measurement is approximate, taken from the plan.

¹⁷² The room must be slightly larger than these figures, in comparison with the rest of the baths on the plan.

not occupied by a pool, but probably only the apsidal end of the room.

Neither the construction of the house nor the baths can be dated. The house joins together previously independent units to form its length, and the basement room is earlier than the peristyle, but that is the extent of information known about the house's development. There is homogeneity in the material used for the construction of the large and small baths, *petit appareil* or *opus africanum*, with brick used in the heated rooms, furnaces, and pool. Unlike the two baths of the maison de Castorius, the small and large baths are considered to be constructed at the same time.¹⁷³

Maison aux Stucs (C.14)

The fourth house at Cuicul with private baths is the maison aux stucs (**fig. 69**), named after the principal element of decoration recovered during excavation. The house retains the size of the original grid pattern of the city blocks, covering an area of 509 m². There are two stories, evident in the well preserved walls reaching a height of 3.5 m, which results from the location of the house on the west slope of the old city. The upper floor opens to the *grand cardo* lying to the east, and the lower floor opens to the *cardo* lying to the west. The north and south sides of the house are bordered by two buildings of unknown function. This is the only house in the central quarter where the baths were not in use during the preserved phase of the architecture. The baths, located on the lower level, belong to an early phase of the house.¹⁷⁴ They went out of use and were built over, with only a few of the features preserved in the later house.

A reservoir (r) is identified with the supply of water for the baths. It is fed from the east by a channel running into the house under vestibule A. The reservoir was partially destroyed with the baths when they went out of use.¹⁷⁵ A semi-circular room (N), with a radius of 2.00 m, preserves the shape of the pool of the cold bathing room. The pool was apparently transformed into a room entered from court (L). Room N has a second door

¹⁷³ Ibid.

¹⁷⁴ Ibid., 188; Y. Allais, "Le quartier occidental de Djemila (Cuicul)," *AntAfr* 5 (1971) 108.

¹⁷⁵ *Maisons à mosaïques*, 188.

preserved on the west. The evidence that this room was originally the pool comes from the interior revetment in brick, and a 0.30 m wide opening below the level of reservoir r for the supply of water. When the pool was transformed into a small room opening to court L, the floor was raised 0.60 m.¹⁷⁶

The other identifiable feature of the earlier baths is the hot bathing room. Room O has the brick arch of a furnace in the east wall, with the service area in the space between the apse N and room O. A hypocaust floor is not preserved in room O, but a fragment of plaster found in the debris, 0.15 m thick with a rounded corner, attests the presence of a hot pool.¹⁷⁷ This area was enlarged and transformed into a room with a triple bay entrance when the baths went out of service. Identified as a *triclinium* or *oecus*, it opens onto a passageway (P).¹⁷⁸ A stairway to the upper floor was built over the defunct furnace in the service area. The stairway is reached from the southwest corner of court L, and turns east up over the former water reservoir (r).

Only these two rooms are identified from the baths. There is no evidence of how they communicated. Neither Allais nor Blanchard-Lemée discusses evidence of the room in which the cold pool would be located. The pool could only open onto court L, which provided light to the lower story as an open court from the earliest phase of the house.¹⁷⁹ The other heated rooms would have to be located in the area of R, and possibly S or Q, but no evidence of heated rooms exists.¹⁸⁰ Blanchard-Lemée is only able to work out a relative chronology for the house.¹⁸¹ Although coins were found during the excavation, their provenance and depth were not recorded.¹⁸² They cannot be identified with any of the

¹⁷⁶ Ibid.

¹⁷⁷ Ibid.

¹⁷⁸ Ibid.

¹⁷⁹ Ibid., 189.

¹⁸⁰ Blanchard-Lemée suggests that the other features must have disappeared during the transformations to the house (ibid.)

¹⁸¹ Ibid., 189-191.

¹⁸² Blanchard-Lemée, citing a list of finds provided by Allais, notes that the latest coins, of the early fifth century, cannot date the destruction by fire (which occurred most fiercely in the southwest part of the house), since they could come from debris deposited above. After the destruction by fire, later habitation of the courtyard is evident. The porticoes were divided up by walls to form smaller quarters (ibid., 191).

transformations.

Maison de Bacchus (C.15)

The maison de Bacchus is the largest house excavated at Cuicul (7000 m²) (fig.70). It is located in the new city, immediately south of the grand thermes du sud. This house is most famous for the large room with seven apses, three each on the north and south sides, and one on the west end.¹⁸³ Construction of this room covered the remains of an earlier set of baths. In a sounding below the floor, a section of the small baths was revealed (fig. 71).¹⁸⁴ A hypocaust, and perhaps a furnace southwest of it, are all that is preserved. The baths were destroyed before the room of the seven apses was constructed, but the stratigraphy is not recorded.¹⁸⁵ Sections of mosaics from below the floor of the room of the seven apses were lifted during the sounding, without the exact relationship to the hypocaust being recorded.¹⁸⁶ Nothing directly identifies these baths with a domestic structure. The identity of the structures that preceded the maison de Bacchus has not been studied, but it evidently united earlier domestic structures to form the extremely large final building.

Small baths not associated with a residence

Other small baths are mentioned for the new city, but they do not strictly belong to a Roman *domus*. In the ecclesiastical complex of basilicas, in the northwest end of the new

¹⁸³ Lassus, J. "La salle à sept absides de Djemila," *AntAfr* 5 (1971) 193-203; M. Blanchard-Lemée, "La maison de Bacchus à Djemila. Architecture et décor d'une grande demeure provinciale à la fin de l'antiquité," *BAC* n.s. 17B (1984) 131-141. A publication of the architecture has not appeared.

¹⁸⁴ M. Blanchard-Lemée, "Nouvelles recherches sur les mosaïques de Djemila," *III Colloquio Internazionale sul Mosaico Antico, Ravenna 6-10, Set. 1980* (Ravenna 1983) 277

¹⁸⁵ *Ibid.*, 277-278. Février states that the earliest development of the house began towards the end of the second century AD, and was eventually covered by the house now known as the maison de Bacchus; *Djemila*, 17.

¹⁸⁶ There may be another set of baths, later than these ones, but there is insufficient information on them. Their location in the building is not given in any source, nor are they visible in the aerial photograph.

city, a baptistery with a set of baths was found (fig. 72).¹⁸⁷ The baths have one cold bathing room (E) with a pool, three or four heated rooms (F/G/H(?), and I), and a service area (J). Latrines are also identified with the baths, but their location is not given (K and/or L), and reservoirs for water. The baths communicate by two doors with the baptistery complex. One doorway is at the eastern end of the baths, and faces the doorway of the basilica (A) to the north across a courtyard (B) on the east side of the baptistery. The other door leads from the baths directly into the circular baptistery on the north side.¹⁸⁸ These facilities resemble the baths of private houses, being reduced in facilities, and laid out in a small block of four rooms and the service area. A second set of baths have been identified in the so-called bishop's residence, near the basilicas and baptistery, but no physical description of this area is provided, nor are the individual elements of the building discernible on the city plan.¹⁸⁹

A final set of small baths discovered in the walled city are the bains de Terentius, separated by a street from the maison d' Amphitrite to the south. They are located in a block without a peristyle, and are not linked to a domestic context.¹⁹⁰ The northwest side of the building was altered to accommodate the addition of a bathing establishment. A mosaic inscription was found in the first room, naming Terentius Donatus, and a Longinianus who restored the property, but the date of this restoration is unknown.¹⁹¹ The baths are in a poor state of preservation, and there was no final report after early excavation. Allais identifies three rooms with hypocaust floors, a service corridor, and two rooms with a total of three

¹⁸⁷ P. Monceaux, "Découverte d'un groupe d'édifices chrétiens à Djemila," *CRAI* (1922) 400-401; Février is reluctant to attribute the baths to the period of use of the basilica, but does not explain why; "Développement urbain," 14.

¹⁸⁸ Monceaux suggests that the first doorway permits one to enter the baths, while the second is for the people who have been bathed and purified to approach the basin of the baptistery (Monceaux, "Découverte d'un groupe d'édifices," 401).

¹⁸⁹ It is possible that this example should be included with the *domus* baths. It is interesting because it is an example of a domestic bath in a Christian context. Unfortunately, there is no description of the episcopal residence to confirm that it is a house, and not an annex of the basilicas in this quarter.

¹⁹⁰ This block receives only a cursory description in the guide books; Allais, *Djemila*, 44-45; Février, *Djemila*, 49.

¹⁹¹ Wording of the inscription is not recorded, nor reference to a publication.

pools for cold water.¹⁹² These baths are evidently a private enterprise, and Allais suggests that they were baths open to the public for a fee.¹⁹³

Thamugadi (Timgad)

Timgad, ancient Thamugadi, was founded under Trajan as a veterans' colony in the Aurès mountains.¹⁹⁴ The city is well-known for its orderly orthogonal planning, the grid pattern of which is clearly evident despite later alterations and the growth of suburbs outside the city walls (fig. 74).¹⁹⁵ This city has the greatest number of excavated houses with baths, but after the initial excavation the domestic architecture has never been studied in detail. The houses in the original walled city underwent numerous modifications, but this information has mostly been destroyed by excavation and restoration. A notable feature is the maintenance, throughout the city's long history, of the original city plan and size of the *insulae* in this central quarter.¹⁹⁶ Only a few of the later houses expanded by incorporating an adjacent block and the dividing street into a single residence. More common is the annexation of part of the adjacent street to add rooms. The house, in examples where the whole block forms a single unit, is built around a small central courtyard, which is usually not designated as a peristyle.¹⁹⁷ The houses of two joined blocks have large courtyards and a peristyle. Much greater sizes are achieved in the houses which lie outside the old colony wall, with peristyles and large colonnaded courtyards or gardens. Thébert suggests that it

¹⁹² Allais, *Djemila*, 45.

¹⁹³ These constitute the baths which are mentioned in reports. There are probably others, some of which may not be in use in the preserved phase of the houses. In the old city, apsidal basins are evident in the southeast area and in the southwest quarter near the cemetery church, which also appears to have a small set of baths associated with it.

¹⁹⁴ *Bas-Empire II*, 444.

¹⁹⁵ J.B. Ward-Perkins, *Roman Imperial Architecture*, 2d ed. (Harmondsworth 1981, reprint Harmondsworth 1983) 391.

¹⁹⁶ E. Fentress has recently suggested that the blocks of the colony were originally subdivided into smaller units, rather than each block reserved as a single unit.

¹⁹⁷ The courtyard usually has a central opening to the sky above a basin, and four or more columns supporting the opening, but this feature is rarely discussed or described by Ballu. He frequently refers to these small courtyards as *atria*, following Vitruvian and Pompeian analogies. However, the form and function of this courtyard in the preserved late phase of the city are quite removed from these earlier examples.

became practical to build outside of the restrictive area of the central quarter when houses of greater size were desired.¹⁹⁸ This created suburbs containing the most elaborate houses, some of which also have private baths.

This is another site where extensive excavations took place in the early 1900s under the direction of Ballu. As he did at Cuicul, Ballu restored and consolidated the remains. The walls, not preserved to a great height, were built up, and columns erected in peristyles and colonnades. This site lacks later investigations into the architectural reconstruction, and thus for all of the buildings one is dependent on the brief, and occasionally conflicting, descriptions in Ballu's reports. He frequently designates the rooms of the houses by Latin terms for which the evidence is often insufficient to support the associated function. The only work on the remains which incorporates the domestic architecture is the valuable study by Germain of the mosaics from Timgad.¹⁹⁹ Seven of the private baths are situated in houses in the original walled city, and four are in the extended city beyond the walls.

Ilot 17 (C.16)

This house in the northeast quarter of the walled city has a colonnaded courtyard entered from a vestibule opening to the *cardo maximus*.²⁰⁰ Several undifferentiated rooms are arranged around the courtyard. The baths occupy the northeast part of house. The entrance to the baths is not identified as interior or exterior, but Ballu's description signals that it is linked to the interior.

Since no detailed plan of the house exists, one relies on the description of the baths provided by Ballu,²⁰¹ from which one may identify some of the rooms on the schematic representation of the house on the city plan (fig. 75). The first room, specified by Ballu as beside the courtyard, is a hot room (A) called an *étuve* or *laconicum* by Ballu. It has a semi-circular west end with the furnace. Situated beside the *étuve*, the next room (B) with a

¹⁹⁸ Thébert, "Private life," 339-341.

¹⁹⁹ *Mosaïques de Timgad*.

²⁰⁰ *Ruines de Timgad III*, 79-80.

²⁰¹ *Ibid.*

hypocaust described as intact juts out from the house into the street to the north. It is called the first *caldarium*. To the east of these two rooms is a hypocaust room (C), called the second *caldarium*, which also encroaches on the street to the north. A small pool (D), later converted into a baptistery for the Byzantine basilica built over the east part of the house, is found south of the second *caldarium*, east of the courtyard, and is evidence of a cold bathing room, but the location of the plan is not apparent.

Based on this description, it is possible to identify the basic components of the baths, which consist of one unheated room and three heated rooms. The entrance to the baths appears to be in the interior of the house, from the courtyard, although the room in the north east corner which was transformed into the basilica may have been part of the baths. From D, the area of the cold bathing pool, it is only possible to enter the first of the heated rooms, C, situated on the north side of D. Rooms C and B are set in a row along the north side of the house, and possibly one went from C into B, the second heated room. These are the only two rooms which can be identified with certainty on the plan, since they encroach on the road to the north. The final room, A, is situated north of the courtyard and beside B. It is difficult to locate this room on the plan. The apse described on the west side of the room is not evident on the plan, and Ballu does not indicate to which side of B the room is located. It could lie either to the west of B, continuing the row of heated rooms, or else it is to the south of B. The mention of a semi-circular apse and a furnace suggests that this could, in fact, be the location of the hot pool. If this is the case, it is the hot bathing room, which normally is the last one in a row of heated rooms.

Ilot 37, maison de Januarius (C.17)

The maison de L. Julius Januarius (**fig. 76**),²⁰² named from two inscribed statue bases for the baths found during excavation of the building, is located in the northwest quarter of the walled city. A church was later built in the southwest part of the house,

²⁰² *Ruines de Timgad II*, 30-32; Ballu, *Guide Illustré de Timgad* (n.d.) 118-119; Courtois, *Timgad, antique Thamugadi* (Algiers 1951) 48; *Mosaïques de Timgad*, 16-17.

extending into block 36.²⁰³ The rest of the house consists of a courtyard with eight other rooms around it, and an annexed strip 2.60 m wide of the street along the east facade. In the annexed space a portico was built at the south end, latrines installed in the center, and a long room added at the north end. The baths did not continue to function in the preserved phase, contemporary with the basilica. Reused material from the house in the construction of the basilica and burials in the courtyard show that the house no longer functioned as a residence when the basilica was built.²⁰⁴

The baths in the northwest end of the block appear to be accessible only from within the house. The hot rooms project slightly beyond the west facade into the street. This is one of the baths from Timgad for which a more detailed plan is available, but still on a small scale. A vestibule with preserved mosaic of lozenges is recorded, possibly the same room (A) which holds the cold pool (P). The rectangular pool has three steps, and preserves traces of paint. A room (B) with a hypocaust and apsidal end is identified as the *caldarium* by Ballu. There is no mention of a pool here, but it is possibly the hot bathing room. This room is entered directly from the cold room. The second room (C) with a hypocaust has particularly thick walls. It is identified as an “*alveus hémisphérique à double paroi*” by Ballu, communicating with the *caldarium*. It is not clear in this description whether Ballu uses the term *alveus* to indicate a pool or simply a recess. The shape is unusual for both a room and a pool. The furnace for this room is evident on the plan, in the south wall. A third room (D) with hypocaust and thick walls is called an *étuve* by Ballu, and is also accessible from the room identified as the *caldarium*. The final feature is a service room (E) for tending the furnace.

The inscriptions found in the excavation of the basilica and house come from two statues, one of Asclepius and the other of Hygieia. Both inscriptions were found out of context in the area of the basilica, not the baths. One inscription was visible before

²⁰³ The nave of the basilica and two aisles occupy the southwest quarter of the house. The apse projects partially over the basin of the house's courtyard. Ballu dates the basilica to the VI century (*Ruines de Timgad II*, 26).

²⁰⁴ Three burials, identified by Ballu as Christian, were found above the level of the stone paved *atrium*, and associated with the basilica (*ibid.*, 30-31).

excavation of the house, stating that Lucius Acilius Granianus made a present of a statue of Asclepius to his father-in-law Lucius Julius Januarius for the decoration of the baths.²⁰⁵ A second inscription found during excavation, worded in the same way, is for the gift of a statue of Hygieia for the baths.²⁰⁶ The inscriptions were quickly connected with the adjacent baths of the house. This association is probable. Although not in their original context, both inscriptions were found in the debris of the basilica, where they were perhaps reused as construction material. The closest and likeliest baths are naturally in the adjacent house. The house was not in use as domestic architecture when the basilica was constructed, and even served as an area for later burials. Neither the dates for the use of the house nor for the construction of the basilica are known.

Ilot 38 (C.18)

This house with a central courtyard is located in the northwest quarter of the walled city, and no detailed plan has been published.²⁰⁷ The house has a centrally placed vestibule joining the courtyard to the porticoed *cardo maximus* to the east, flanked on the north by three rooms. The westernmost one opens onto the courtyard. On the south side of the vestibule four rooms are arranged so that they are two rooms deep, the outer two rooms opening to the street, the inner two to the courtyard. The room in the southwest corner also opens to the exterior of the house. The house probably has shops, identified in the rooms opening to the street. Five more rooms are arranged around the south and west sides of the courtyard. The baths are situated in the northwest corner, occupying the west end of the north side. Access to the baths is not identified.

Ballu's description of baths lists three rooms with hypocausts; one warm, one hot and one "étuve". There is also one cold room with a semi-circular pool, 1.20 m deep with two steps.²⁰⁸ A large room opening onto the street to the north is the service room for the

²⁰⁵ Full inscription not quoted by Ballu (*Guide de Timgad*, 118-119; *Ruines de Timgad II*, 31).

²⁰⁶ *Hygiam Lucius Acilius Granianus Lucio Julio Januario socero suo ad exornationem balinei dono dedit* (ibid).

²⁰⁷ *Ruines de Timgad III*, 78.

²⁰⁸ A notably deep cold pool. The depth is usually about 1.00 m.

single furnace identified.

Ilot 61 (C.19)

This house with a colonnaded courtyard in the northeast sector of the central quarter is flanked on the south by the *decumanus maximus* and on the west by the *cardo maximus*.²⁰⁹ Germain says that information from various sources on the house is contradictory, but with no detailed plan it is necessary to consider what Ballu identifies. The basic room descriptions for the house by Ballu are given here. Both facades are porticoed. On the *decumanus maximus* four boutiques occupy the front of the house, the westernmost one opening to the *cardo maximus*. These boutiques are separated from the house by a partition wall. Two entrances on the *cardo maximus* are for boutiques. The principal entrance to the house is from the *cardo* to the east, through a vestibule into the courtyard. Ballu describes a porch projecting into the street. One room is called the *triclinium* by Ballu, apparently a room opening onto the courtyard. Ballu locates it adjacent to the vestibule, and on the east side of the courtyard. It is most probably on the north side of the vestibule, since the south side is occupied by shops according to his description. A mosaic of a nereïd on a sea-centaur decorated the floor of this room, and may be the basis for Ballu's identification of the room's function.²¹⁰ This is the only one identified as a room of the house proper, in the interior of the building for use by the residents. The northeast corner of the house, adjacent to the *triclinium* on the north, is occupied by a large room paved with mosaics and a fountain occupying an apse which projects into the street on the east side of the room. The entrance to this room is from the street to the north. No doorway or communication with the rest of the house is mentioned.

The baths occupy the northwest corner of the house, west of the room with the fountain. Ballu states that the baths have no entrance from the street. No cold bathing room or pool is identified. Ballu identifies one room as the *caldarium*, and states that there is one

²⁰⁹ *Ruines de Timgad III*, 83-84; *Mosaïques de Timgad*, 25-29.

²¹⁰ He does not give a description of the doorway, nor the shape of the mosaic floor; the title "*triclinium*" is given by him as standard practice for principal rooms with mosaic floors.

heated basin, the *alveus*, but does not mention if the basin is in the *caldarium* he mentions, or a second room. The other part of the baths is the service corridor, which gives access to two furnaces.

This description of the house and baths creates considerable difficulty for determining the nature of the building and the baths. Only one room is attributed to the residential part of the house, the so-called *triclinium*. A room for entertaining and gathering, it is associated with the more public part of a house. The discovery of mosaics and its position at the heart of the city has caused this building to be identified as an elegant and wealthy house, but perhaps it was not a residence, or the present form represents later transformations, since there appear to be no other features associated with a domestic structure. The baths are very incomplete in the description, but the presence of a heated pool, and the substantial nature of the heating system with two furnaces and a service corridor confirm that these are baths, and not a heated apartment. The room with the fountain is interesting; what distinguishes the basin as a fountain rather than a cold bathing pool? Could it be the cold bathing room of the baths, accessible from the street?

The earliest of the three mosaics from the building is dated to the first half of the second century by Germain, and the latest to the fourth century.²¹¹ This indicates that the building was in use for an extended period. She notes that the earlier mosaic was carefully repaired.

Ilot 64 (C.20)

This house with colonnaded courtyard has five boutiques on the *decumanus maximus*.²¹² Stairs are built against the house on the street to the east. The baths occupy the northwest part of the house, but there is neither a description nor plan. A stable was installed in part of the house during the Byzantine period.

²¹¹ *Mosaïques de Timgad*, 29.

²¹² *Ruines de Timgad* III, 86.

Ilot 67-75 (maison de la Piscina) (C.21)

Two blocks were united to form this house with peristyle (fig. 77).²¹³ The north part is quite ruined, and the south part, better preserved, opens around the peristyle. The room called the *triclinium* or *tablinum* by Ballu, evidently a large reception room, faces the peristyle in the south side. A single room with a hypocaust is marked on the plan, on the east side of the peristyle. The west end of this room, not divided on the plan, is apparently without a hypocaust, and opens on the south side to the east portico of the peristyle. These two rooms seem insufficient to constitute a set of baths, but both Germain and Ballu both identify them as such. Ballu writes “*les salles de bains avec leurs hypocaustes,*” which does not correspond to the information given on the plan.²¹⁴ These rooms could also form a heated apartment. It is not clear where the furnace for the hypocaust would be located - perhaps in the paved room to the south, or in the street, to the east, where a wide opening is indicated. Significantly, there is no identification of a heated pool or of the cold bathing room. While it is possible that an earlier set of baths went out of service, only preserving the remains of the hypocaust, in their current state these rooms seem to form a heated apartment open to the peristyle.²¹⁵

Ilot 69 (C.22)

This house (fig. 78) lies to the west of the forum in the southeast quarter of the old city, with the *decumanus maximus* to the north and the *cardo* called *la voie de la Curie* immediately west of the forum on its east side. On the south side the house is flanked by the *decumanus* 1 south, and on the west by the south half of the *cardo maximus*.²¹⁶ The house has some unusual features, and, like most of the other *insulae* in the old city, it does

²¹³ *Ruines de Timgad* I, 228-230; II, 102; III, 179; BCB, *Timgad*, 333-334, fig. 166; *Mosaïques de Timgad*, 42-44.

²¹⁴ BCB, *Timgad*, 334.

²¹⁵ Such an arrangement is also identified for the small hypocaust rooms in the southeast corner of the maison de Sertius (C.23)(see below, p. 110). However, since both Ballu and Germain, who have first hand experience with the building, identify a set of baths, this example is included in the catalog, but with reservations.

²¹⁶ *Ibid.*, 334-335; *Ruines de Timgad* II, 101.

not have the usual rooms associated with a wealthy *domus*. The interior courtyard of the house is accessible from the exterior on all four sides, by several doorways. Four rooms on the *decumanus* each have one doorway to the street and another to the interior of the house, except for the room in the northwest corner. This room has a basement room underneath the shop on the *decumanus*, accessible by a stairway from the adjacent corridor to the east. The corridor and the room adjacent to it on the east are both identified by Ballu as vestibules leading to the central courtyard. The small room in the northeast corner of the house, identified as a shop, leads to a larger room on the south side. Two other vestibules are identified, one on the east and one on the south side. Between these two vestibules, two hypocaust rooms in the southeast corner of the house are identified by Ballu as the baths of the house. A large room in the southwest corner may open to the street on the west side, and opens to the central room of the house on the north side. This room is lined with engaged pillars. The courtyard has a basin referred to as a *vasque* by Ballu on the north side.

The baths, according to Ballu's description, only include two heated rooms. These are entered directly from the vestibule on the south side of the house, which leads into the courtyard. These rooms could be heated apartments, as easily as baths, since neither a hot pool nor a cold bathing room is evident. There is a possibility, however, that the basin in the courtyard is the cold bathing pool. The hypocausts are shown as much more substantial than those of the *maison de la piscina*, apparently lined on the interior. The furnace for the hypocaust, which Ballu writes is visible, is not marked on the plan, nor is the service room.

Maison de Sertius (C.23)

This large house with peristyle and courtyard (fig. 79) is located over the south wall of Trajan's city, by the southwest corner, occupying an area of 3600 m².²¹⁷ To the east lies the southern extension of the *cardo maximus*, to the north the *decumanus* south 6, to the

²¹⁷ *Ruines de Timgad* II, 81-89; BCB, *Timgad*, 326-333; Courtois, *Timgad*, 52-53. Germain (*Mosaïques de Timgad*, 59-64) states that there are discrepancies in the different plans of the house, and gives the area as 3600 m², while Ballu (*Ruines de Timgad* II, 81) gives 2263 m².

south another *decumanus* (*voie des thermes*) outside of the walled city, and to the west commercial establishments along the *cardo* (*voie du Capitole*). The principal entrance lies on the *cardo maximus*, through the porticoed facade. On either side of the entrance shops open to the street. Most of the exterior rooms along the north and south sides of the house are identified as shops, although some of them apparently communicate with the interior of the house, and they are of greatly varying size.

The interior rooms are arranged around two courtyards. The first courtyard is accessible from the main vestibule (1). It has a central basin, and part of the colonnade for the porticoes could still be identified. The second one (12) is larger. A large room (9) with elaborate mosaic floor opens onto the courtyard at the west end. Adjacent to the room on the north side is another large room (13) with a mosaic. In the southeast corner, two rooms (23 and 11) are identified by Ballu as the reduced baths of the servants. There is one room with a hypocaust, communicating with a room without hypocaust, neither of them actually very small rooms. Since there is no evidence of water supply or basins, this is most probably a heated living room or bedroom. This is one of the two sets of baths Ballu and Germain identify. The other is located on the north side, adjacent to the courtyard. This group of rooms (2-8) forms the baths of the house. In the examples where there are two sets of baths, both are situated close together, in order to share the heating and water systems, unlike here, where they are on different sides of the courtyard. In addition, it is unlikely that the servants' baths would be situated on the evidently important courtyard in such a prominent manner.²¹⁸ A small vestibule (22) leads to the *decumanus* to the south, and two rooms provide access to the second colonnaded courtyard (20) with a large central pool. The only distinctive room around this courtyard is the one at the west end, decorated with a mosaic, and opening to the colonnade of the peristyle. Two other rooms have mosaic floors (30 and 33), a stairway to an upper floor exists on the south side, behind room 26, and there are entrances from the north (34-33) and south (21) into the house.

The baths, located in the northeast corner of the house, consist of two unheated (6

²¹⁸ The presence of two large, elegantly decorated rooms (9 and 13) opening onto the courtyard implies that the courtyard and its rooms had an important role in the activities of the master.

and 8) and three heated (4, 5 and 7) rooms.²¹⁹ They are connected to the vestibule (1) by a corridor leading directly to the baths, which also demonstrates that one must enter the house to reach the baths. From the courtyard (12), the baths can be reached through room 2, which is a long room of indistinguishable function. The doorways marked on the plan, especially for the two rooms with hypocaust, are probably not accurate, creating difficulty in determining which rooms connect with the heated section.

Ballu's description is brief. He states that the baths consist of four rooms and an antechamber. The two hot rooms have preserved the brick walls and arches of the furnaces in the west ends to the height of the upper floor. These furnaces are stoked from two rooms west of the baths (3), the northern one having an entrance from the street. The other two rooms of the baths are the *frigidarium* (8) and the small room identified as the *apodyterium*. It is not clear whether or not Ballu means room 7, but since room 6 is probably the antechamber, this is the only one not described. Room 8, decorated with a mosaic floor, is the cold bathing room with a semicircular pool on the north side. Two bases were found *in situ* in this room. Ballu identifies them as the bases for two statue inscriptions which were found in the area of the baths during excavation, but were reused in late constructions.²²⁰ The first records the presence of a statue to Asclepius, for the decoration of the *balneum*, and the second one is to Hygieia from Faustus and Valentina.²²¹ Ballu identifies M. Plotius Faustus (Sertius), and Cornelia Valentina Tucciana (Sertia) from the second inscription as the owners of this elegant house, commemorated in another inscription as the builders of the market by the arch of Trajan.²²²

Based on this description, the plan, and two photographs of the heated rooms, it is

²¹⁹ Although Ballu does not specify that room 7 is heated, a photograph shows hypocaust floor with the lowest courses of the brick *pilae in situ* (BCB, *Timgad*, fig. 158). He appears to identify this room as a changing room. See following discussion of figs. 80 and 81.

²²⁰ Provenance not given.

²²¹ *Aesculapio Aug(usto), at exornationem balnei, Primitiv(us) actor* (S. Gsell, "Notes d'archéologie algérienne I: inscriptions latines," *BAC* [1901] 311). The second inscription reads; *Hygiae Aug(ustae) Faustus et Valentina* (R. Cagnat, "11 Juin 1901: Séance de la commission de l'Afrique du Nord," *BAC* [1901] ccx). BCB, *Timgad*, 328.

²²² BCB, *Timgad*, 329.

possible to add more about the baths. The plan indicates that room 6 opens to room 8 on the east, room 7 on the north and the second heated room (4) on the west. In this way, it appears that all of the rooms except for room 5 communicate with room 6, the so-called antechamber. Turning to the two photographs of rooms 7, 4 and 5,²²³ one can ascertain more details about the entrances and features of these rooms. The first photograph (fig. 80) shows the traces of *pilae* in room 7, looking west towards the furnace arch in room 5. In the foreground on the south side, an upright worked stone (*a*) marks the west side of the doorway between room 8 and room 6, and the floor of room 8 is visible extending into the doorway. Further west along the south wall, the larger opening (*b*) to room 6 is visible. The door is shown at a lower level, indicating that the stone door sill and posts which probably lined the doorway are not preserved.²²⁴ The communication between the hypocausts of rooms 7 and 6 is visible in the background only as a break in the wall; the arch which covered the opening is not preserved.

In the foreground of the other photograph (fig. 81) is the wall between room 6 and the two rooms with furnaces (4 and 5), looking west. The west side of the opening to room 7, the southwest corner of room 6 beyond the opening to the hypocaust of room 5 are visible in the right hand lower corner. In the left hand lower corner is the break in the wall between room 6 and room 5, possibly at hypocaust level, or containing steps to reach the higher floor level of room 5. In the center of the photo, one can see the flat edge of the west face of the opening between rooms 4 and 5, but not how the transition was made lower down at the hypocaust level. The large stone preserved on the right side may relate to the level of the door, since stone is normally employed above the level of the hypocaust. Along the south, west and north walls of rooms 4 and 5, the level of the hypocaust floor is similarly detectable in the stone courses which interrupt the bricks at almost the summit of

²²³ Ibid., fig. 157, 158.

²²⁴ The features of room 6 are unknown. In the photographs, the openings in the walls from rooms 7 and 4 appear very regular, the straight edge formed by brick. They are also very low, appearing to be at hypocaust level. Does room 6 have a hypocaust connected to rooms 7 and 4? It certainly appears so. The other possibility is that there were steps in the doorway, climbing up to the level of the hypocaust floors. The difference in level between the floors of the heated and unheated sections is not recorded.

the furnace arches.²²⁵ Ballu identifies a pool at the west end of both rooms 4 and 5, over the furnaces.²²⁶ The movement through the baths was probably from room 6 to room 8, room 8 to room 7, and from room 7 to room 5 on the west side. From room 5, room 4 could be reached, whence it appears room 6 could be regained, indicating an annular circuit.

Like all of the houses at Timgad, close dating of the house is not possible. Very little of the architectural history of the building is known. References to blocked doorways and the addition of the basin in vestibule 1 show that the house underwent modifications over time. Boeswillwald, Cagnat and Ballu note that the house, encroaching on the original city wall, is later than the original founding of the colony under Trajan.²²⁷ They suggest that it was built in the early third century when Sertius and Sertia are known to have lived. This suggestion relies on the accurate identification of the dedication from the statues, found reused in later construction in the house, with the owners of the house. The inscriptions would also indicate that the baths were in use when Sertius and Sertia occupied the house.

Maison au Sud de la Porte de Lambèse (C.24)

This building (fig. 82) in the area to the west of the central quarter is identified either as a warehouse, or as a house with offices, warehouses and baths.²²⁸ It is located west of the *porte de Lambèse*, on the south side of the road continuing the *decumanus maximus*.

²²⁵ This change of material at hypocaust level is visible at Volubilis, where there is less brick used in building than at Timgad. The walls are built in stone, and lined with brick. Three courses of brick at the upper floor level interrupt the courses of stone, adding resilience and elasticity at the point where the floor joins the wall. Above the level of the floor, except for the rooms heated directly by a furnace, the walls are built of stone.

²²⁶ The thickening of the walls in front of the furnace in room 4 and the projecting lateral spur walls in room 5 support this identification. The pools are normally situated so that the arched opening of the furnace rises above the floor of the pool behind the rear wall.

²²⁷ BCB, *Timgad*, 329

²²⁸ *Ruines de Timgad* III, 49-53; Christofle, *Rapport sur les travaux de fouilles et consolidations effectués en 1927, 1928 et 1929 par le Service de Monuments Historiques de l'Algérie* (Algiers 1930), 58-62; Courtois, *Timgad*, 82; *Mosaïques de Timgad*, 88-90. The identification as a warehouse was made by Ballu. Christofle, however, concluded after he completed the excavation of the building that it was indeed a house, with "atrium", peristyle and fine mosaics ("Rapport sur les travaux de fouilles et consolidations effectués en 1927, 1928 et 1929 par le Service de Monuments Historiques de l'Algérie," *BAC* [1930-31] 317).

The size of the building, lack of distinctive rooms, and particularly the two large interior courts with colonnades, have led to the identification of the building as a warehouse or market place, but Germain suggests that the traces of rich decoration in the form of mosaics indicates that this is the house of a wealthy individual with the space necessary to carry out his business activities. It is possible that the complex of the first courtyard was an area for business or official activity with a wide entrance, while the second courtyard gave access to more private space, similar to the *maison de Sertius* (C.23).

Ballu did not fully excavate the building. His excavations uncovered the entry on the *decumanus* leading into the stone paved open air vestibule, the large central colonnaded courtyard and the rooms around the courtyard to the east and south, as far as the southern limit of the second courtyard and the apse in the corridor of 116. Excavation of the eastern side and the southern end was completed by his successor Christofle. Notable about the building is the extensive use of marble and other expensive stone in the paving of the floors. Room 115, decorated with a mosaic, is a large room commanding a view of the first courtyard (so-called *atrium*) from an elevated position. Mosaic floors were also found in the rooms around the second peristyle.

There is, however, no description of the baths. They open off the south side of 117, through room A. At least rooms C and D were with hypocaust floors, and rooms F and E are the service rooms for the furnaces.

Maison près du marché aux vêtements (C.25)

This house with baths is also located in the quarter to the west of the central quarter, on the south side of the *decumanus maximus*.²²⁹ There is no plan of the building, and its exact location is not given. The excavation accounts are limited to the baths, with little information about the building to which they belong. In the first report, none of the building associated with the baths was uncovered. The baths are south of the *decumanus*

²²⁹ *Ruines de Timgad* III, 97-98 (repeated in "Rapport sur les fouilles exécutées en 1909 par le service des monuments historiques d'Algérie," *BAC* [1910] 115-116); "Rapport sur les fouilles exécutées en 1915 par le service des monuments historiques d'Algérie," *BAC* [1916] 238-239); *Mosaïques de Timgad*, 96.

maximus, but Ballu does not state whether they are on the *decumanus maximus*, or further away.²³⁰ The other indicator he gives is the street which meets the *decumanus maximus* at right angles, and runs along the west side of the *thermes du marché de Sertius*.

In the first report, a list of the excavated rooms is given without a plan or explicit description of the layout of the rooms.²³¹ Stonepaved room 1 is identified as an exercise room by Ballu. Room 2 is the cold bathing room, paved in mosaic. It communicates with room 1, and has a semi-circular pool beside the street, with two steps into it. The mosaic (132) from this room carries two inscriptions.²³² Room 3 is the service room of the two furnaces. Room 4, contiguous to the street, has a hypocaust heated by one of the furnaces in the southeast corner of the baths. Room 5 is a hypocaust room projecting into the street, the floor paved in brick. Finally, room 6 has a hypocaust with the geometric mosaic floor preserved, heated by the second furnace. This room is located between the service room and second hypocaust. The only other feature described in this area is a long corridor on the west side of the baths, leading to a paved room located north of the baths, and opened to the street. Ballu identifies this as the vestibule of the house. A second report, written when more of the area was excavated, adds a little more information to the description.²³³ Germain provides the additional information about a destroyed mosaic (133), recorded from a hypocaust room by Ballu.²³⁴

From these descriptions it is difficult to determine the layout of the baths, and the nature of the building with which they are associated. Ballu does not explain why he considers the baths to belong to a house, but it is possibly because of their small size. No features of the building with which he says they communicate are readily identifiable as

²³⁰ He describes the excavations as carried out on the south side of the *decumanus maximus*, in the first report on the baths (*Ruines de Timgad III*, 97-98).

²³¹ Ibid.

²³² In the central space a black circle has an inscription in white *tesserae*: *B(onis) B(ene) | qui dixit | ridet qui | negabat | victus | est* (sic). In the intermediary spaces formed by the guilloche, towards the outside of the circle, is written *molant |---| baline []| avat |invid []|---*. Inscriptions to ward off the "invidus" (*Mosaïques de Timgad*, 96, no. 132); discussed below, pp. 215-216.

²³³ Ballu, "Rapport 1915," 238-239.

²³⁴ *Mosaïques de Timgad*, 96.

typical of the *domus*. Possibly the courtyard he mentions belongs with the house, but Ballu mentions no connection with the five rooms and baths.

Grande maison à l'ouest des thermes des Filadelfes (C.26)

The grand maison à l'ouest des thermes des Filadelfes (fig. 83), covering an area of about 2500 m², is located to the northwest of the central quarter, west of the thermes des Filadelfes and north of the basilica complex.²³⁵ The road along the south side has been excavated, extending east outside the north wall of the city, and connecting to the *voie du Capitole*. Several rooms open to the street, either independent shops, or connecting to the interior of the house. Nothing is accounted for along the east, west and north sides of the house, which are not excavated. The interior rooms are arranged around two porticoed courtyards or peristyles. The area to the west around the western colonnaded courtyard is poorly preserved, but various rooms open from it, or are connected with spaces to the west and north. A large room on the east side also opens to the eastern peristyle, where the house is better preserved. Without a detailed study of the architecture, it is difficult to identify the individual room types and doorways. Past examples show these are not accurately represented on the plans. Mosaic floors decorating the rooms along the north of this courtyard and the baths are considered by Germain to be among the most beautiful in the Timgad museum.²³⁶ The building is an impressive and elegant structure.²³⁷ The baths occupy the northeast corner of the house, accessible from inside the house and from street. The clearest description of the rooms comes from Germain's study of the mosaics.²³⁸

The baths consist of a cold room (107), and a group of four rooms (A-D) which may all be heated, with an antechamber (106). The antechamber to the baths (106) is the room from which the cold bathing room is entered, separated by a double bay door on the south side from the long corridor leading to the street, and from room 105 by a triple bay

²³⁵ *Mosaïques de Timgad*, 81-85.

²³⁶ *Ibid.*, 81.

²³⁷ The basic features around the peristyle indicate that it is a house.

²³⁸ The numbers designate the location of mosaics cataloged by her, and are kept to refer to the room; the rooms in the bath not included in the catalog are designated by a letter.

door on the west. Room 105 is identified as the *exedra* of the baths, connected to peristyle 101 of the house by a small intermediary room and to room 106. Room 107 is the cold bathing room, decorated with a polychrome mosaic. The semicircular pool (108) on the west side of the cold bathing room is paved with a plain black mosaic, and the semicircular niche (109)²³⁹ on the north side is paved with a polychrome one.

Identifying the heated rooms is difficult, since they are not discussed, and are perhaps not well-preserved. Two rooms (A and B) to the east of 107 may be heated rooms without furnaces. The second room gives access on the north to a long room (C) partially divided at the north end. The thick walls illustrated on the plan identify the heated room, with what must be a furnace and hot pool at the north end. Another room (D) opening on the west side of C may also be part of the heated rooms, possibly with a furnace on the north side, if it does not belong to the rooms to the north of the baths. The areas to the north and west are not distinctive; perhaps these are service rooms for the furnaces.

The house was used for a considerable time, and there is no indication of whether or not the baths are a later addition. The floral style of the mosaic in room 107 is dated by Germain to the third century. Christian burials of children were found during the excavation, particularly in the south part of the house. These occurred when the house went out of use, but they are not dated.

Grande maison au nord du capitole (C.27)

The last house with baths identified at Timgad is the grande maison au nord du capitole (fig. 84).²⁴⁰ The rooms are distributed around three courts (A, C and D), each with an entrance from the street to the east, and a large central room (B). A long gallery extends along the length of the west side. Porticoes (G and H) on the street embellish the entrances to A and D. Most of the rooms communicate with adjacent ones. Germain states that these

²³⁹ Germain calls this the *apodyterium* (changing room) of the baths, but I wonder if it is also a pool, identifiable by the lateral projections across the front of the apse?

²⁴⁰ Ballu, "Rapport 1915" 239-242; "Rapport sur les fouilles exécutées en 1916 par le service des monuments historiques d'Algérie," *BAC* (1917) 292-300; *Mosaïques de Timgad*, 106-118.

unusual features suggest a building for collective use rather than a particular residence. Mosaics are preserved in nearly every room of the building and baths, testifying to a certain grandeur. Elsewhere, the presence of elegant mosaics in such buildings is considered by Germain to indicate a private residence.

The baths occupy the north end of the building, accessible from the portico (I) to the west of courtyard D and from passage J, and directly from the street by a doorway on the east side of courtyard 170. The courtyard (D), only connected to the house by a doorway in the south end of portico I, seems to segregate the baths from the rest of the building. These baths are constructed with more aesthetic interest than one sees in most private baths, particularly evident in the curvilinear shapes in the cold bathing room (171). Ballu identifies them as public baths, and their accessibility from the exterior and segregation from the rest of the building certainly supports public use of these baths. On the other hand, they are relatively small, within the size range of the larger private baths, and they appear to be tied into the architecture of the building. Germain attributes the baths to the building. Nine mosaics from the rooms and pools of the baths are cataloged by Germain.

Room 170 is paved with large cubes of terracotta. The size of the room and type of paving may indicate this is a palaestra, perhaps open to the sky.²⁴¹ Ballu lists an entrance on the east side of this room from the street, reached by four steps, with a landing (1.00 x 3.00 m) at the top of steps. A recess in the southwest corner is identified as an *exedra* (2.00 m deep, 2.40 m wide), described by Ballu as completely open to the sky. In the northwest corner, a small room identified as an *apodyterium* by Ballu opens to room 170. Between these two recesses, a doorway leads into the cold bathing room (171). On the south side, a doorway leads to J, the space between the courtyard (D) and the baths. Ballu identified this part as the service area for the furnaces of the baths. The service corridor begins further west, beyond the portico (I) to the southwest of J. At the west end of J is the entrance into the cold bathing room through an antechamber, and at the east end, the doorway to room

²⁴¹ Ballu, "Rapport 1915," 240-241. In Ballu's description of the baths, the compass points are rotated 90° to the east, so that his north is actually east. The compass points given under his description have been adjusted to agree with the plan and Germain's description (*Mosaïques de Timgad*, 106-118).

170, which also leads to the cold bathing room. This corridor is the bathers' main entrance to the baths.

Room 171 is the cold bathing room of the baths, paved with a checkerboard mosaic of diagonally-placed polychrome squares shaded concentrically. On the north and south sides are two cold pools (172), both paved in terracotta cubes. Semi-circular niches in three corners are decorated with a polychrome mosaic of radiating lines forming a seashell pattern.²⁴² In the southwest corner, a doorway leads to room K, the antechamber between the northwest end of the house and room 171.

The doorway to the heated part of the baths lies on the west side of room 171. The door sill is decorated with a mosaic of two pairs of sandals pointing in opposite directions. Below one pair, an inscription reads *bene lava*, and below the other pair the inscription is restored as [*salvu (m) lav jisse*]. The first wish is for the bather entering the hot baths, the other is for the bather who has completed the bath.²⁴³ Room 176 is identified as the *tepidarium*, with hypocaust indirectly heated by the adjacent hot rooms and geometric mosaic. An opening on the south side leads to room 177, and an opening on the west side leads to room L. Room 177 has a semi-circular pool on the south side, paved with white *tesserae*. There is no furnace indicated for this room, which apparently is indirectly heated from the west, like room 176. Room 178 is called the second *caldarium*, and the mosaic floor is also preserved here. There is a furnace in the west apsed end which Ballu identifies as an *alveus* (pool).²⁴⁴ A second rectangular pool is identified on the south side of this room, also with a furnace. Possibly the break in the west wall of the rectangular pool indicates a second furnace. According to Ballu, this room communicates with the room to the north (L), which is identified as the *étuve*. The *étuve* also communicates with the *tepidarium* 176, and has a furnace in the west wall.

No indication of the service room to the west and south of the hot rooms appears on

²⁴² The apses 173 and 174 preserve the mosaics, not the apse on the northeast side.

²⁴³ A. Ballu, "Mosaique romaine avec inscription dans les thermes de Timgad," *BAC* (1916) clxvii-clxx. Discussed below, pp. 214-216.

²⁴⁴ Ballu, "Rapport 1915," 240-241.

the plans, but Ballu mentions a service area for the furnaces of room 178. A small room, not excavated, is located outside the northwest corner of the cold bathing room, contiguous to the west of the north pool. A date is not given to the buildings or the baths. Germain attributes a third or fourth century date for the mosaics.²⁴⁵

Cirta (Constantine)

Originally a Punic settlement, and a capital of the Numidian kings from the third century BC, this important site entered the Roman sphere of influence and received a small enclave of Campanian merchants by the early first century BC.²⁴⁶ After the defeat of Juba I, Caesar granted Cirta and the surrounding territory to P. Sittius of Nuceria for assistance against Pompey's supporters. An inscription dedicated to Septimius Severus gives the city's status and title (*Colonia Julia Juvenalis Honoris et Virtutis Cirta*).²⁴⁷ The city acquired colonial rank early on, but whether this was under Caesar, Octavian/Augustus or a succeeding Julio-Claudian is not known.²⁴⁸ The monuments of the city and the urbanization are not well documented. Inscriptions record a unique status for the city, as the head of a confederation of four cities.²⁴⁹ The city, destroyed during the defeat at Cirta of the usurper Domitius Alexander in 310, was rebuilt by Constantine and renamed *Constantina*.

Maison à Sidi M'Cid (Palais de Sittius) (C.28)

The building was uncovered in 1961, and the figural mosaic and a brief report

²⁴⁵ *Mosaïques de Timgad*, 118.

²⁴⁶ A. Berthier and R. Goossens, *Constantine* (Toulouse 1965) 37-39; J. Heurgon, "Les origines campaniennes de la confederation cirtéene," *Libya* 5 (1957) 7-24.

²⁴⁷ *Bas-Empire* II, 383-384.

²⁴⁸ *ILAlg.* II.1, p. 40; and n. 626.

²⁴⁹ Heurgon, "Origines campaniennes," 7ff.

subsequently published.²⁵⁰ The discovery was in an area already known for evidence of a Punic settlement. The building was only partially uncovered, since modern buildings prevented extensive excavation. The earliest levels were identified by the excavator as Punic, but the building in the preserved form is from the Roman period.²⁵¹ Picard identified the remains as the southeast corner of a peristyle house with two successive sets of baths, one larger and the other smaller, from the Roman period. The two sets of baths are identified on the basis of two separate rooms (A and I) with hypocausts (fig. 85).²⁵²

At the center of the excavated area is a room (F) from which the two sections with hypocaust rooms are accessible. Room F is entered from an unexplored area to the south, and on the east side provides access to the larger baths (C,B,A) through corridor D and a room above a cistern (E). On the west Room F has a doorway to the southeast corner of the peristyle (portico G) and on the north an unexplored area of the building. The second set of rooms with hypocaust (H,I) are entered from portico G.

Room C is entered on the west side from corridor D, and provides access on the north side to room B. The two rooms (B,C) provide a retrograde route of access to room A. Both rooms are paved with a black and white geometric mosaic, and have no other distinguishing features or installations.²⁵³ The door sill between rooms B and C also preserves a small black and white geometric mosaic.²⁵⁴

Room A, entered on the west side from room B, has a well-preserved figural mosaic suspended on a hypocaust. The mosaic does not extend into the rectangular niche on the

²⁵⁰ The initial publication dealt with the mosaic found in the *caldarium* (A) (A. Berthier, "Une mosaïque solaire à Constantine," in *Mélanges Carcopino* [Paris 1966] 113-124). The results of the excavation and architecture were then published in a second article (A. Berthier, "La mosaïque de Sidi M'Cid, Constantine," *Actes du 104^e Congrès national des Sociétés savantes, Bordeaux 1979* [Paris 1982] 87-97). G.C Picard responded to Berthier's interpretations, concerning the mosaic in "Une mosaïque pompéienne à Constantine et l'installation des Sittii à Cirta." *RA* (1980) 185-187; and the architecture in "Le palais de Sittius à Cirta (Constantine)." *BAC* n.s. 18B (1988) 191-192.

²⁵¹ Since these excavations were not conducted stratigraphically, the exact sequence as described by Berthier ("Mosaïque de Sidi M'Cid," 95-96) is not solidly founded, although his identification of a Punic period and at least two later phases in the Roman period is likely.

²⁵² Picard, "Palais de Sittius" 191.

²⁵³ Berthier, "Mosaïque de Sidi M'Cid," 92.

²⁵⁴ *Ibid.*, 92.

north side, nor the apse on the south side. The lower floor of the hypocaust is plastered, and the *pilae* of brick tiles. In the level of the *suspensura* a small wall was constructed in front of the apse, and the space of the apse filled in with loose stones. At the north end, still in the level of the *suspensura*, an opening in the hypocaust to corridor J was filled in with stones.²⁵⁵ The north niche is also separated from the rest of the hypocaust by a wall, in the level of the *suspensura*, and it too was filled in with rubble to the level of the floor. Thus solid platforms were created in the two niches of the room. The filling up of the hypocaust probably occurred after the baths went out of service, since the air could no longer circulate below the room. Berthier, however, identified these modifications as the original features of the hypocaust, and thus did not believe it could ever have been heated. He suggested that the floor was simply raised up to put it at the same level as the neighboring room (B) which gave access to it, and that originally, the opening to J was the entrance to the room, before the *suspensura* was installed.²⁵⁶ This interpretation is evidently incorrect. The construction of a *suspensura*, and the use of brick, is clearly done with the intent to heat the room. It appears, however, the function of the room changed when the facilities for heating the hypocaust were blocked. The niche and apse were evidently reserved for the water receptacles of the room, which should be identified as the *caldarium*.²⁵⁷ This group of rooms forms one set of baths. A *frigidarium* is notably absent in their layout. Room B would probably be a moderately warmed room, heated indirectly from room A.

To the west, a doorway leads to portico G, which appears to be the southeast corner of a peristyle. From this portico, another group of two rooms, one with hypocaust, is reached. Room H is entered from G, and gives access to the hypocaust room I. The *pilae* of the hypocaust rest on a plastered floor, heated by a furnace at the southern end of the east

²⁵⁵ Berthier (ibid., 89) states that the stone lintel of a preexisting door was lowered to create this low opening between room A and J, and that the doorway belonged to the earlier, Punic phase of the building (ibid., 95). He does not identify the reason for the alterations to the doorway, but states that the earlier doorway went out of use with the construction of a hypocaust floor and a new entrance from room B. The opening must, in fact, have served as the furnace for heating room A, and corridor J must be the stoking room.

²⁵⁶ Ibid., 90-91.

²⁵⁷ The function and shape of this room are discussed further below, p. 182.

wall. The furnace would have been stoked from room G. This appears to be a second set of baths,²⁵⁸ although with no evident supply of water.

The date for these baths is not established stratigraphically. Picard suggests that the larger baths are contemporary with some of the private baths at Pompeii, since the mosaic of room A has some similar decorative elements.²⁵⁹ Thus he proposes a date of the second triumvirate, and suggests that the building may even have been the residence or palace of the Sittii at the site.²⁶⁰

AFRICA PROCONSULARIS

Hippo Regius

Hippo Regius, originally part of the Numidian kingdom, received municipal status under Augustus (*Municipium Augustum Hipponiensis Regionum*) and colonial status under the Flavians.²⁶¹ The site is most famous for its bishop from 395/6 to 430, St. Augustine, who died during the siege of the Vandals. Little is known of the city in the Vandal and Byzantine periods. E. Marec excavated a portion of the city. Along the ancient coast, a group of villas was discovered, and east of these the so-called Christian quarter centered on the Grande Basilique. East of this section again, the area of the forum and several other buildings were excavated, and the theater. One large set of public baths was discovered, to the north of the sea-front villas. Excavations southeast of this area exposed several more buildings, among them the maison à étages. Baths were found in this house, in one of the seaside villas, and in the Christian quarter. The full plans of the houses with baths could not be traced, as a result of the state of preservation in which the excavator discovered them. The three baths are incomplete, identified by the hypocaust system. None of the unheated sections are preserved. It seems probable in two examples that the baths ceased to function, and only the heating system survived subsequent transformations.

²⁵⁸ Picard, "Palais de Sittius" 191.

²⁵⁹ Ibid., 192; Picard, "Mosaïque pompéienne à Constantine," 187.

²⁶⁰ The mosaic and date of the larger baths are discussed below, pp. 217-224.

²⁶¹ *Bas-Empire II*, 113.

Maison à étages, la villa dite du procurateur (C.29)

The maison à étages (fig. 86) had at least two floors, the lower one built on two levels of a natural slope.²⁶² Three stairways (b, h, and n) are preserved, connecting the different levels and floors. The second floor opened at ground level to the street bordering the house on the north side, while the ground floor must have opened to the south. Poorly preserved, this was evidently once a luxurious building, with mosaic floors found in five rooms.²⁶³ Very little of the baths is preserved, and the relationship of the surrounding rooms is not clear.

A room with hypocaust (A) is the best preserved room of the baths, apsed at the north end, with openings on the west, north and east walls. The brick walls are preserved to a considerable height, 2.80 m on the north side, which supports the identification of baths. A general photograph (fig. 87) of the house shows the even face of the openings in the east, west and north wall. In their current state, these openings are all located at the floor level of the surrounding rooms. This suggests that they are openings in the hypocaust for heat circulation. However, if the baths ceased to function, they may be doorways connecting the room to the other parts of the house. In the photograph, the floors of room A and the room to the west (1) appear to be at the same level, indicating a simple doorway. The walls, preserved to 2.80 m on the north and 1.70 m on the east and west, would certainly include a portion of the wall above hypocaust level. A possibility is that one or two of the openings housed furnaces, stoked from the adjacent rooms, and the opening on the east side to room B is an opening in the hypocaust. The opening in the apsidal north wall appears to mark an entrance, furnace, or opening at hypocaust level. There is no indication of what lay immediately north of this room. Marec identifies the small apse in the south wall as the location of the furnace, but there is no place from which it could be stoked. It may have housed a basin. Room B communicates with A by an opening in the west side. The hypocaust is not preserved, and the room has disappeared with the erosion of the slope at

²⁶² E. Marec, "Maison à étages à Hippone, la villa dite du procurateur," *AntAfr* 3 (1969) 160-161.

²⁶³ The mosaics were found in a deteriorated state. One figured mosaic from room L', of nereïds and marine centaurs, was in better condition (*ibid.*, 161-168).

this end. To the south of B, b marks the location of stairs, where the lower steps in marble were found. Room C is separated from room A by two drains which continue along the east side of room C. Room C had a mosaic, badly destroyed. It is impossible to know whether this room was connected to the baths. Room D, also with the fragmentary remains of a mosaic, is connected to the room immediately north of it through a wide door. This room in turn is connected to the baths through the opening on the west side of room A, but its function is uncertain. Under room I is a cistern, well preserved.

No date is given for the baths. Several finds from the area across the street led to the identification of this house as the residence of the procurator from the second century.²⁶⁴ None of these finds, however, are directly associated with the house, and it is difficult to support the identification as the procurator's residence.

Quartier des villas, seaside villa with baths (C.30)

A peristyle house in the quartier des villas (fig. 88), near the Christian quarter, has a set of baths.²⁶⁵ This building underwent several changes, and it is not entirely clear how the different phases relate to one another. Marec identifies the traces of the house underlying the one with baths as the oldest.²⁶⁶ Remodeling of the house in this area causes confusion about the nature of this building and the features of the early phase. No full description of the building is given, and the relationship of the rooms in the baths to each other cannot be deduced from the plan. In the preserved phase of the house, the baths do not appear to function any more, since part of them must have been superseded by later remodeling.

²⁶⁴ Several inscriptions mentioning the procurator or the granaries were found near the house: 1) the base of a statue set up for the procurator under Trajan, Titus Flavius Macer, in charge of procuring grain for Rome; 2) the pediment of a small temple raised up in honor of Hadrian by the administrator of the estate and the procurator; 3) the pediment from an altar in marble to the protective deities of the imperial granaries by their custodian, Sabinus, under Septimius Severus and Caracalla. These monuments are thought to indicate the location of the offices for the administration of the estates, probably near the imperial warehouses for grain (ibid., 172).

²⁶⁵ E. Marec, *Hippone, antique Hippo Regius* (Algiers 1950) 36; *Hippone la Royale, antique Hippo Regius* (Algiers, 1956) 45, 125-126.

²⁶⁶ Marec, *Hippone la Royale*, 94; for a discussion of various suggested dates for the mosaics of the villa, see Dunbabin, *Mosaics of Roman North Africa*, 238-239.

There is no discussion of how the baths relate to the house.²⁶⁷ The rooms of the baths are located along the west and east sides of area 7. Room 10 is identified as the *frigidarium* with a cold pool at the northeast end by Marec. Two rooms (both called 9bis)²⁶⁸ have hypocaust floors, heated by the furnace (9) in the south corner. The north part appears too long and far removed from the furnace to be properly heated, and the communication between the two rooms is marked by a break in the wall where the rooms meet the southwest corner of room 7. Number 11 designates two heated pools. Communication with the heated rooms appears to be indicated by two breaks in the northern wall of the space between the pools. It is not stated whether this room has a hypocaust. The final features connected with the baths are the reservoirs (8) indicated to the west and northwest of the northern room 9bis.

The six identified phases of the building are dated on the basis of the styles of the mosaic floors, which Marec considers to range from the first to the fourth century AD. He associates the baths with the second of these phases, and so early in the house's history. It is difficult to know if the baths went out of use in the later phases, but their basic features appear to be untouched by later changes.

Maison privée in the Quartier Chrétien (C.31)

Originally two or three houses occupied the east part of the block into which the Grande Basilique was inserted (fig. 89).²⁶⁹ This area was occupied by wealthy peristyle houses, evident in the outlines of the earlier plans and mosaic decoration.²⁷⁰ Baths are

²⁶⁷ Février states that they can be reached from the peristyle through an intermediary room (*Approches* II, 61, 63).

²⁶⁸ The large room (7) to the north of the baths provides access on the east side to a long corridor with an octagonal hypocaust room (9bis) at the south end, not connected to the baths.

²⁶⁹ E. Marec, *Monuments chrétiens d'Hippone* (Paris 1958) 105-106.

²⁷⁰ Mosaics from underlying structures were also kept as decoration in the Basilica. Marec suggests this was done out of respect for their religious function, but there is evidence that the so-called apsidal shrine under the southeast end of the basilica was originally a peristyle and large room opening to it, identified by the shapes of the reused mosaics (*ibid.*, 36-37; Gui et al., *Basiliques Chrétiennes*, 346, 349, fig. 180.2; and see below, n. 273)

identified in the southernmost house, which may not be independent of the larger house to the north, the so-called maison de Julianus.²⁷¹ All that remains is the hypocaust (9) of one of the heated rooms, and evidently the service corridor (B), accessible from the street to the southwest.

No date is assigned to the house, which was joined to the large basilica, and converted into the baptistery. The construction of the basilica is also not securely dated. Marec suggests expansion of the basilica occurred after 324, when bishops were told to reestablish old basilicas by Constantine, an unproven hypothesis.²⁷² The only elements which are datable from the basilica are the mosaics, which were laid out at different stages. Some mosaics precede the basilica, coming from the earlier house,²⁷³ evidence of the incompleteness of the work. Lassus dates these mosaics from the earlier phase to the first part of the fourth century. The presence of mosaic decoration, the recognizable house plans in the block, and the triconch dining room indicate that this was the site of several elegant and wealthy houses. The earliest mosaics of the basilica are mid- fourth century, and many funerary inscriptions date to the Vandal period, after the construction of the basilica.²⁷⁴

²⁷¹ Marec identifies the basilica as the *Basilica Pacis* of Saint Augustine, and therefore the building to the north as the *domus Juliani* which Augustine had difficulty in acquiring. Duval asserts that this identification of the *domus Juliani* is not provable, nor is there formal proof for the identification of the *Basilica Pacis* (Gui et al., *Basiliques Chrétiennes*, 346, 349).

²⁷² Marec, *Monuments chrétiens*, 43.

²⁷³ The earlier mosaics in the southeast end of the basilica paved the porticoes of a peristyle (ABC) and the rectangular mosaic to the northwest paved a room identified as the *oecus*; Gui et al., *Basiliques Chrétiennes*, 347-348, 349, figs. 180.2; (fig. 90).

²⁷⁴ Lassus' dating cited in Gui et al., *Basiliques Chrétiennes*, 346, 349.

PART III: TUNISIA
AFRICA PROCONSULARIS

Althiburos

The city of Althiburos is situated inland in the province of Africa Proconsularis, on the Carthage-Theveste route. Exploration of the site began at the end of the nineteenth century, but detailed study of the architecture is a recent undertaking, by M. Ennaïfer.²⁷⁵ Inscriptions attest to the presence of a village at the site from the Numido-Punic period,²⁷⁶ with Romanisation occurring slowly in the first century AD.²⁷⁷ Under Hadrian the city received municipal status, *municipium Aelium Hadrianum Althiburitanum*, an event which is commemorated by the dedication of an arch.²⁷⁸ The public monuments and houses are dated to the prosperous period under the Antonines and Severans, when the city appears to have benefited from its location along the Carthage-Theveste route. There is little evidence from the rest of the third century, and the later history of the city is not well documented.²⁷⁹

Excavations were conducted in the area of the forum, and less intensively to the east and southeast of the forum, exposing public buildings and monuments. Other remains to the north of the forum consist of isolated finds. Northeast of the forum, beyond the ravine of the *oued aïn oum el abid*, two houses have been exposed. Only one house, the so-called *édifice des Asclepieia*, has private baths.²⁸⁰ Separated from the *édifice des Asclepieia* by a large unexplored space is another peristyle house, the *maison des Muses*. A third house

²⁷⁵ *Althiburos*.

²⁷⁶ *Althiburos*, 15-16

²⁷⁷ The evidence is supplied by funerary inscriptions of Julii, indicating the presence of Romans at the site. In the surrounding area, some other cities acquired municipal or colonial status under the Julio-Claudians and Flavians. Althiburos is not included by Pliny in his list of North African cities (*NH* 5.4.29). Evidence discussed by Ennaïfer (*Althiburos*, 30).

²⁷⁸ *Ibid.*, 30-31.

²⁷⁹ *Bas-Empire* II, 64. Several Catholic bishops are mentioned, in 393, 411, 484, and 646 AD, and one Donatist bishop in 411; the city continued into the Byzantine period, probably abandoned during the Arab conquest (*Althiburos*, 38-39).

²⁸⁰ Partially excavated by P. Gauckler, "Un catalogue figuré de la batellerie gréco-romaine, la mosaïque d'Althiburos," *MonPiot* 12 (1905) 113-154; further exploration by A. Merlin, *Forum et Maisons d'Althiburos* (*Notes et Documents*) 6 (1913) 5. Complete excavation and study by Ennaïfer (*Althiburos*).

lies to the north of the forum, and Merlin also excavated a house near the forum.²⁸¹ The mosaic decoration found in the houses is indicative of the elegance of these residences, and the prosperity of their occupants.

Edifice des Asclepieia (C.32)

The édifice des Asclepieia is a large building, 1600m², consisting of a central peristyle house and annexes to the east (fig. 91).²⁸² The principal entrance is on the south side of the central building, through an arcaded portico (1) flanked at either end by a tower (2 and 3). The middle doorway in the rear wall of the arcade leads into the entrance room (4) flanked by an *impluvium* on the east and west. The two basins are in turn encircled by U-shaped corridors (5 and 9) and a series of three rooms. The peristyle is entered on the central south-north axis, and Ennaïfer asserts that in the beginning the rooms on the east side of the peristyle mirrored those on the west side.²⁸³ A large room (16) on the west side, which opens to the peristyle through a triple bay doorway, is flanked by lightwells (15 and 17).²⁸⁴ A similar arrangement is evident on the north side (22, 23 and 24), and probably originally on the east side. The latter was altered in the third and final period of the house when room 28 was enlarged to include the two lightwells which flanked it, and two corridors (29 and 10) were connected to the courtyards to the east (36 and 40). The extension on the east side of the house includes two apsidal rooms facing each other in the north, the two central courtyards with rooms along the east side, and the baths at the southern end of the extension.

Access for bathers is apparently exclusively from within the building from corridor

²⁸¹ Merlin, *Forum et Maisons d'Althiburos*, 36-38; and 15, pl. 2.

²⁸² *Althiburos*, 89-92.

²⁸³ Ennaïfer's first period, phase A, dated by the mosaics he attributes to this period from room 6, and the left door sill of rooms 7 and 8, and the doorsill of room 14 (*ibid.*).

²⁸⁴ Ennaïfer calls this room the *triclinium* because the mosaic border has subjects suitable for a dining room, in his opinion, despite the rectangular shape of the mosaic (*ibid.*, 80).

10 into courtyard 40.²⁸⁵ An exterior entrance to the baths from the east side leads to a wagon shed (46) and the service area (59). Another door from the exterior led directly into service room 59, but is blocked with a stone wall. Access is also possible from the east side of the entry room (4) to the house. Three heated rooms (11, 12, and 52) are connected to the baths by a doorway between rooms 52 and 51. The function of these heated rooms and their connection to the baths cannot be determined. Apart from the courtyard and these heated rooms of the central building, the baths contain five unheated rooms (58, 49, 50, 51, and 54) and two or three heated rooms (55, 56/57).

Courtyard 40 is a large space, with no pavement preserved, which Ennaïfer suggests may be a *palaestra*. An area for exercise seems probable. A doorway leads from the courtyard to room 48, a room in the baths. Room 48 is paved with large stones which rest on small walls, raising the floor 0.72 m to the same level as the rest to the baths. The paving stones are described as charred/burnt by heat, indicating that the corridor may have been heated from the adjacent service room (59). At the foot of the north wall, next to the doorway from courtyard 40, a stone trough was found.

The original entrance from courtyard 40 was into room 49. A rectangular niche in the north wall replaced the original doorway to courtyard 40. Ennaïfer suggests that the niche held a statue.²⁸⁶ The room has projecting stones forming the support for benches along the east and west walls, identifying it as the changing room (fig. 94). The floor preserves traces of a row of terracotta tubes, embedded horizontally in the floor at the south

²⁸⁵ Access to courtyard 40 from the house is a serious problem with Ennaïfer's reconstruction of the different phases (ibid., 88, 146-151). He states that it is entered from corridor 10, and in the final phase this is certainly the case. In period 2, phase A, however, no mention is made of the destruction of the original eastern wall of the central building which makes this access possible. In the plan for this phase (fig. 92) there is an error. The rooms of the eastern side of the peristyle from room 28 south to the heated rooms 11, 12 and 52 are portrayed as they are in the third phase; the plan of phase B in period 2 (fig. 93) portrays this area as unaltered since period 1, phase B. In this plan, no access to courtyard 40 is apparent; the only access to the baths is through the heated rooms 11, 12, and 52. The remodelling of this corner of the central building is probably more complicated than Ennaïfer suggests. The change to the east end of the house must have occurred at the time the baths were constructed or before, which would balance the extension of the house to the northeast into the area of the the apsidal rooms' (32 and 33). The space covered by the two courtyards (36 and 40) is apparently divided by a wall; when this wall was constructed is not known.

²⁸⁶ Ibid., 90.

end, from which Ennaïfer reconstructs the presence of a partition between rooms 49 and 54. The rectangular pool with apsidal ends (53) occupies the south side of room 50, the cold bathing room. The cold bathing room is connected to rooms 49 and 54 to the east, and on the north side, a large rectangular room (51) opens along its length to room 50.

Room 52 is reached from a door in the west wall of room 51 by a step, and is considered part of the thermal group, although it was originally connected to the heated rooms west of the baths, as indicated by the construction. The relationship to the baths of the three heated rooms (11, 12 and 52) is not entirely clear, especially the access they provide to the baths. These rooms are earlier than the baths. There is the same reddish concrete in the lower floor of the hypocaust of room 52 as in the hypocausts of rooms 11 and 12, although the floor is higher by 0.25 m in room 52. The doorway between room 11 and room 52 was blocked at some point. Traces of a mosaic preceding the current floor level exist, which is about the same level as the floor of room 51, and must be the upper floor of the hypocaust. When the hypocaust of 52 was filled in, another pavement was laid out, necessitating a step up to room 52 from room 51. Later, room 52 was divided by a north-south wall, built over the later mosaic.

Room 55 is entered through a door from room 54, and according to Ennaïfer was separated from the heated rooms by a small wall of vertically set ceramic pipes, no longer visible. The door sill to room 54 has a mosaic, as does the floor of the room. This room appears to be the transitional space to the hot rooms. The hypocaust of room 56 extends under this room, probably as far as the west wall. A mosaic on the door sill indicates the entrance from room 55, since the walls are destroyed almost to the foundations in the hot rooms. Room 56 is the heated bathing room (fig. 95). The shape of the apsidal pool at the east end of room 56 can be seen in the foundations, which still preserve the furnace (f1).

Room 57 is called the *sudatorium*, although no evidence of a division from room 56 is preserved in the hypocaust level. The hypocaust of room 56 apparently extended north under room 57 with no break. This is quite probably an alcove, or even a recess for a basin of water. The room is described as above a heating channel covered by an arch, which is the

furnace (f2) in the north wall. The floor is slightly inclined towards the furnace. East of room 57, a small space (58) is identified by Ennaïfer as the *tepidarium* or *étuve*.²⁸⁷ Examining the architecture, I have concluded that this space was not a room connected to the baths, but rather part of the service corridor with a furnace (f3) heating room 57. The arch which covered the opening is preserved at the springer level, but the interior brick lining has perished (fig. 96). The other possibility is that the arch is simply an opening connecting the hypocaust of room 57 to the hypocaust of room 58, a heated room. However, the east ends of the north and south walls of room 58 suggest that the “room” was not closed to the service corridor. The ends of the walls are finished in worked stone, creating a neat terminus for the walls, with no evidence of a cross wall. This building practice is also seen in the spur walls of furnace f1. Finally, evidence for the presence of *pilae* and *suspensura* is not preserved in room 58.

The chronology of the house is quite complex, given the numerous alterations, and made more difficult to interpret by improper excavation. The alterations of the building are dated on the basis of the style of mosaics, and the occasional coin or soundings for ceramics. Ennaïfer distinguishes three periods to the house, the first two of which have two phases.²⁸⁸ This first period is dated to the first quarter of the third century by the mosaics, when the house consisted only of the central building laid out symmetrically along the central axis.

Two alterations occurred in the first period in the northeast and southeast ends of the east side, called phase B. The rooms east of corridor 9 were transformed into rooms with hypocausts (11, 12 and 52) with a service corridor (10) extending around the east side of room 11 to the furnaces. This small group of heated rooms is not identified as part of the later baths to the east, or attributed to earlier baths by Ennaïfer. Since room 52 opened to the baths when they were constructed, there must be some relationship between the construction of these rooms and the baths. The other change is the expansion of the house

²⁸⁷ The numbering of room 57 and room 58 are not correctly cited in the text, and room 58 is identified as room 57, although room 58 is clearly meant (*ibid.*, 92).

²⁸⁸ *Ibid.*, 143-152.

to the northeast, although from Ennaïfer's description of the evidence, the types of rooms here are difficult to reconstruct. The mosaics found in this area (under later mosaics) constitute the evidence of this phase, but walls are also shown on the plan to the south of the apse 33. This phase, Ennaïfer suggests, appears to date towards the middle of the third century.²⁸⁹

Ennaïfer attributes the most impressive changes to the second period of the house, again with two phases. The first phase (fig. 92) is dated to around 280-290 AD by Ennaïfer, when he states that the building without a doubt changed ownership and usage.²⁹⁰ Unusual or impressive features lead Ennaïfer to believe that the building no longer functioned as a residence, but became a building for collective use. Firstly, the axial symmetry was monumentalized. The exterior steps leading from the south to the entrance of the building through the portico (1) were embellished when the ground in front of the building was lowered and a flight of six steps added to either side of the old stairway. The northernmost room (23) on the line of the principal doorway's axis received the mosaic with the crown depicted with the word *Asclepieia*. The two most elegant figured mosaics are dated to this phase, the so-called ship catalogue in the entrance room (4), and the hunting mosaic in room 16.²⁹¹ The *opus sectile* lining the walls in the U-shaped corridors 9 and 5, and the pink limestone revetment elsewhere on the walls, are also attributed to this phase. Ennaïfer assigns the construction of the northern apsidal room (32) in the northeast extension of the house to this phase. The other significant addition at this time is the construction of the baths in the southeast corner of the building.²⁹² In this phase, two routes to the baths are identified. One is from space 40 through a doorway directly into the changing room, 49, and the other is through the heated rooms (11, 12, and 52) adjacent to corridor 9. The second phase of period 2 includes alterations to the baths (fig. 93). The wall extending south from the southeast corner of room 28 was dismantled, creating

²⁸⁹ The mosaics of lightwells 22 and 24 are also assigned to this phase (ibid., 146-147).

²⁹⁰ Ibid., 147.

²⁹¹ Ibid., 147-148; also 100-101 for the ship catalogue and 92-93 for the hunt scene.

²⁹² The mosaic decoration is contemporary with the other mosaics from this phase in the central building (ibid., 148-149).

corridor 10 to courtyard 40, and corridor 29 to courtyard 36.²⁹³

The third phase involves minor and major alterations in all parts of the house. It is dated by a coin found in a sounding made under the mosaic of room 19, which is attributed to this phase. The coin is of Constantius II or Julian, which leads Ennaïfer to date the final stage to 355-360 AD. In the area of the baths, rooms 11, 12 and 52 cease to be heated, and the doorway between room 12 and room 52 is blocked.²⁹⁴ The mosaic in room 52 is replaced, cutting into the mosaic of room 51 with a step, and repairs are carried out to the mosaic of room 49. The doorway from courtyard 40 to room 49 is blocked, and another opened instead between room 48 and the courtyard. Room 48, in turn, gives access to room 49.²⁹⁵ A stairway is built where the doorway to 49 had been, and a basin placed underneath the stairs.²⁹⁶

The different stages of the building are distinguished by Ennaïfer as far as the surviving evidence permits. The rooms lying to the east of the courtyards 36 and 40 are not included in the phases, possibly because of the lack of mosaic decoration. The eastern extent of this area is not excavated, with the result that it is impossible to know how it fits into the extension to the east of the *édifice des Asclepieia*. There is also difficulty in establishing the connection of the baths to the house through the area occupied by rooms 10, 11, 12 and 52 in the different periods, and several different stages are evident here. A problem with this area is that it appears as if one had to enter the baths through these heated rooms.

Bulla Regia

The city of Bulla Regia (**fig. 97**), located in the middle valley of the Medjerda, evolved from a Numido-Punic settlement. The city achieved municipal status in the first

²⁹³ Ibid. The mosaics of the the corridors, and mosaics replaced around the peristyle are also attributed to this phase (rooms 18, 20, 21, 25, 26, and 31).

²⁹⁴ Ibid., 150.

²⁹⁵ Ibid.

²⁹⁶ Several smaller transformations are considered to be posterior to the third period, indicating another phase, during the second half of the fourth century; *ibid.*, 151.

century AD,²⁹⁷ and colonial status was granted under Hadrian. The remains at the site date from the first to the sixth century, but most are second to the fourth century. A mid-seventh century bishop from the site supplies the latest evidence for the continuity of the city.

The site was first explored in the second half of the nineteenth century, and excavations were carried out sporadically from the end of the century until 1972. These excavations were incomplete, dispersed over the site, and remain largely unpublished. The domestic architecture found during these excavations is currently only discussed by Thébert.²⁹⁸ In 1972, a Franco-Tunisian programme was established to study and publish all of the remains. The first volumes of these reports have appeared, but study of the domestic architecture is still in progress.

A unique feature of the domestic architecture at the site attracted attention during the early excavations. Ten of the excavated peristyle houses have a subterranean level, hewn out of the bedrock.²⁹⁹ The rooms are arranged around a central subterranean courtyard, which serves as a light well,³⁰⁰ or open from an underground corridor, lit by individual windows to light wells located behind the larger rooms.³⁰¹ Three of these houses have private baths; the *maison de la chasse*, the *maison de la pêche* and the *maison d'Amphitrite*. Other unexcavated houses with subterranean rooms are also evident in the neighbourhood of the *maison de la chasse*, indicating the popularity of this design. One of these buildings, the so-called *édifice de Diane*, has baths, of which only a furnace and two hypocausts are

²⁹⁷ Probably under Vespasian (A. Beschaouch et al., *Les Ruines de Bulla Regia* [CEFR 28, Rome 1977] 11).

²⁹⁸ Y. Thébert, "L'architecture domestique romaine à Bulla Regia," diplôme d'études supérieures (Paris 1966); "Les maisons à étage souterrain de Bulla Regia," *CahTun* 20 (1972) 17-44; "L'utilisation de l'eau dans la maison de la Pêche à Bulla Regia," *CahTun* 19 (1971) 11-17. Brief details of subsequent excavation and study of the *maison de la chasse* (C. 34) appear in Y. Thébert, "Private life and Domestic Architecture in Roman Africa," *A History of Private Life. Vol 1: From Pagan Rome to Byzantium*, ed. P. Veyne (London 1987) 313-409; and Y. Thébert, "L'évolution urbaine dans les provinces orientales de l'Afrique romaine tardive," *Opus* 2 (1983) 114; the final publication is forthcoming.

²⁹⁹ These houses are the *maison de la chasse*, *maison de la nouvelle chasse*, *maison de Diane*, *maison de la pêche*, *maison d'Amphitrite*, *maison du paon*, *maison n° 1*, *maison n° 2*, *maison n° 3*, and the *maison du trésor* (Thébert, "Maisons à étages souterrain," 19-25; H. Broise and Y. Thébert, *Les thermes Memmiens* [CEFR 28/II,1, Rome 1993] 368-372).

³⁰⁰ Such as in the *maison de la chasse* (C.34) and the *maison de la pêche* (C.35)

³⁰¹ Such as the *maison d'Amphitrite* (C.37).

recognisable.³⁰² Twelve other excavated peristyle houses do not have an underground level. Most of these are incompletely excavated, but one, maison no. 8, is the fifth house with baths known from the site. At this time there is no systematic study of the houses or their decoration, and a chronological framework for the houses is lacking.

Maison de Diane (C.33)

A partially excavated house called the maison de Diane (fig. 98),³⁰³ located on the northeast side of the thermes Memmiens, has domestic baths. The section of the house which has been excavated includes the principal subterranean room. An octagonal room with four apsidal niches is situated above an underground room of the same shape which has an opening at the summit of the domed ceiling, and light wells and other subterranean rooms are arranged around the octagonal room. The area to the northeast and the southern limit of the house have not been excavated, nor is the original extent of the house on the west side known, since this area was incorporated into the thermes Memmiens.³⁰⁴

Part of a set of private baths belonging to the house have been identified in the altered west section of the house. Room 13 was a heated room. The hypocaust is not preserved, but the furnace in the southern wall is visible (fig. 99). Room 15 is also a hypocaust room, with no evident communication between it and room 13. Broise and Thébert suggest that the construction of the baths was also accompanied by the walling off

³⁰² The so-called édifice de Diane, adjacent to the thermes Memmiens, is now identified as a house with a subterranean level (Broise and Thébert, *Thermes Memmiens*, 368-372). See below, n. 303.

³⁰³ Formerly the édifice de Diane, since Carton thought that the domed octagonal subterranean room held an altar to Diana; now considered the subterranean section of a house, typical of élite domestic architecture at Bulla Regia. Beschtaouch et al., *Ruines de Bulla Regia*, 32-33; Broise and Thébert, *Thermes Memmiens*, 368-372. L. Carton, "Lettre sur les fouilles de Bulla Regia," *CRAI* (1922) 172-175, and "Les fouilles de Bulla Regia au printemps de 1922," *CRAI* (1922) 326-333; "Découvertes faites en 1914 dans les fouilles de Bulla Regia" *BAC* (1915) 184-203.

³⁰⁴ Two underground extensions below room 1 served an underground area which was appropriated for the construction of the large cistern separating the north end of the house from the baths, confirming that the house preceded the construction of the baths. The area south of the cistern, rooms 9-14 and light-well 6 were also altered following the construction of the baths, but the subterranean section below room 8 shows that the area to the west of wall am was part of the original house. The opening between room 4 and light-well 6 was blocked, and a door opened between rooms 6 and 8 at ground level (Broise and Thébert, *Thermes Memmiens*, 368).

of the communication between corridor 7 and room 17. They state that the relationship of these southern rooms with the rest of the house is difficult to interpret, but suggest that the units located west of wall am, including the baths, belong to an alteration of the house after the construction of the thermes Memmiens.³⁰⁵

The only chronology that can be established for the house is related to the thermes Memmiens, and the same is true for the private baths. The construction of the thermes Memmiens is dated between 220 and 240 AD. Following the interpretation of Broise and Thébert about the relationship of the maison de Diane and the thermes Memmiens, the private baths were constructed after the adjacent public baths. The thermes Memmiens, which had a long period of use, continued to function as baths until at least until the second half of the fifth century.³⁰⁶ The length of use of the maison de Diane, however, is not known. The domestic baths are later than first third of the third century.

Maison de la Chasse (C.34)

The maison de la chasse (fig. 100) is a large peristyle house with a subterranean level in the northwest area of the excavations, bordered on the northwest side by the contiguous maison de la nouvelle chasse. The insula of the two houses is bound on all four sides by paved streets intersecting at right angles. The underground rooms of the maison de la chasse were excavated between 1903 and 1904 and the ground level rooms in 1910 by Carton, and further excavations were carried out between 1959 and 1962 by Boulouednine. Thébert studied the house, which was still incompletely excavated in the area of the baths, and included it in his examination of the underground structures of houses at Bulla Regia.³⁰⁷ Subsequently, the Franco-Tunisian team has completed the excavation of the insula, and uncovered the adjacent maison de la nouvelle chasse.³⁰⁸

³⁰⁵ Ibid., 372.

³⁰⁶ Ibid., 387-388.

³⁰⁷ Thébert "Architecture domestique," microfiche, page numbers missing; "Maisons à étage souterrain," 19-20.

³⁰⁸ Beschaouch et al., *Ruines de Bulla Regia*, 55, 63; and see above, n. 298.

Renewed excavations have established the development of the insula.³⁰⁹ In the Hellenistic period under the Numidian monarchy this insula was laid out under strict orthogonal planning in this area of the city, and consisted of four lots of approximately 1524 m². This arrangement was not altered until the Severan period, when the southernmost block was joined to the central eastern block. The central western block was added to this residence in the mid-fourth century, of which a small segment was attached to the *maison de la nouvelle chasse*. This addition provided space for the construction of the basilica and the private baths in the *maison de la chasse*. At the end of these additions, the house covered an area of 4572 m². The original underground peristyle and rooms on the north and west were constructed in the Severan period, but they were built on the site of an earlier underground unit. The construction of the currently visible subterranean rooms occurred in the mid-fourth century, when most of the mosaic floors were also replaced.³¹⁰ The house also acquired space from the street. When the streets were repaved, the exterior walls were rebuilt further out from the original façade, and the exterior recess vanished with this extension.³¹¹ Another attempt to acquire public space by the proprietor of the house appears to have been less successful. Thébert states that a pool for the baths was installed in the space of the street to the west of the house, at some point in time well into the fourth century.³¹² The pool was then carefully filled in, which Thébert suggests illustrates the local authority's power to curtail expansion into public space of private houses.

The baths are situated in a row along the southwest side of the house. Thébert includes a brief discussion of the remains, but at this time the excavation of the heated section was incomplete.³¹³ The baths consist of two units, interrupted by a vestibule (37) providing access from the street to the basilica. The first unit is north of the vestibule. Corridor 33, which opens from the central hall (24) of the basilica, has an apsidal unheated

³⁰⁹ Thébert, "Private life," 343-345.

³¹⁰ *Ibid.*, 348-349.

³¹¹ *Ibid.*, 345. This expansion must have occurred before or when the heated rooms of the baths were built, since the baths occupy part of this extended space along the west façade.

³¹² *Ibid.*

³¹³ Thébert, "Architecture domestique," page numbers missing.

pool on the north side with two steps for descending into the water.³¹⁴ The corridor turns north at the end, leading to the latrines (35).

South of vestibule 37 are several other rooms which belonged to baths, or possibly just the heated section of the baths. This area is reached through an intermediary room (38) which opens on the east to rooms 39, 40 and 41, and on the south to room 42. The first group of rooms (39, 40 and 41) are not readily identifiable as part of the baths. Thébert notes that the floor in room 41 was raised .27 m, and there are two *pilae* of brick attached to one of the walls in the room, which may indicate that a hypocaust was built. However, there is no indication of a furnace, which he states weakens this suggestion.

Room 42 had not been fully excavated when Thébert originally made his study, and the opening in the substructure connected to the hypocaust heating system was evidently unknown. He lists a basin, rectangular in shape with rounded angles, one meter deep, which occupies the room designated on the new plan as 42a (fig. 101).³¹⁵ To the south of this pool is a second area which held a hypocaust (42b,c). This rectangular room was roofed by a barrel vault constructed of ceramic vaulting tubes, still visible today. The walls and beginning of the vault are preserved because the floor of the room is located at a considerable depth below the surrounding rooms and street (fig. 102). The southern end is apsed (42c), and it holds an arched opening (fig. 103) one meter high and .90 m wide constructed of stone to the narrow space behind it, 42d on the new plan (figs. 104, 105). Thébert writes that 1.50 m in front of this opening, the floor of room 42b is one meter deeper than the rest of the room, and this may be the location of the furnace. He also suggests that the difference in elevation between the basin in 42a and room 42b may be due to the disappearance of the hypocaust floor, which is certainly the case.³¹⁶ To the south of the heated section are three other rooms (46, 47 and 48), which Thébert suggests may have been hypocaust rooms in an earlier phase. Room 45 originally communicated with the furnace in 42c, but was blocked off. It contains two ventilation shafts to the underground

³¹⁴ Ibid.

³¹⁵ Ibid.

³¹⁶ Ibid. However, I believe that room 42a was reorganized at a time when 42b/c/d went out of use, and this is the phase preserved. I do not know if the subsequent excavations have explored this development.

rooms, and a third shaft is located in room 43. Thébert therefore suggests that the baths may have gone out of use at some point.³¹⁷

Since Thébert's description of the rooms was written, room 42a has been cleared, but the house is still under publication. More recently, Thébert mentions a first set of private baths in the house, indicating that the baths were significantly altered in a second phase.³¹⁸ He writes that the latrines were installed in room 35 when the cold bathing room, represented by pool 34 in corridor 33, was moved further south. There is no further mention of the location and features of the new cold bathing room.

Several additional features of the rooms of the baths are worth mentioning, and support Thébert's suggestion that the baths did not function in the preserved phase of the house. This is most obvious in the area of the stokery of the furnace in room 42b/c, room 42d. Not only did a wall block off this room from room 45, the area of room 42d between the rear wall of the apse in which the furnace was located and room 48 is too narrow to house a complete furnace, or even to stoke it. Room 48 is divided lengthwise, in an east-west direction, by a wall only preserved to the height of the current floor level, which appears to be a wall from an earlier phase levelled off when the floor level was raised. This is possibly the southern wall of the furnace room. Currently an uncovered concrete drainage channel traverses room 42c, going from room 45 to the street. This appears to be a modern feature, since it exits through a small hole in the wall, and empties on top of the paved street rather than into the drainage system below the street. The space of this room is not excavated to the same depth as room 42b, which is considerably lower. Room 45 would also have been lower, if it provided access to the furnace room. Thébert's suggestion that the rooms in the southwest corner were raised up would explain this difference; however, this change in level must have occurred after the furnace went out of use. Most furnace rooms have an entrance from the street, for supplying the furnace, which may possibly be identified in the small space between two piers of the *opus africanum* exterior wall, but this wall is also heavily restored.

³¹⁷ Ibid.

³¹⁸ Thébert, "Private Life," 380.

The renewed excavation also cleared out room 42a, and it is now possible to see the shape of the room and the basin. The circular room is entered from the north and has four apsed niches. The south side is occupied by a basin facing into the room, located in the slightly apsed space between rooms 42a and 42b (fig. 101). The pool has been restored since excavation, attested by the use of modern building tile, and is not bonded to the surrounding walls.³¹⁹ It is unlikely that this was a heated pool, for two reasons. Firstly, the construction does not appear to be heat resistant. Normally, the heated pools have a foundation of bricks, to which the cement and mosaic decoration is bonded. The space in which the pool is situated is not wide enough to include such a substructure for the pool. Secondly, its location effectively blocks the only point of access to room 42b, which it must have put out of use. The whole restoration, however, may not reflect the original placement of the pool. The bottom of the pool currently rests on the floor of room 42a. I am not sure how accurate this reconstruction is, but certainly it would be impossible to have a pool located at such a level, since the retaining wall of the water, destroyed, would have to be reached by stairs placed in the room. It is normal for the pool to be sunk into the floor, with a raised sill and a couple of steps assisting in descent. The floor of the room is now gravel, which the excavators must have put down after clearing the room. The forthcoming publication will hopefully clarify the reconstruction. In any case, the pool blocked off the heated section to the south of it.

Room 42a may have been heated, but some features are confusing. The floor of room 42b is approximately one meter below the floor of 42a. In the base of the profile created between the two levels is an opening which demonstrates that the hypocaust of the two rooms communicated. The opening is, however, not very high, and it is difficult to determine any other features about it. This is certainly not a furnace opening, but rather the communication between the hypocaust of 42b and 42a. 42a was apparently indirectly heated by the furnace of room 42b. Perhaps room 42a was originally a heated room of the baths, but its function changed when the basin was built. This may have occurred when the

³¹⁹ Room 42a was apparently excavated below the current floor level in the recent excavations.

furnace went out of service, and may be the occasion for raising up the floor levels of the rooms in the southern corner of the house.

It is possible to identify some features of the original layout of the baths. Room 42bc is partially divided by a low wall which does not extend across the room. The central section is missing. This is a standard feature of a support wall for a heated basin, with the heat of the furnace being conducted under the pool and into the hypocaust of the room through a centrally placed opening in the support wall. The southern end, 42c would have been the location of the heated bathing pool. One or more heated rooms were probably located to the north of 42b, in the current area occupied by room 42a and possibly room 38.³²⁰ The cold bathing room must have been located in the area of rooms 37 and 33, which indicates that the baths were arranged in a row. The second phase of the baths identified by Thébert is not evident from the remains. The baths are dated to the fourth century, but evidently went out of use before the sixth century, when the area was subdivided into smaller units.³²¹

Maison de la Pêche (C.35)

The maison de la pêche (fig. 106) is situated approximately 60 meters to the east of the maison de la chasse, in an irregularly shaped insula of several independent but contiguous buildings.³²² The house was first excavated between 1910 and 1911 by Captain Nicholas, and then again in the 1960s by Boulouednine.³²³ On the east and north sides the house is bounded by two intersecting streets. The south side is bordered by maison no. 8, which is situated at a lower level. The ground slopes to the south, and the street along the east side inclines downwards to the south. The principal entrance to the house is on the east

³²⁰ At present, there are two doors placed side by side in the wall between rooms 37 and 38. The eastern one has a stone threshold. The western one does not, and there is part of a line of terracotta tiles embedded in the threshold. This may relate to an earlier phase when the room was heated.

³²¹ Thébert, "Evolution urbaine," 114.

³²² Beschaouch et al., *Ruines de Bulla Regia*, 71; Thébert, "Utilisation de l'eau," 11-17; Thébert, "Maisons à étage souterrain," 17-44.

³²³ These excavations remain unpublished, except for the information provided by Thébert, "Architecture domestique," 57-81.

side, at the southern end of the block, and because of the sloping ground, must be reached by steps. The floors of the northern end of the house are at the same level as the street to the north, but there is no evidence of a doorway there, except possibly for the service room of the baths, located in the northwest corner of the house. The central part of the house is occupied by a large peristyle, below which the peristyle of the underground rooms is located.

No study has yet been undertaken of the layout of the baths.³²⁴ The baths in this house are the only ones which preserve their full plan, unlike the baths of the *maison de la chasse* and *maison no. 8*, which went out of service and were transformed by later alterations. There are two unheated rooms (11 and 12) and four heated rooms (13, 14, 17 and 18).

The baths are located in the northwest corner of the house, and can only be reached by passing through three rooms (7, 10 and 11) to the northeast of the peristyle. The only access to the bathing rooms is interior, through the large room (7) in the northeast corner of the peristyle. This room opens to the peristyle by a wide entrance with a mosaic doorsill. At the north end of the room, a door opens on the west to room 10, which in turn opens at the west end to room 11.³²⁵ Room 11 precedes the cold bathing room (12), entered by a large doorway in the center of the three-sided semipolygonal apse forming the west wall of room 11. Unlike the other rooms of this part of the house, the room is paved with large stone slabs (**fig. 107**). The hexagonal cold bathing room (12) has two apsed pools flanking the doorway. The one on the southeast side (P2) is slightly larger than the one on the northeast side (P1). The concrete sill and steps of P2 were laid down after the mosaic floor of the room, which clearly runs under it. Behind each of the two pools is a small triangular space with a drain connected to the pool by a ceramic pipe, preserved in pool P1 (**fig. 108**).

There are two probable routes of access to the heated section of the baths from room

³²⁴ Thébert's early description contains some inaccurate identification of spaces in the baths, which no doubt will be corrected when the full publication of the house appears.

³²⁵ Room 10 may also have opened to room 9, the only room in this area paved in *opus sectile* of which only fragments of marble and green schist are preserved. All of the other pavements in the area of the baths are geometric mosaics.

12, through either room 13 or corridor 14. The walls and doorway between rooms 12 and 13 are not preserved, but the stone socket for the door pivot is preserved on the south side (fig. 109). Room 13 has a hypocaust floor, with the mosaic floor intact, but poorly preserved.³²⁶ The mosaic was subsequently covered with paving slabs on a layer of white cement 0.10 m thick.³²⁷ Thébert identified the small space (15) (fig. 110) which opens to room 13 on the north side as a hypocaust room connected by a small arched doorway to another room to the north (16).³²⁸ He suggests that these two rooms are *étuves*. In fact space 15 which only measures 2.10 m by 1.00 m, is a heated pool. The walls of room 15 are covered with a mosaic on a thick layer of water-proof cement. The plastered walls indicate that 15 was a pool, and the low arched opening certainly contained the furnace (f1), which has lost the brick lining. Room 16 must have been the service room for the furnace of the pool.³²⁹ The east door jamb of a doorway from room 16 to the street is still preserved.

The other doorway to the heated section is through corridor 14. The threshold between room 12 and the corridor is preserved (fig. 111). Some repair work is visible on the mosaic of the corridor in terracotta cubes by the threshold, indicating heavy usage. The mosaic of this corridor is the same³³⁰ as that in room 13, and Thébert suggests that the wall separating the corridor from room 13 was built on top of the flooring, perhaps to impose a different route.³³¹ At present, room 13 communicates with room 14 at the west end and in the middle by gaps in the wall. The mosaic of room 14 extends into the central gap, which was certainly a doorway between rooms 13 and 14.

To the south of corridor 14 are two more rooms (17, 18), which were heated by furnaces at the east end. The hypocaust system no longer exists, and no connection

³²⁶ The hypocaust is not exposed on any sides, except for where pool 15 was located. Thébert suggests that it is a hypocaust room ("Architecture domestique," 65), which is certainly true.

³²⁷ Ibid. The second paving is no longer visible, and Thébert does not mention what type of stone was used.

³²⁸ Ibid., 66. The arched "doorway" between 15 and 16 is only 1.25 m high.

³²⁹ There appears to be a doorway to the street from room 16, now blocked. Room 16 is lower than the adjacent street level.

³³⁰ According to Thébert ("Architecture domestique," 66), the mosaics are the same, but different patterns are evident in corridor 14 and in room 13. He states that the two mosaics are contemporary.

³³¹ Ibid., 65.

between the hypocaust of room 18 and corridor 14 is evident.³³² Room 17 is apsed at the east end, and the opening for the furnace (f2) is still visible (fig. 112). Brick still lines the interior of furnace f2. This is probably the location of a heated pool, which has completely vanished. Steps might have existed on the east side of the furnace in the corner of the peristyle, indicating the location of tanks for heating the water for the pool (fig. 113). The actual steps are not preserved, but their presence would explain the square mass of brick and stone to the north of the furnace conduit. Room 18 is barren of identifiable features, since just the stone shell of the room is preserved (fig. 114). A furnace (f3) is located at the east end of the room, and two wall stubs projecting from the north and south walls of the room indicate that there was probably a rectangular pool at this end of the room. Room 19 must be a service room for the furnace of room 18. The final feature of these baths is the cistern (C) located north of the cold bathing room, raised up above ground level and lined with cement.

These baths show considerable evidence of restoration and transformation in antiquity, but appear to have always functioned as bathing facilities. There also appear to be two separate heated units, which the division of room 13 and corridor 14 suggests were used differently, or possibly not contemporaneously. It is unknown whether the two larger heated bathing rooms (17 and 18) replace room 13 and the small pool 15 as the heated bathing facilities, or whether they were the original heated rooms. The two heated units may also have functioned contemporaneously, in which case these baths are unusual, since there are three heated pools.

No firm date can be attributed to the baths, and the mosaics of the house are still being studied for publication. Thébert suggests the late second century for the construction of the subterranean rooms based on their decoration.³³³ The mosaics of the ground floor

³³² Thébert states that these two rooms may have been connected to the baths, but offers no description, and does not discuss the furnaces and pool at the east end of the rooms. I was able to insert my hand into a hollow space below the floor of corridor 14 at the opening in the wall to room 17, so there must be a hypocaust at this point. The wall which blocks off the hypocaust of 14 from room 17 is evidently a modern restoration to protect the preserved hypocaust floor.

³³³ *Ibid.*, 78.

along the north side of the peristyle are also considered by him to date to this period,³³⁴ which suggests that the baths are early, and were in use for a long time. This information will probably be reviewed in the future publication of the Franco-Tunisian team.

Maison no. 8 (C.36)

Maison no. 8 is a peristyle house without subterranean rooms (**fig. 115**).³³⁵ The maison de la pêche overlooks this house from an elevation higher by about two meters on the north side. The east and south sides of the house are bound by streets, and on the west side a lane separates the house from maison n° 10. The exact period of excavation is unknown.³³⁶ The east end of the house (24, 23, 17 and 22) has not been excavated. The principal entrance is from the small street on the south side into a vestibule connected to the peristyle, on the west side of which are two large rooms. The central one (4), opening to the peristyle by a triple bay door, appears to be a central reception room, while the other (6/7) is entered by the intermediary of a small room (5) and is paved in elegant *opus sectile*.

The baths were studied by Thébert, who determined that rooms 18, 19 and 20 formed the heated section of small private baths, and were later transformed into an unheated residential section of the house and newly attached to rooms 20a and 15. The painted wall plaster in these two rooms must belong to this phase, and is not connected to the earlier baths (**figs. 116,117**). A cistern is identifiable in room 17.

It is virtually impossible to determine the features of the baths, beyond what Thébert has suggested. The cold bathing rooms must be situated in the unexcavated area to the east (22), since a doorway in 18 connected the two. This door was blocked, as was the door between rooms 18 and 19 (**fig. 118**). The furnace is located on the west side of room 19 in the southwest corner (**fig. 119**), and the recesses in the east wall of room 19 for heat conduits (**fig. 120**) are still preserved. The doorway from room 19 to room 20 is obviously an original feature of the baths, and not cut into the original wall (**fig. 121**). Room 20a is

³³⁴ Ibid., 80.

³³⁵ Beschaouch et al., *Ruines de Bulla Regia*, 80, Thébert, "Architecture domestique" 139-145, pl. 47-49.

³³⁶ Undoubtedly excavated by Boulouednine (Beschaouch et al., *Ruines de Bulla Regia*, 80).

evidently a service room, and it is quite probable that a furnace was located in the south wall of 20, stoked from this side.

One aspect which is difficult to determine is the nature of the baths' association with maison no. 8. These rooms are clearly part of the house in the transformed state. Room 20a is accessible from 10, which in turn is connected to room 12 and the peristyle in the current state. It may be found, with future investigation, that room 20a was similarly connected to the house when it functioned as a stoking room for the baths. No date is known for either the construction of the baths or their transformation into residential space.

Maison d'Amphitrite (C.37)

The maison d'Amphitrite is another peristyle house with subterranean rooms (fig. 122). This house has baths located in the center of the rooms to the north of the peristyle. However, the excavation of the baths is recent, and no description of them is included in the various works on the domestic architecture of the site. I had great difficulty in determining features related to the baths. Room A is certainly the cold bathing room raised up approximately one meter above the surrounding area, with a pool (P) preserved on the north side. Room B must have been a heated room, of which the hypocaust and furnace have disappeared. The floor of this room is approximately a meter below the floor of room A, at ground level. No connection between the rooms in this part of the house is evident. The features of the baths are further confused by various layers of mosaic flooring which evidently belong to earlier phases.

Utica

The site of Utica, like Carthage, has a long history of urbanisation, founded by Phoenicians.³³⁷ It received municipal status under Octavian in 36 BC. In the first century AD an orthogonal city plan with houses arranged in *insulae* began to develop, while many of the public monuments were built in the second century AD. Under Hadrian, the city

³³⁷ M. Alexander et al., *CMT* 1.1, *Utique* (Tunis 1973), xvii-xix.

received colonial status (*Colonia Iulia Aelia Hadriana Augusta Utika [sic]*), and under Septimius Severus it received the *ius italicum* along with neighbouring Carthage and the emperor's birth place, Lepcis Magna.³³⁸ The first recorded bishop at the site participated in the council at Carthage in 256. The later history of the site is not well documented. Several peristyle houses have been excavated at the site, but only one of them contained baths.

Maison au grand oecus (C.38)

The maison au grand oecus (fig. 123) was excavated in 1957, and was evidently one of the most important of the large peristyle houses at Utica.³³⁹ The southern wing of the house is destroyed, but the northern half of the house is well preserved and contains numerous mosaics. The so-called Corinthian *oecus*, a large reception room on the west end of the *viridarium*, is distinguished by an interior colonnade on three sides. The *opus sectile* floors in two other rooms are indicative of considerable opulence.³⁴⁰ Baths were added to the west side, directly north of the peristyle. They consist of an unheated room (V) with a pool (VI) and two heated rooms to the west (II and III). The exact relationship of the baths to the surrounding area is unclear, and none of the mosaic floors appear to be directly associated with the baths.

The cold bathing room (V) was evidently entered from the north through a doorway to room VIII.³⁴¹ It has an apsed cold pool (VI) at the south end of the east side. The heated section, apart from the foundations of the exterior walls, is not preserved. Room III had a hypocaust floor, the limits of which cannot be determined, and it was evidently entered from room V. Room II is the other heated room. The furnace is identified to the east of the baths, at the end of the old court VII. The heating channel passed under the area identified as the cold bathing room, an arrangement peculiar to these baths.

The baths are dated by three stamped *bipedales* which covered the heating channel to the reigns of Lucius Verus and Marcus Aurelius (161-169 AD). During the third

³³⁸ *Bas-Empire II*, 242.

³³⁹ C. Dulière et al, *CMT 1.2, Utique* (Tunis 1974) 1.

³⁴⁰ In rooms XXII and IX (*ibid.*, 1-2).

³⁴¹ *Ibid.*, 2-3.

century the baths went out of use, and a new pavement was laid over areas IV and V, dated by examples of pottery sealed under the floor.³⁴² Therefore, the baths were in use for the last forty years of the second century and some of the third century.

Carthage

This city, which has a long history of intensive Roman occupation, is now covered with modern suburbs. Founded as a colony (*Colonia Iulia Karthago*) by Julius Caesar in 44 BC, the implementation was carried out in 29 BC by Octavian. Carthage thrived under the empire, receiving the *ius italicum* under Septimius Severus.³⁴³ During the later empire literary, epigraphic and archaeological evidence confirm continued prosperity and activity as one of the principal cities of the western empire.³⁴⁴ The earlier material of the city is, however, covered by deep layers of constant habitation. Very few of the houses have been extensively excavated, and those which have are often poorly documented by early excavations. Four private baths can be identified, of which only one has been fully excavated, the maison des bains (C.40). The other three, the maison de la volière (C.39), and two baths in the archaeological park of the Antonine baths (C.41, C.42) are only partially preserved, and with the exception of the maison de la volière, the structures with which they are associated are not fully excavated.

Maison de la volière (C.39)

The maison de la volière (fig. 125) is arranged in two sections, the first around peristyle 1, and the second on a raised terrace at the same height as the first.³⁴⁵ The baths are in the north part of the house, beside a large system of cisterns, but this part of the house is

³⁴² The baths apparently succeeded a courtyard and room with early second century mosaics (nos. 146 and 147, *ibid.*, 4-6) and were in turn covered by another mosaic in the third century (no. 148, *ibid.*, 6-7.) The exact relationship of some of the panels in the different areas is difficult to determine, as most are fragmentary, or isolated sections.

³⁴³ *Bas-Empire II*, 11.

³⁴⁴ *Ibid.*, 122-32.

³⁴⁵ A. Ennabli and W. Ben Osman, "La maison de la volière à Carthage: l'architecture," *Mosaïque: Recueil d'hommages à Henri Stern* (Paris 1983) 129-143.

badly destroyed.³⁴⁶ The only distinguishable features of the baths are the furnace (f) and a drainage channel to the northwest of it. Areas a, b, c and possibly d belonged to the baths, but it is impossible to determine if they are rooms or basins, or which direction (northeast or southwest) they face. The shape of area a suggests that there was an apsed pool over the furnace facing northeast, but no features of it are preserved (figs. 126,127).

Maison des bains (C.40)

The maison des bains (fig. 128) was excavated by the Swedish mission as part of the UNESCO project in Carthage. Only a portion of the building was excavated, since the area to the southwest of the large courtyard (BC) and to the northwest of the exposed area now lies under modern buildings. The house is still awaiting final publication, and it appears that the excavators have reassessed their initial description of the baths.³⁴⁷

The excavators identify area AA with a central “*impluvium*” or basin as the grand entry for the baths. This room was sumptuously decorated with a pavement of marble and painted walls. It has a doorway reached by three steps from the *decumanus* 1 N, and has a doorway to room AB on the south side. Room AB, decorated with an elegant mosaic, is entered from *cardo* 1 E, and provides access to the interior of the building.

The first room of the baths (AF) is entered from the west side of AA. The small space has two pools (AE) on the south side, originally thought to be a single basin.³⁴⁸ In front of the basins (fig. 129), a drain passes under the doorway to room AA, which it crosses, and exits to the street. From this room, hypocaust room AK is entered, identified by the excavators as the *caldarium*. Since it has no provision for water, this is an unlikely designation. Two openings, identified as furnaces, were pierced in the north wall from the

³⁴⁶ Ibid., 136.

³⁴⁷ B. Sander, “Mission archéologique suédoise 1979-1980. La maison des bains. Les balneae,” *CahEtAnc* 19 (1986): 69-78; C.-G. Styrenius and B. Sander, “Byrsa: la villa aux bains” *Pour Sauver Carthage* (UNESCO 1992), 153-154; M.-L. Blennow et al., “First monthly report, April 23-May 23 1979,” *CEDAC* 2 (1979) 18-20; M.-L. Blennow and B. Sander, “Spring campaign find report and 1979 autumn campaign,” *CEDAC* 3 (1980) 16-17; B. Sander, “The third and last campaign of the Swedish mission, March 3rd - May 1st, 1980,” *CEDAC* 4 (1981) 25-26; B. Peterson et al., “The Swedish Carthage Excavations; Preliminary report of the Second Campaign, September-October 1979,” *MedMusB* 15 (1980) 76-79.

³⁴⁸ Peterson, “Preliminary report of the Second Campaign,” 78.

designation. Two openings, identified as furnaces, were pierced in the north wall from the street.³⁴⁹ Their function is uncertain. The door sill between rooms AK and AM is preserved (fig. 130), but the wall between them has disappeared. Room AM has a hypocaust and two small basins of hot water on the south side (AN and AR). In a later phase the excavators state that the hypocaust of AK and AM was heated from the *decumanus*, but in an earlier phase from AI.³⁵⁰ The two long openings from AI under pools AN and AR resemble heat channels (fig. 131). In this case AM, directly heated by furnaces and containing heated pools, is a heated bathing room, not a warm room. It also appears to be the innermost room of the baths, which is the usual position for this room. Room AK should be a warm room rather than the *caldarium*, or hot room without pool in the later phase if the double opening in the wall to the *decumanus* is the location of a furnace.

The house has seven cisterns and a well, and perhaps two reservoirs on the second floor. One of the cisterns is under AS, to the northwest of the heated rooms, and the well is southwest of AI. Cistern C2 is in the northwest end of room AA.

The excavators have offered some dates for the house, but the pottery is still being studied. Traces of walls and pavements under court BC are dated prior to an earthquake in the mid-fourth century. Two mosaics found *in situ* are dated to the late IV and early V century. Coins from the excavation are Roman (IV century), Vandal and Byzantine, indicating a long period of use for the house with baths, but no evidence for when the baths were constructed.

Maison des corbeilles, park of the Antonine baths I (C.41)

The maison des corbeilles is located on a terrace to the west of the Antonine baths and bound on the west by *cardo* 17 east (fig. 133). It was excavated by Poinssot and Lantier in their exploration of the Ard-et-Touibi area.³⁵¹ The house was evidently quite sumptuous, and an *opus sectile* floor and wall paintings were found in the rooms to the west

³⁴⁹ Sander, "Mission archéologique suédoise," 75.

³⁵⁰ Ibid. The excavators state that room AI is difficult to interpret (Peterson, "Preliminary report of the Second Campaign," 78).

³⁵¹ L. Poinssot and R. Lantier "Ruines romaines d'Ard-et-Touibi," *BAC* (1927) 456-465

of the baths, as well as numerous mosaics.

The baths are situated on the terrace overhanging the Antonine baths to the southeast. They are badly damaged and have not been fully published.³⁵² Only a few features of the baths remain, which do not preserved their layout. Basins 1 (fig. 124) and 3 are cold pools associated with an intermediary, octagonal space (2).³⁵³ Traces of a hypocaust are still evident in area 4, which is at the same level as the unheated section. Traces of a doorway to area 7 (fig. 135), also probably with hypocaust, are preserved. Basin 6 is a heated pool of the baths, intact, but now lying on the lower floor of the hypocaust. This pool is built of brick, with cement and mosaic covering preserved (fig. 136). East of this pool, a second apsed pool was found in room 4, but in a completely ruined state.

Park of the Antonine baths II (C.42)

A house to the south of maison des corbeilles also has part of a set of baths. No plan exists of this area, nor has the house been published. An extensive stretch of the lower hypocaust floor with brick *pilae* is all that is preserved (fig. 137).

AFRICA PROCONSULARIS / BYZACENA

Pupput

The history of this coastal site remains poorly documented, and the excavations are on-going. The city received colonial status under Commodus (*colonia Aurelia Commoda Pia Felix Augusta Pupput*) (sic).³⁵⁴ The city has been placed in Africa Proconsularis, but an inscription from the time of Arcadius mentions the consularis of Byzacena.³⁵⁵ Several houses and two public baths have been excavated so far, and one of the houses is provided

³⁵² Poinsot and Lantier give a brief record of the house, and a plan of the area; the excavations concentrated on uncovering the Punic burials at the site (ibid.).

³⁵³ The excavators suggest that the octagonal room must have been reached from the now destroyed southeast side (ibid., 462).

³⁵⁴ *Bas-Empire* II, 302.

³⁵⁵ Ibid., 303.

with a set of baths.

Maison du péristyle figuré (C.43)

The maison du péristyle figuré is an elegantly decorated peristyle house, covering an area of about 770 m² (fig. 138).³⁵⁶ The house has been recently and carefully excavated, with the result that two datable phases to the baths can be determined.

Currently, the baths can be entered from the peristyle through room XXII, into room A. Room B is the cold bathing room with two pools on the north side, one apsidal and one rectangular, paved with a plain mosaic. Remains of two levels of mosaics are preserved on the floor of the cold bathing room, relating to the two phases of construction. Until the later floor was put in there was no door communicating between space A and the cold bathing room; there was a door in the east wall of room B leading to an unexcavated space. This doorway was blocked when the new floor was put in.³⁵⁷ C is the threshold paved with a mosaic leading from rooms A to D, the first room in the heated section. Room D has a hypocaust floor, no longer preserved, but no furnace. Room E is a hypocaust room, entered from the south side of D. A small furnace (F) is located at the south end, separated from the rest of the room by a small wall. There is a blocked opening in the southern wall of F shared with room XVI. This furnace and room E formed the hot section in the first phase, after which the furnace went out of use and was blocked off.³⁵⁸

Room G is a heated room with hypocaust entered from the north side of D. This room had double walls for the circulation of heat and an apsidal pool (H) at the north end. The pool is located over the furnace (f1). While rooms D, E and F have greyish plaster, the plaster of this room is rose-coloured. Fragments of the mosaic floor are preserved. This room was added to the baths in the second phase of use.³⁵⁹

³⁵⁶ A. Ben Abed Ben Khader, "Les mosaïques de la Maison du 'Péristyle figuré' et de ses thermes à Puppūt (Hammamet)" *Fifth International Colloquium on Ancient Mosaics*. Part I. ed. P. Johnson, R. Ling, and D.J. Smith (*JRA* suppl. 9, Ann Arbor 1994) 180-185

³⁵⁷ *Ibid.*, 180, 182.

³⁵⁸ *Ibid.*, 181, 182-183.

³⁵⁹ *Ibid.*

The development of these baths within the context of the house was traced during the excavation. In the first phase of the baths, rooms E, F and D were joined to rooms A, B and C. They communicated with an unexplored area to the east, but not with the area later occupied by the *maison du péristyle figuré*. The wall separating E and F was constructed then. A small door in the east wall of F gave access to the furnace through A, which led to the exterior of the baths by a door near the northeast corner. The *maison du péristyle figuré* was built in the third phase, and the baths joined to it. In addition, heated room G with its pool, and the two pools of the *frigidarium*, were added.³⁶⁰

Only relative dates for the phases are known, based on the stylistic features of the mosaics. Phase 1 is undated, phase 2 is dated to the fourth century and phase 3 to the fifth century. These baths are interesting, since they are the only ones which existed earlier than the house to which they belong, and were incorporated into the construction of a new house. Unfortunately, it is not known whether they belong to a house preceding the *maison au péristyle figuré*, or what the identity of the space to the east of the baths could be.

Summary

The private baths are found in a variety of settings within the city, quite often solitary finds. Nevertheless, the two cities for which detailed reports on the domestic architecture exist both have affluent quarters where several houses contain baths. These are found in the northeast quarter of Volubilis and the central quarter of Cuicul. Bulla Regia demonstrates a similar distribution throughout the city, as does Timgad. None of the cities, however, display the basic regularity of design seen in the northeast quarter at Volubilis.

There is variety in the type of house in which the baths are found, although the majority are peristyle houses. At Timgad, the small courtyard houses of the old walled city contrast sharply with the sprawling houses of the suburbs, which often contain more than one large peristyle. Some of the small buildings lack the features associated with a residence of the wealthy, such as reception rooms. It appears that a private bath is not a prerogative of the wealthiest houses alone.

³⁶⁰ Ibid., 182-183.

While the identification of forty-three private baths can be made, the majority are excavated in only a fragmentary condition. This problem is aggravated by an insufficient understanding of the way ancient baths functioned and their basic features, particularly in earlier reports. Nevertheless, their identifiable features can be used to augment the study of the more complete baths. In turn, understanding the layout of the complete baths aids in the identification of the various elements in incomplete plans. The individual components of the private baths are examined in the following chapter.

CHAPTER THREE

ARCHITECTURAL ELEMENTS OF THE BATHS

The Rooms

The survey of literary references to rooms and installations of the baths in chapter 1 forms the basis from which the domestic bath architecture of North Africa can be examined. With this approach to the architectural remains, certain features of the baths are anticipated.¹ There is a general pattern followed by the bather, and the rooms of private and public baths are usually arranged to facilitate this pattern. Indeed, the architectural sequence of *apodyterium*, *frigidarium*, *tepidarium*, *sudatorium*, and *caldarium* established in chapter 1 is the most common one found generally in baths of the western provinces.² Some of these rooms, however, may be omitted or multiplied, depending on the size of the establishment. The heated rooms are reached from the *frigidarium* in most examples, although bathing in the cold pool is the last stage in the normal washing process. The private baths of North Africa are usually of the "retrograde" type. Retrograde baths require the bather to retrace his steps to reach the *frigidarium* after completing the hot bath. A few baths may have facilitated a circular pattern of movement, which did not require the bather to move back through the rooms to return to the *frigidarium* for the final stage of washing.

The rooms of the North African domestic baths are discussed according to the circuit followed by the bather. The focus is on those baths which are more fully excavated, preserved and published, although they do not form the majority. Meanwhile, the partial plans of the other baths provide useful supplementary and comparative material, and can themselves be further interpreted by the features which they share with the more complete examples.

¹ See above, pp. 13-16.

² See above, pp. 7, 47-49.

Entrances and entry rooms

The baths of the North African *domus* display certain characteristics with regard to their entrances which define the relationship of the baths to the house. Interior and exterior entrances provide information on the use of the facilities, since they indicate whether there was private or general admittance to the baths. The domestic baths reached from the interior of the house have no point of entry from the exterior, leaving no doubt that the baths were built to serve the needs of the occupants. Out of the forty-two domestic baths, however, only thirteen can certainly be determined to have only interior access. Four other examples probably have interior access only, but the evidence is incomplete.

One of the most prominent aspects of the North African private baths is that some of them have an independent entrance, which communicates directly with the street. This external entrance is for the use of bathers entering from the street, which demonstrates that use was not restricted to bathers with admittance to the house only. The external entrance therefore suggests a different pattern of use than the baths which are only internally accessible. Nevertheless, those baths with external access are situated within the context of domestic architecture. These baths are built within the confines of the house, and the connection between baths and house is strengthened by the fact that the service room of the baths can be reached from the interior of the house. Their operation is evidently under the care of the household, and they can also be entered directly from within the house. Nine of the baths have exterior entrances, and two others could evidently be reached from the exterior, but the arrangement of entrances and bathing rooms is ambiguous. In one example the baths are not accessible from within the house at all. Although they are built against the house, the baths form an independent unit. Entrances of the remaining fourteen domestic baths cannot be identified.

Entrances from within the house only

At Volubilis, only one of the domestic baths is accessible exclusively from the

interior of the house. In the maison au cadran solaire (C.5) (fig. 47), a corridor (a) leads from the east corner of the peristyle directly into the *frigidarium* of the baths.³ The baths are situated along the side of the house, towards the rear of the building. The baths of the maison de la propriété Marcadal (C.8) (fig. 53) at Caesarea are accessible only from the interior according to the plan.⁴ Room B of the baths opens to the central area (G) of the building, identified as the peristyle, on the axis of the main entrance to the house. At Cuicul the baths of the maison de l'âne (C.11) (fig. 59) can only be entered from the main vestibule (1) of the house. The small baths of the maison d'Europe (C.13) (fig. 68) are accessible only from the interior. Unlike the large baths of this house, they are not directly linked to an exterior entrance.

At Timgad there are four baths accessible from the interior alone. The baths of the maison de Sertius (C.23) (fig. 79) are connected by a corridor (38) to the entrance courtyard (1) of the house. Although there is no plan, Ballu specifies that there is no entry from outside the house for the baths located in îlot 61 (C. 19).⁵ In the maison de Januarius (C.17) (fig. 76) the first room of the baths (A) is only accessible from the original central courtyard (F) of the house through room E. The baths of the maison au sud de la porte de Lambèse (C.24) (fig. 82) are accessible from the southern peristyle of the building.

At Hippo Regius, where none of the private baths are fully preserved, one at least is accessible from within the house. Février mentions an interior access to the baths of the seaside house (C.30) (fig. 88) in the quartier des villas. He states that a corridor (a) beside the room he identifies as the *oecus* (5) leads to the baths, which are thus accessible from the peristyle of the house.⁶

The baths of the édifice des Asclepieia (C.32) (fig. 91) at Althiburos, located at the front of the building, are reached from the entrance vestibule (1) of the house by a circuitous

³ The plans of these baths are discussed above, pp. 71-72.

⁴ See above, p. 81-82.

⁵ *Ruines de Timgad* III, 84. This is the only bath for which Ballu specifies an interior entrance and no exterior entrance, which suggests that some of the other baths in houses in the central quarter of Timgad may have exterior entrances.

⁶ *Approches* II, 61, 63.

route passing through corridors 9 and 10, and courtyard 40.⁷ This may not, however, be the original route to the baths, although they were apparently always entered from the rooms at the front of the house by way of the main vestibule of the house.

Of the five domestic baths at Bulla Regia, the only private baths preserved in the final phase of the house belong to the *maison de la pêche* (C.35) (fig. 106). They are entered from a series of rooms (7,10) opening to the peristyle. This route leads to the entry room (11) of the baths. Although room 11 itself is contiguous with the peristyle to the south, an indirect route provides access to the baths, indicating that rooms 7 and 10 may have had a function related to use of the baths. The baths of the *maison du grand oecus* (C.38) (fig. 123) at Utica was entered from a space adjacent to the peristyle, but subsequent alterations have destroyed the entrance. The baths of the *maison du péristyle figuré* (C.43) (fig. 138) at Puppit are reached from the peristyle of the house.

These are domestic baths clearly linked with the interior of the *domus* and, in fact, they can only be entered from within the building. If they are situated at the front of the building, as in the *maison de l'âne* (C.11) at Cuicul and the *maison de Sertius* (C.23) at Timgad, the baths are reached after passing through the main vestibule of the house. In both examples the main entrance vestibule of the building provides access to the baths, situated at the front of the house. Vestibule I in the *maison de l'âne* is a long room with a doorway on the left to the *frigidarium* (XIV), and on the right to the peristyle (II) and central areas of the house. In the *maison de Sertius*, a long corridor extends from the vestibule (1), an open-air courtyard, to the area of the baths (6), and is joined by a corridor or room (2) leading from the inner courtyard (12) of the house.⁸ These two baths are not directly connected to the interior, or heart, of the house, since they cannot be entered directly from the peristyle. In his discussion of what the ancient visitor would encounter in the North African *domus* Février notes that in these two examples the principal entrance of the

⁷ *Althiburos*, 88-89; 148-152. The rooms in the area of the baths underwent three modifications, which affected the point of entry into the baths, discussed above, p. 131, n. 285.

⁸ The physical characteristics and function of room 6 cannot be determined (see above, p. 113, n. 224.). The *tepidarium* (7) can be reached directly from 6 and from the *frigidarium* (8). The latter is also accessible from room 6.

house is connected with the entrance to the baths.⁹ It is possible that these baths are designed for easy access both from within the house and from the street. Some control over admittance to the baths is, however, evident in the position of their entrances beyond the main doors of the house. A similar situation is apparent in the baths of the *édifice des Asclepieia* (C.32).

A few of the more poorly preserved baths can tentatively be identified as accessible from only the interior of the house. At Caesarea, the baths of the *maison des Julii* (C.7) (fig. 52) are entered from a large hall. Although incomplete, the plan suggests that the entrance of these baths is from within the house. The baths of *îlot 17* (C.16) (fig. 75) at Timgad lack a detailed plan, but Ballu's description suggests that they were accessible from the interior.¹⁰ Also at Timgad, the area that Ballu identifies as the baths of *îlot 69* (C.22) (fig. 78) opens to the central courtyard. This arrangement suggests interior access, but the rather open nature of the building has already been noted.¹¹ Only the corner of the building in the *maison à Sidi M'Cid* (C.28) (fig. 85), Cirta, is excavated. The large baths are entered from room (F). Since room F gives access to the peristyle, the entry to the baths is probably interior, although room F may also open to the exterior at the south end. The small baths are clearly interior in access, since they open to portico G of the peristyle. The baths in the *maison d'Amphitrite* (C.37) (fig. 69) at Bulla Regia, although not fully preserved, have a *frigidarium* along the northwest side of the peristyle, suggesting that they were entered from this point.¹²

Entrances directly from the street

Nine of the domestic baths have the principal entrance from the street. The entrances are located at the beginning of the bathing circuit. They lead from the street into either a small or larger room giving access to the *frigidarium*, and thence to the heated section.

Five baths at Volubilis can be entered directly from the street. In the *Palais de*

⁹ *Approches* II, 61.

¹⁰ *Ruines de Timgad* III, 79-80; discussed above, pp. 103-104.

¹¹ See above, p. 110.

¹² See above, p. 148.

Gordien (C.4) (fig. 34) an exterior entrance gives access to a small room with bench (35), from which additional rooms with benches and the bathing rooms are reached. In the maison d'Orphée (C.1) (fig. 9) and maison aux travaux d'Hercule (C.2) (fig. 22) a large room (A and 26 respectively) is entered directly from the street, and provides access to *frigidarium*. A similar arrangement exists in the maison au cortège de Vénus (C.3) (fig. 27). The large entry room (19) has a doorway at the west end which opened directly to the street.¹³ The benches along the walls identify this room as the *apodyterium*. It seems reasonable to identify the large entry rooms in the maison d'Orphée and the maison aux travaux d'Hercule as *apodyteria*.¹⁴ In the thermes de l'îlot ouest (C.6) (fig. 49), two rooms (1 and 2) lined with benches precede the small *frigidarium*. The entrance leads from the dead end of a former *cardo* into the first of the two rooms with benches. This set of baths, however, is the only one with no direct access from within the adjacent *domus*.

In the maison d'Europe (C.13) (fig. 68) at Cuicul the large baths are accessible from the streets to the east and west of the house. The large entry room (30) of the baths is reached from the street to the east by a small room (31), and from the street to the west by a larger room (29) with latrines. In the small baths of the maison de Castorius (C.12) (fig. 63) at Cuicul the entrance leads from the street directly into the *frigidarium* (XXXII). The *frigidarium* (XXVIII) of the large baths is in turn connected to the *frigidarium* of the small baths by a stairway (XXIX). In this example, both baths appear to be accessible from the street. However, the large baths may also have a more restricted entrance.

The baths of the grande maison à l'ouest des thermes des Filadelfes (C.26) (fig. 83) at Timgad are connected to the street by a long corridor (E). This corridor permits bathers to enter the baths located at the rear of the building directly from the street. The corridor opens by a double bay doorway onto a room called the "exedra" (106) of the baths,¹⁵ which in turn leads to the *frigidarium* (107). A second room (105) opens by a triple bay door to the exedra, and permits access from the interior of the house into the

¹³ The entries for these baths are discussed above, pp. 58-59, 61, 62-63, 67.

¹⁴ The *apodyterium* is discussed further below, pp. 167-169.

¹⁵ Germain calls this room the "exèdre des thermes" (*Mosaïques de Timgad*, 84).

baths. This room and the exedra may have functioned as vestibules for both the interior and exterior entrances to the baths.

In the *grande maison au nord du capitole* (C.27) (fig. 84) at Timgad, the relationship between building and baths is difficult to determine from their current published state. The baths adjoin the building, but are evidently accessible from the street.¹⁶ They are the only example of domestic baths with a large outdoor courtyard (170). The courtyard and baths are accessible from a corridor or peristyle (J). The portico (I) is also in line with the entrance to the *frigidarium* through room K, and the vestibule to the long corridor (F) of the house. This portico apparently opens onto a street to the west, which is not excavated. The street to the east also passes by a portico (H) parallel to portico I, which leads to peristyle J and D. Neither of these porticoes leads to the main entrance of the house, which is located further south along the east facade. This entrance is also screened from the street by a portico (G). Construction of these small porticoes in front of the entrances to the building suggests that the baths and building form a comprehensive unit.

With the exception of the *thermes de l'îlot ouest* (C.6), all of these baths with an exterior entrance also have a doorway connecting them to the interior of the house.¹⁷ This entrance, unlike the doorway from the street, is not usually on the principal line of access. In the *palais de Gordien* (C.4) (fig. 43) at Volubilis the baths are entered from the interior through two intermediary rooms (46, 47) which lead into the large room (32) of the baths. This entrance is also connected to an inner courtyard of the building (24). In the *maison d'Orphée* (C.1) (fig. 9) there are two interior entrances. One leads from a room identified as the kitchen (15) to the same room (A) as the exterior entrance. The other entrance, located at the other end of the unheated section, is a stairway (e) connecting the large reception room (1) of the west side of the house to the room of the smaller cold pool (C).¹⁸ In the *maison aux travaux d'Hercule* (C.2) (fig. 22) there is evidence of a doorway from corridor 16 to room 26, preserved in the southern break in the wall. Corridor 16 leads from the west

¹⁶ See above, p. 119.

¹⁷ Although the *thermes de l'îlot ouest* are not entered from the *maison aux Néréïdes*, they appear to be dependent on the house; see above, p. 72-73.

¹⁸ The top of the stairway is now in a poor state of preservation.

wing of the peristyle to the baths.¹⁹ In these two examples, the doorways communicating with the street are larger and more prominent than the doorways from inside the house. This is particularly evident in the maison d'Orphée, where the double entrance from the street has two small porches decorated with corinthian columns.²⁰

Two domestic baths are evidently accessible from the exterior, although the circuit and entry points are not so easily distinguishable. The baths of the maison des bains (C.40) (fig. 128) at Carthage are entered from an interior room with central basin (AA). However, room AA is also entered directly from the *decumanus* 1 North.²¹ Since this room is so obviously connected with the baths, it is suggested here that it is the entry room of the baths, which are therefore accessible from the exterior. Access to room AA from the interior courtyard is possible through vestibule (AB) of the building, which has a doorway to *cardo* 1 East. The other example, the large baths of the maison de Castorius (C.12) (fig. 63) at Cuicul, also appears to be accessible from the exterior. The small baths of the house, mentioned above, open directly to the street. A stairway (XXIX) leads up from the *frigidarium* (XXXII) of the small baths to the large baths.²²

Fourteen of the domestic baths have insufficient information to determine points of access, and are only partially excavated. At Caesarea, even the most completely excavated example of the maison de la propriété Kaïd-Youssef (C.9) (fig. 54) does not provide a detailed and complete plan of the baths. Located at the rear of the house, the baths are presumably reached from the peristyle by room 6. However, they are also illustrated on the plan in a manner which does not exclude an exterior entrance at the rear of the building directly into the baths. The domestic baths in the maison de la mosaïque de Minerve (C.10) (fig. 56) are too incompletely excavated to determine entrances to the baths, or their relationship to the rest of the building.

In several other examples, lack of published material prevents the identification of

¹⁹ For the identification of the doorway, see above, p. 61.

²⁰ It is clear that these two doors precede the construction of the baths (above, pp. 58-59).

²¹ On the entrances to the building and room AA, see above, p. 151.

²² The poor preservation makes it difficult to determine whether the stairway opens directly into the *frigidarium* (XXVIII), or into an anteroom preceding it; see above, p. 93.

entrances. While none of the baths at Timgad are sufficiently published for analysis of their respective plans, the baths of ilots 38 (C.18) and 64 (C.20) provide no information at all concerning the arrangement and accessibility of the various rooms. The fragmentary remains of the baths in the maison de Diane (C.33) (fig 98) at Bulla Regia, and three baths at Carthage (C.39, 41, 42) also lack detailed publication, and the points of access are unknown. Finally, several of the baths evidently underwent transformations to their plan before the destruction of the house. At Cuicul, the baths in the maison aux stucs (C.14) (fig. 69) and the maison de Bacchus (C.15) (fig. 70, 71) were built over, preserving only a small portion of the complex. At Hippo Regius the baths of the maison à étages (C.29) (fig. 86) and the maison privée (C.31) (fig. 89) in the Quartier Chrétien are only identifiable through the remnants of heated rooms which had gone out of service in the preserved phase. At Bulla Regia, the baths in the maison de la chasse (C.34) (fig. 100) and maison n. 8 (C.36) (fig. 116) are preserved in an altered form, which obscures the original layout of the baths. In all instances, the transformation took place after the baths went out of service, and so the full plan, including the entryway to the facilities, is not preserved.

Vestibule

The vestibule functions as an entrance room to the baths. It is devoid of archaeological features which would suggest a use other than a transitional space, although the space may have been used for multiple functions which cannot be determined from the preserved architecture.²³ The room is one which separates the baths from the house or from the street, and is of reduced dimensions, approximately three to five meters square. This type of room is only clearly present in the baths of the palais de Gordien (C.4) at Volubilis, the maison d'Europe (C.13) at Cuicul, the maison du péristyle figuré (C.43) at Puppit and the édifice des Asclepieia (C.32) at Althiburos.

The first two baths with a vestibule are accessible from the street have an entry room or vestibule. In the palais de Gordien at Volubilis (C.4) (fig. 34), vestibule 35 has a bench

²³ Possible uses would be for storage, or the location of one of the staff involved in the running of the baths, especially where the baths are accessible to people from the street.

facing the entrance from the *decumanus* north 1. A second doorway, on the northeast side of the room, leads to the unheated rooms of the baths. Although this room has a bench, it appears to have functioned as little more than a transitional space from the street into the baths, unlike the more spacious unheated rooms (32,33,36,38,43) with benches of the baths. Room 31 of the large baths in the maison d' Europe (C.13) (fig. 68) separates room 30 from the *cardo* to the east of the house.

In examples where the baths are accessible from the interior, the vestibule is an anteroom which separates the baths from the rest of the house, as in the maison du péristyle figuré at Pupput (C.43) (fig. 78). Room xxii opens off the peristyle in the second phase of the baths, providing the only access to the baths. A second door leads to room A, which precedes the *frigidarium* of the baths.²⁴ The vestibule is necessary for access to the baths, and it separates the baths from the heart of the house.

The maison de Sertius (C.23) (fig. 79) at Timgad appears to have a similar arrangement, although no space is clearly a vestibule to the baths. A long corridor (38) extends from the entrance court of the house (1) to a large area (2), from which room 6 of the baths may be entered. The baths are connected to the interior of the house by room 2, again separating the baths from the rest of the house. In the maison de l'âne (C.11) (fig. 59), the main vestibule (I) of the house provides access directly to the *frigidarium* of the baths, and separates the baths from the residential area around the peristyle. An explanation for the creation of an antechamber (48) to the *apodyterium* in the baths of the édifice des Asclepieia (C.32) (fig. 43) is not easily determined.²⁵ The transformation blocked direct entry for the courtyard (40) to the *apodyterium* (49).

A vestibule can only be identified by its small size, position and lack of other features, but does not appear to be a necessity for the private North African baths. In the examples with an entrance to the baths from the street, a transitional space prevents direct access to the bathing rooms, in the form of a relatively small antechamber. Similarly, baths with entrances only from the interior of the house may have a room which separates them

²⁴ The phases are outlined above, p. 155.

²⁵ Discussed, above p. 131.

from the main living area.

Apodyterium

The *apodyterium* is the changing room of the baths. The term is the least ambiguous in ancient usage. It is one of the first rooms the bather encounters, and is usually located next to the *frigidarium* in the small baths. This room is often of generous size in public baths, accommodating bathers and attendants. The presence of cupboards or niches for storing belongings lining the walls above benches confirms literary sources that describe the function of this room as a changing room.²⁶ None of the North African private baths have such well preserved features. Recognition of the *apodyterium* among the North African examples depends on the presence of a bench in a room adjacent to the *frigidarium*, for the convenience of the bathers while they changed.

In the baths of the édifice des Asclepieia (C.32) (fig. 91) at Althiburos the remains of a bench are preserved along both lateral walls of room 49. Rectangular stones project from the walls at intervals of about 0.90 m and at a height of 0.40 m above the floor. They supported the seats of the benches, which are not preserved.

At Volubilis benches are found in three baths. Room 19 in the maison au cortège de Venus (C.3) (fig. 27) has masonry benches, 0.46 m wide and 0.47 m high, along the east and north walls (fig. 30). The benches are built with a rubble core, and have lost most of the thick layer of mortar which originally covered them. The first two rooms (1, 2) of the thermes de l'îlot ouest (C.6) (fig. 49) have mortared benches with rubble cores along the walls, interrupted only by the doorways.

The baths of the palais de Gordien (C.4) (fig. 34) have benches constructed in this manner in nearly all of the unheated rooms. In addition to the bench in vestibule 35,

²⁶ The characteristics of *apodyteria* in Pompeian and Herculanean baths are summarized and illustrated by Yegül (*Baths and Bathing*, 34, and figs. 35 -37). He suggests that wooden shelves, now perished, may have been the norm. Only the more permanent arrangements of built-in shelves or cubby holes are preserved. They were situated above masonry benches. This arrangement is preserved, for example, in the men's and women's *apodyteria* in the Stabian baths at Pompeii (H. Eschebach, *Die Stabianer Thermen in Pompeji* [Berlin 1979] 8-9,16).

benches also line walls of rooms 32, 36, 38, 33, and 43. The thick mortar which covered the rubble core is partially preserved on the benches. It ranges from a coarse pink color with large ceramic inclusions, in room 38, to a yellow color with a greater quantity of sand and small pebble inclusions in room 33. Of these rooms, 36 and 38 are not on the direct line of movement through the baths.²⁷ They both open off room 32, with no other exit. Rooms 32, 33 and 43 must be traversed in movement through the baths to the heated rooms and the *frigidarium*.

These rooms in the Palais de Gordien must have offered space for various activities to the bathers, both before and after the use of the hot rooms and cold pools, and perhaps are indicative of the heavy traffic which appears to have frequented these baths. Another possibility is that these rooms catered to clients of different status. Such an arrangement is described by Lucian in the baths of Hippias, where the rich have their own changing room, and space is set aside for their attendants.²⁸ The rooms all appear to be suitable for changing and storing clothes on the benches. It is likely, however, that other functions could be filled by some of the rooms. Room 38, for instance, has an appealing view through the open room 43 to the large pool (P1) of the *frigidarium*. The open side of the room and arrangement of the benches on three sides suggests that this may have been a room for socializing in, and perhaps enjoying a drink or snack.²⁹

The benches of *apodyteria* at Volubilis form solidly constructed, well preserved, and easily recognizable features in these three baths which are accessible from the exterior. Benches are not found in the other three private baths at Volubilis, and may have had benches or seats constructed with less durable materials. In the absence of preserved

²⁷ Room 36 may have originally opened to the *frigidarium* (39), mirroring room 33, but the construction of the adjacent pool appears to have blocked off this doorway. See above, p. 69.

²⁸ Lucian *Hipp.* 5. These baths are discussed in detail by Yegül ("The small city bath in classical antiquity and a reconstruction study of Lucian's 'Baths of Hippias'," *ArchCl* 120-121); cf. Y. Thébert, "Problèmes de circulation dans les thermes d'Afrique du Nord," *Les Thermes Romains* (CEFR 142) (Rome 1991) 195, n.3.

²⁹ There is evidence for various food and wine being sold and consumed in public baths (literary and archaeological examples, see G.G. Fagan, *Bathing in Public in the Roman World* [Michigan 1999] 32-33). Fagan points out that since bathing normally preceded the evening meal, at least for men, the food probably consisted of snacks.

benches, the presence and size of a room preceding the *frigidarium* may indicate the changing room. The entrance to the baths of the maison aux travaux d'Hercule (C.2) (fig. 22) leads from the street into a room (26) of relatively large dimensions (7.25 m. x 6.12 m). It may function as an entrance room and changing room, since the bather proceeds directly from it into the *frigidarium* (27). There is no indication that benches lined this room, although it appears to be the logical place for a changing room. The *frigidarium* (B) of the baths in the maison d'Orphée (C.1) (fig. 9) is also screened from the street entrance by a large room (A). Room A is divided by a central row of four pillars, which may have supported a screen in the intercolumniations. An interesting feature is the break in the mortar floor along the east wall shared with room 15 (fig. 11). The break is approximately 0.50 m wide and 1.50 m long.³⁰ It seems to be the negative impression of a bench, which supports the identification of a the changing room here.

The baths of the maison du péristyle figuré (C.43) (fig. 138) at Pupput may have a changing room (A). This room provides entry to the *frigidarium* (B) in the second phase of the baths. There is no bench preserved, but some sort of construction was attached to the west wall, and may have been a bench. This feature is not discussed by the excavator.³¹

None of the other baths contain a room identifiable as a changing room, although a few have a room preceding the *frigidarium* that may have functioned as an *apodyterium*. In the maison d'Europe (C.13) (fig. 68) at Cuicul, room 30 is a large room, measuring 9.00 x 5.30 m and opening to the *frigidarium* through a tripartite doorway. Access from the street to room 30 is through vestibule 31 on the east side, and room 29 with the latrines on the west side.³² The size of the room indicates that it functioned as more than an entry room.³³ Since no other room appears to suit this purpose, and one expects to find a changing room in baths accessible from the street, and of relatively large dimensions, this is perhaps the function of this room. In the grande maison à l'ouest des thermes des Filadelfes (C.26)

³⁰ See above, p. 59.

³¹ See above, p. 154.

³² *Maisons à mosaïques*, 140.

³³ The so-called double wall could in fact be a bench against the south wall of room 30. See above, p. 96, n. 165.

(fig. 83) at Timgad, either the exedra of the *frigidarium* or room 105 preceding it may be space reserved for changing. The maison de la pêche (C.34) (fig. 56) at Bulla Regia has ample space available for a changing room. Any of the rooms preceding the *frigidarium*, and most probably the spacious room 11, may have been the *apodyterium*, but they have no identifying features preserved.

Frigidarium

The *frigidarium* is the unheated bathing room of the baths, identifiable by the presence of an unheated immersion pool. Usually one of the largest rooms in any individual bathing establishment, it is the last room to be used in the bathing circuit, after the hot bath is completed. In public baths it was also a place in which to gather and socialize, and it was frequently decorated with marble revetment and mosaics to create a pleasant and sometimes opulent setting.³⁴ Almost all of the domestic baths have a *frigidarium*. Even the incomplete examples which are partially excavated or not properly published must have had one, since it was an integral aspect of a proper set of baths. The absence of a *frigidarium* in the baths of the maison à Sidi M'Cid at Cirta (C.28) is a significant omission in the facilities³⁵

The pool of the *frigidarium* is often one of the best preserved features in the baths. Constructed in cement, it is normally sunk into the ground. The interior is lined with waterproof plaster and sometimes a mosaic. A raised sill or balustrade separates the pool from the room, and two or three steps line the inside. The pool is square or rectangular in shape, usually open to the room along its length, and it may also have an apsed end. The pools of these domestic baths generally measure 1.50 to 2.00 m in width, and between 2.00 and 5.00 m in length, and are invariably about a meter deep. They were designed for communal bathing, and the size of the pool, theoretically, should correspond to the number of bathers it could accommodate. DeLaine suggests a minimum space of 0.50 m along the

³⁴ *Thermae et Balnea*, 153-154. Use of the *frigidarium* in the bathing circuit is discussed above, pp. 27-28.

³⁵ See below, p 198.

steps for each person, and the bather could sit upon the step with feet extended in front.³⁶

Most of the domestic baths in North Africa have one cold pool in the *frigidarium*, such as in the maison aux travaux d'Hercule (C.2), the maison au cortège de Venus (C.3), and the maison au cadran solaire (C.5) at Volubilis. The large baths of the maison de Castorius (C.12) and both baths in the maison d'Europe (C.13) at Cuicul have one pool each.³⁷ In the grand maison à l'ouest des thermes des Filadelfes (C.26), îlots 17 (C.16), 38 (C.18) and 61 (C.19), the maison de Januarius (C.17), and the maison de Sertius (C.23) at Timgad a single pool is recorded. The maison au grand oecus (C.38) at Utica also has only one unheated pool.

There are two pools in the *frigidarium* of the small baths of the maison de Castorius (C.12) and the maison de l'âne (C.11) at Cuicul, the maison de la pêche (C.35) at Bulla Regia and the maison du péristyle figuré (C. 43) at Pupput. All of these pools are of modest dimensions, measuring no more than two meters across the front. The palais de Gordien (C.4) at Volubilis and the grand maison au nord du capitole (C.27) at Timgad also have two pools, which combined give larger dimensions than the pools of the other houses.³⁸

The maison d'Orphée (C.1) (fig. 9) at Volubilis has one large pool in the *frigidarium* (B), open along its length of 5.25 m to the room, and 2.00 m wide. There is a second pool in the adjacent room (C) to the west with an opening to the room of only one meter and a width of 2.00 m. The small pool, separated from the large pool by a dividing wall, does not share the same room, but has an outlet to the larger pool in the dividing wall. The small pool is located in what is evidently a secondary *frigidarium*, C. This is the only instance of two separate *frigidaria* in the same baths.³⁹ The édifice des Asclepieia (C.32) (fig. 91) at Althiburos also has one large pool (53) (4.65 x 3.00 m) in the *frigidarium* (50),

³⁶ J. DeLaine, "The *balneum* of the Arval brethren," *JRA* 3 (1990) 323.

³⁷ The small baths of the maison de Castorius have two identified pools (XXXI and XXXII) in the *frigidarium* (*Maisons à mosaïques*, 164-165). It is possible that one of the pools was actually a reservoir; see above, p. 94.

³⁸ The pools of the palais de Gordien are 5.83 x 2.65 m and 3.10 x 1.70 m. No dimensions or scale are given for the baths of the maison au nord du capitole. Judging from the size given for the hexagonal central mosaic 171 of the *frigidarium* (diameter of 7.20 m), the pools are about 3.00 meters across the opening to the room; *Mosaïques de Timgad*, 115.

³⁹ For a discussion of the rooms and communication between them see above, p. 59.

and a second smaller pool in another room (54). The apsed basin in room 54, reached from the *frigidarium*, is only 1.20 m wide, with a single step in the pool, and has a radius of 1.70 m. Ennaïfer conjectures that this pool is for the bather to refresh himself on returning from the hot rooms, but this is the role of the *frigidarium*.⁴⁰ Room 54 leads from the *frigidarium* (50) and/or the *apodyterium* (49) to the *tepidarium* (55), apparently a transitional space rather than a second *frigidarium*. Since the small pools of the maison d'Orphée and the édifice des Asclepieia are so small, they could evidently only accommodate a single person, in contrast to the larger pools. This could be an advantage if a large pool was not required, and a smaller quantity of water could be used. Thus they may function as alternative rather than supplementary pools.

Where no intermediary room exists, the *frigidarium* is entered directly from the house or even from the street, and is the only space available for changing. The maison de l'âne (C.11) at Cuicul, the maison des bains (C.40) at Carthage,⁴¹ the small baths of the maison de Castorius (C.12), and the grande maison au nord du capitole (C.26) at Timgad, have no rooms apart from the *frigidarium* to serve this purpose. In each instance, the bather enters the *frigidarium* directly, without a transitional space. This is also probably true of the large baths of the maison de Castorius, the maison de Sertius (C.23) at Timgad, and the maison de Januarius (C.17) at Timgad, but the evidence is incomplete.

The *frigidarium* is often the first of the bathing rooms to be entered, although use of the cold pool follows the hot baths. In nearly all of the North African examples the room must be traversed in order to reach the heated section, and returned to in order to leave the baths.⁴² This arrangement is a practical one, since the *frigidarium* is placed the furthest away from the heat source. The heated rooms are collected together beyond the *frigidarium*, each one progressively hotter, with the principal heat source normally located at the far end of the heated rooms.

⁴⁰ *Althiburos*, 91.

⁴¹ The *frigidarium* (AF) is particularly small, with a space of less than 1.5 m in front of the two basins (AE). Thus room AA, with the central basin, may have also been a changing room for the baths.

⁴² There are two exceptions to this pattern. The first is the maison de Sertius and the second is the édifice des Asclepieia. In both examples, the *frigidarium* is set to the side of a corridor leading to the heated section.

Tepidarium

The first heated room is usually a moderately warm room, heated indirectly by the adjacent hot rooms, to which it provides access. This room normally has a hypocaust floor. It functions as a buffer for the cold rooms from the hot rooms, from which it is separated by a small doorway. Raising the body temperature gradually also appears to be normal practice in bathing, either through some form of exercise or successively hotter rooms. The warm *tepidarium* gradually acclimatizes the body to the elevated temperatures of the hot rooms.⁴³ Only the maison d'Orphée (C.1) (fig. 16) at Volubilis preserves the *suspensura* in this room (T). The hypocaust extends under the north half of the room, and draws heat by an arched opening in the west wall from the hypocaust of the other hot rooms. The south half is filled in, or solidly constructed, bringing the floor up to the same level as the adjacent cold rooms.

One example evidently lacks a hypocaust, but its position in the baths identifies it as a *tepidarium*. Although the original excavator of the maison de l'âne (C.11) (fig. 59) at Cuicul identified a hypocaust in room XVI, Blanchard-Lemée could not confirm such an arrangement with renewed excavation.⁴⁴ This room is entered from the north corner of the *frigidarium* (XIV), and provides the only access to the two hypocaust rooms, each of which have a furnace. The heat from these rooms could only reach room XVI through the doorway, rather than at the hypocaust level. As such, it acts as a buffer between the heated rooms and the *frigidarium*, and was presumably a moderately heated room.

In the édifice des Asclepieia (C.32) (fig. 91) room 55 is the entry room to the *caldarium* (56), linked by room 54 to the *frigidarium* and the *apodyterium*. No wall separating this space from the *caldarium* is preserved, since the hypocaust of the *caldarium* has collapsed. The *pilae* of the *caldarium* extend under the preserved floor of room 55, with no break between the two spaces.⁴⁵ Room 55 is evidently the transitional space to the heated section. The heated spaces in the maison de la pêche (C.34) (fig. 56) at Bulla Regia

⁴³ *Thermae et Balnea*, 156.

⁴⁴ Discussed above, p. 89-90.

⁴⁵ This room is not identified as the *tepidarium* by Ennaïfer, who erroneously gives this label to room 58; see above, p 133.

also have an unusual arrangement. A large doorway led directly from the *frigidarium* (12) into a heated room (13) with a pool (15) over the furnace. A corridor (14) along the south side of room 13 is entered from the *frigidarium*, and the mosaic floor rests on a hypocaust. At the west end it gives access on the north side to 13 and on the south to rooms 17 and 18, each of which have their own furnace. The hypocaust of corridor 13 is warmed indirectly from the other heated rooms. Its primary function must be to provide access to rooms 17 and 18, which can only be entered from it. It is evidently a transitional space, but could be considered the *tepidarium*. The double axis it creates, with heated rooms on either side, may result from an expansion of the facilities which created the two large heated rooms to the south.⁴⁶ This alteration appears to have created a single heated bathing room (13) to the north. Although entered directly from the *frigidarium*, room 13 is evidently a *caldarium*.

The *tepidarium* may be the smallest heated room, or it may be comparable in size to the *caldarium*. The largest *tepidarium* is in the palais de Gordien (C.4), an octagon with a diameter of 6.00 m. In the maison au cadran solaire (C.5) it is a particularly small room. The dimensions for room 6, the *tepidarium*, are given together with those of room 7, the *sudatorium*, as only 4.20 m. by 3.00 m. This *tepidarium*, however, is the only one which has evidence of heated walls. The imprints of the *tubuli* can still be seen in the walls, although the brick lining of the masonry walls in the hypocaust has vanished.

Sudatorium

A more intensely heated room than the *tepidarium*, without a built pool, was used for the vapor bath. The ancient terms to identify the vapor bath vary, as does the application in modern usage.⁴⁷ The term *sudatorium* is the most explicit in what it defines. Identification of this room in archaeological examples is based on the location between the *tepidarium* and the *caldarium*, and the absence of any evidence of a heated pool. Since most of baths have three heated rooms including *tepidarium* and *caldarium*, the middle

⁴⁶ For a discussion of the layout of the heated section, see above, pp. 145-146.

⁴⁷ Perspiration was induced by either a dry or humid heated room. The room need not be as hot if the atmosphere is humid, since perspiration occurs at a lower temperature, but both types of vapor baths are mentioned in ancient literature (*Thermae et Balnea*, 159; and see above, p. 44).

room is generally identified as a room of elevated heat to induce perspiration. A furnace may heat the room directly, but in some examples heat is drawn from an adjacent hypocaust. There may be only two heated rooms in the smaller baths, raising questions about identification of a *tepidarium* or *sudatorium* for the one without a pool. The *suspensura* has collapsed in all of the North African examples, which obscures distinguishing features. This is particularly problematic where a heated pool has disappeared, and may not have been identified by the excavators. These examples are discussed with the *caldarium*. The more securely identified examples are considered here, and then the examples which show exceptions to the normal pattern.

A few examples are not heated directly, and they form the first group of *sudatoria*. Usually proximity to the furnace, or furnaces, shows that these were rooms of elevated temperatures. This is true of the *sudatorium* (L) in the baths of the maison d'Orphée (C.1) (fig. 9) at Volubilis. Room L is heated indirectly by two furnaces, located in C1 and C2. The southwest wall of this room, contiguous with C1 and C2, also preserves *tubuli* embedded in it (fig. 17). These *tubuli* would ensure a relatively high temperature, and with two furnaces approximately six meters distant, the chimneys in the *tepidarium* (T) would draw the heat through this room. The *sudatorium* (7) of the baths in the maison au cadran solaire (C.5) (fig. 47) at Volubilis is also without a furnace, but it is directly facing the furnace (f1) of the *caldarium* (8). A similar arrangement exists in the thermes de l'îlot ouest (C.6) (fig. 49).

Room 22 of the maison au cortège de Venus (C.3) (fig. 27,28) may have been a heated room separated from the furnace of 22 bis. Thouvenot records room 22/22bis as a dry heat room, but adds that a support for a basin was added in front of furnace f2, in room 22bis.⁴⁸ The preservation of the heated section is not good enough to determine whether 22 is a room independent from 22bis, which appears to become a second *caldarium* with the addition of a pool in front of furnace f2. Originally, this room must have been the *sudatorium*. The addition of another pool is an interesting feature. The maison au cortège de Venus and two of the other baths with external entry, the maison d'Orphée (C.1) and the

⁴⁸ See above, pp. 53-64.

maison aux travaux d'Hercule (C.2), share certain similarities in their arrangement. The other two baths each have two heated pools, in the same room in the maison aux travaux d'Hercule (30), and in two adjacent and communicating rooms in the maison d'Orphée. The addition of a pool in room 22 of the maison au cortège de Vénus may be to provide similar facilities. The baths could also accommodate the same number of bathers as the other baths, and provide more hot immersion bathing space.

The second type of *sudatorium* is directly heated by its own furnace. A heated room of this type is found in the maison aux travaux d'Hercule (C.2) (fig. 22, room 31), the maison au cortège de Venus (C.3) (fig. 27/28, room 22bis before the addition of the pool),⁴⁹ and the palais de Gordien (C.4) (fig. 34, room 30) at Volubilis. At Cuicul the *sudatorium* is of this type in the maison d'Europe (C.13) (fig. 68, room 34), and at Timgad in the grande maison au nord du capitolé (C.27) (fig. 84, room L). In these examples, the room is directly heated and situated between the *tepidarium* and *caldarium*. Although not as well defined on the plans, the *alveus* of the maison de Januarius (C.17) (fig. 30, room C) at Timgad⁵⁰ and room XXV of the large baths in the maison de Castorius (C.12) (fig. 22) are also directly heated *sudatoria*.

While a sequence of three heated rooms forms the norm among these baths, small baths often have a reduced number of heated rooms. In addition to the *caldarium*, there may be only one other heated room. This raises the problem of whether to identify this room as either the *tepidarium* or the *sudatorium*. The hypocaust, either directly or indirectly heated by a furnace, could create a hot room. The maison des bains (C.40) (fig. 128) at Carthage has a heated room (AK) leading from the *frigidarium* to the *caldarium* (AM).⁵¹ This room, identified as the *caldarium* by the excavators, is certainly the *sudatorium*. Room AM, which contains the heated pools for bathing, should be designated as the *caldarium*. The small baths of the maison d'Europe (C.13) (fig. 68) at Cuicul have one small indirectly heated room (42) between the *frigidarium* (41) and the *caldarium*

⁴⁹ Before the addition of a basin; see above p. 64.

⁵⁰ See above, p. 105.

⁵¹ Originally, this room drew its heat from room AM, but the excavators identify the addition of a furnace to this room serviced from the adjacent street; see above, p. 152.

(43).⁵²

The sequence of rooms in the maison du péristyle figuré (C.43) (fig. 138) at Puppit differs from the one normally encountered in the other baths. In the first phase of the baths, which preceded the construction of the house, there were only two heated rooms (D,E). Hypocaust room D linked the *frigidarium* with the directly heated room (E). Since it is the entry room to the heated section, without a furnace, room D is probably the *tepidarium/sudatorium* of the baths. Room E had a furnace in the first phase of the baths.⁵³ With the construction of the house in the second phase, however, a new heated room (G) with a furnace and semi-circular pool was built to the north of room D. The stoker of the furnace for room E was blocked off. Thus, in the second phase, this room would receive less heat than the so-called *tepidarium*, being heated only via this room from room G. The degree of heat in the *tepidarium* is difficult to gauge, but with the new furnace, room D would be a fairly warm room, and perhaps was also quite warm in the first phase.⁵⁴ The function of E must have been quite different in the second phase, although D probably retained its original function. The desire to add a larger *caldarium* with heated pool to the preexisting baths undoubtedly created this arrangement.

Caldarium

The *caldarium* is easily identified by the presence of a heated immersion pool and one or more furnaces to maintain an elevated temperature.⁵⁵ Since the domestic baths are mostly of the row type, the *caldarium* is the last in the row of heated rooms, from which the bather was required to retrace his steps through the other heated rooms to reach the cold pool. The hypocaust is directly heated by one or more furnaces. All of the North African private baths for which the plan is complete have the remains of a heated immersion pool, or

⁵² See above, p. 97.

⁵³ The phases of the baths are discussed above, p. 155.

⁵⁴ The new furnace in room G is much more substantial in size than the old furnace of room E.

⁵⁵ *Caldarium* is one of the terms used to describe the heated rooms with immersion pool in ancient literature. For other terms, see above, pp. 37-39.

at least evidence for this installation, generally referred to in ancient literature as the *solium*.⁵⁶ The pool normally collapses with the hypocaust, although the shape of the pool is often retained in the lower hypocaust. Additional supports in the hypocaust, such as walls or piers, or the shape of the furnace arch, indicate the presence and size of the pool.

The *solium* is normally built over the *praefurnium* which heated the room. Thouvenot did not recognize this feature when he restored the basin in room C2 of the baths in the maison d'Orphée (C.1) at Volubilis. He built a solid wall indicating that the basin was not open to the room, while the pool of room C1 was left in its collapsed state (fig. 18). Thouvenot believed that these basins would be too hot for bathing, since they were both built over a *praefurnium*, and identified them as heating tanks for the water of the baths.⁵⁷ The raised balustrade to the room in the pool of C2 is, however, visible below the modern wall in unbonded stones. The furnaces would not burn so fiercely that they would overheat the water for bathing. The arrangement is, in fact, a practical one. The furnace heats the water for the pools in boilers located above the stoking hole, in the service room, and the heat from the furnace radiates through the hypocaust to maintain the heat of the rooms and, naturally, of the pools.⁵⁸

The maison aux travaux d'Hercule (C.2) (fig. 22) provides an example of how the presence of heated pools, long ago destroyed, may be reconstructed. There are two identifiable basins of water in the *caldarium* (30). The semi-circular recess in the south wall still bears a heavy band of white plaster marking the presence of a pool, although all interior features of this heated room (30) have disappeared (fig. 25). This is one of the few pools not resting directly over the furnace, which is adjacent to it for the heating of room 31. An interesting feature, and the only preserved instance among the private baths, is the drainage channel for the basin. This small rectangular opening in the south curve of the wall exits into the service room (33), where an uncovered drainage channel continues south,

⁵⁶ The identification of the *solium* in ancient literature and other terms for the heated immersion pool are discussed above, *ibid*.

⁵⁷ "Maison d'Orphée," 56. The heated pool in room C1 is partially preserved, missing the central section.

⁵⁸ On the heating and water system described by Vitruvius, see above, pp. 20-21.

presumably to join the major drains for water evacuation. This provision for water drainage and the thick band of wall plaster suggest that a pool occupied the semi-circular space.⁵⁹ Thouvenot also indicates the presence of piers in the hypocaust supporting the pool where it would open to the room on the plan (fig. 22), but these are no longer extant.⁶⁰

This is the only pool identified by Thouvenot for room 30. The room is heated by furnace f1 on the northeast side. Between the furnace and the room is a rectangular space, only 1.40 m wide, with traces of a brick wall pierced by openings separating it from room 30. Thouvenot suggests this space was either a dry heat room, a room with a very hot basin of water, or the location of the bronze cylindrical tanks used to heat the water for the pool.⁶¹ The hypocaust is gone, leaving no evidence that a wall continued above the hypocaust level, but the size of the space precludes the identification of a separate room. It is also improbable that this long narrow space would be set aside for a dry heat bath. Room 31, heated by its own furnace, already serves the purpose of a vapor bath. Finally, substantial walls and solid masses of masonry on the northwest side of furnace f1 evidently supported water tanks. The most probable identification is a second pool located in the narrow space, open into room 30 like the semicircular pool. The size of this area between the furnace and the support wall is appropriate for a heated pool. There is no evidence for a different arrangement existing in these baths, and so the presence of two pools can be reconstructed in this room.

The *caldaria* of the private baths display variations in the number and shape of pools they contain. Most have one heated immersion pool. This is true of the baths at Volubilis in the maison au cadran solaire (C.5) (fig. 47, room 8, pool 9) and the thermes de l'îlot ouest (C.6) (fig. 49, room 4c). In the palais de Gordien (C.4) (fig. 34, room 29) only

⁵⁹ M. Ramdani identifies this apse as the location for a *labrum* ("Système de chauffage dans les thermes: Volubilis I: Text." Thèse, 2ème cycle des Sciences, Institute National des Sciences de l'archéologie et du Patrimoine [Rabat, 1991-1992]). On *labra* in the baths of Mauretania Tingitana, see below, pp. 182-183.

⁶⁰ In the forty-odd years since the baths at Volubilis were exposed, there has been some degradation of the remains. The brick work of some baths, particularly in the maison aux travaux d'Hercule and the maison au cortège de Vénus, is decaying.

⁶¹ Thouvenot, "Maison aux Travaux d'Hercule," 81.

one rectangular pool in front of the furnace can be reconstructed, and in the baths of the maison au cortège de Vénus (C.3) (fig. 6, room 23) there was a semi-circular pool in front of the furnace.⁶² The baths of the maison du péristyle figuré (C.43) (fig. 138, room G, pool H) at Puppit and the édifice des Asclepieia (C.32) (fig. 91, room 56) at Althiburos also had a single apsidal pool in the *caldarium*. In the small baths of the maison d'Europe (C.13) (fig.68) at Cuicul, the *caldarium* (43) probably had an apsed pool at the south end.⁶³ In all of these examples, the furnace lies directly behind the pool, with the furnace channel opening under the pool to the hypocaust.

There are also examples with more than one heated pool, which are located either in the same room, or in two separate rooms. In the maison d'Orphée (C.1) (fig. 9, rooms C1 and C2) at Volubilis and the maison de Sertius (C.23) (fig. 79, rooms 4 and 5) at Timgad the two directly heated rooms each have a rectangular pool in front of the furnace. The two *caldaria* communicate with one another and are located at the end of the sequence of heated rooms. The number of heated pools in the maison de la pêche (C.35) (fig. 106) at Bulla Regia exceeds the others, since the presence of three pools can be reconstructed. There was one pool (15) in front of the furnace in room 13. Further south, an apsidal pool appears to have occupied the east end of room 17, and a rectangular one the east end of room 18.⁶⁴ The very poorly preserved *caldarium* of the maison des corbeilles (C.41) (fig. 133) at Carthage has a small rectangular pool, still preserved, and an apsed pool adjacent to it, now destroyed, in room 4.⁶⁵ In the maison des bains (C.40) (fig. 128), also at Carthage, two small pools (AN and AR) are situated side by side in the *caldarium*. Each pool is over a sunken heat channel leading to a space of unknown function (AI) behind the pools and at a lower level.⁶⁶

In the baths of the grande maison au nord du capitole (C.27) (fig. 84) at Timgad,

⁶² A second pool was added to the hot room (*sudatorium* 22bis), creating two *caldaria*; see above, pp. 63-64.

⁶³ The identification of the small baths is discussed above, p. 97.

⁶⁴ The identification of these pools and the arrangement of the heated section is discussed above, pp. 145-146.

⁶⁵ See above, p. 153.

⁶⁶ See above, p. 152.

the *caldarium* (178) has two heated pools situated over furnaces. The *caldarium* opens to another heated room (177), also with a pool over a furnace. The presence of a *solium* identifies this as another *caldarium*.

In many of the other examples, more than one pool may be tentatively identified in the poorly preserved remains. The large baths in the maison de Castorius (C.12) (fig. 63) at Cuicul are preserved in an extremely ruined state, and heavily restored. The two furnaces which heat rooms XXIII and XXV are reconstructed as very substantial. The furnace of the latter room has a rounded recess in the center, which would normally hold a bronze boiler over the furnace.⁶⁷ There could have been a pool in room XXV, the largest heated room, supplied with hot water from the furnace-boiler. The furnace of room XXIII is reconstructed an inner service area, which in fact marks the location of a rectangular pool at the west end of the room. The furnace channel restored on the plan must be the opening in a hypocaust wall, or more likely piers, which supported the front of the pool. The room is very small, only about three meters long. The walls are still lined with the original brick work.

The two directly heated rooms of the large baths in the maison d'Europe (C.13) (fig. 68) at Cuicul, like those of the large baths in the maison de Castorius, apparently have furnace-boiler combinations, which would suggest that each furnace was accompanied by a pool.⁶⁸ The construction at the northern end of room 35 includes a substantial masonry mass, which can be associated with the support of the hot pool. Room 34, however, lacks this support for a pool at the north end, despite the reconstructed furnace-boiler. The published information is insufficient to determine whether there was a pool, and only a small furnace channel exists on the interior side. The third large private bath at Cuicul, in

⁶⁷ One must question whether this furnace really looked like this restored version when Ballu found it, or whether he copied this type of furnace, which occurs often in the public baths of Timgad, when he restored the baths. Furnaces f1 and f2 in the maison d'Europe at Cuicul apparently preserve the circular negative space of the boilers, and were also excavated and restored by Ballu. Ballu's restorations are dealt with above, p. 94, n. 159. See below on the furnaces of the two houses, p. 192.

⁶⁸ Again, like the furnaces of the maison de Castorius, they may have been substantially restored by Ballu.

the maison de l'âne, appears to have had two heated pools, in room XVII and room XVIII.⁶⁹ Both pools are built over a furnace.

This problem of identifying a pool in a room with fallen hypocaust is encountered in many of the baths. With sufficiently documented reports it should be easy to determine if the substructure and the furnace could accompany a pool, but this information is seldom complete. The old plans can also supply misleading information.

Occasionally it was necessary to place the hypocaust floor at a higher level, reached by stairs. The small baths in the maison de Castorius (C.12) (fig. 63) have only one hot room (XXX),⁷⁰ evidently the *caldarium*. The hypocaust floor is raised above the level of the cold rooms, and reached by three steps directly from the *frigidarium*. At the southwest end a rectangular pool would have been located over the furnace. The substructure of the pool is indicated on the plan, easily recognized for what it is.

The *labrum*, a pedestaled basin for ablution, is another type of water receptacle which may be found in the *caldarium*. Vitruvius specifies the placement of a *labrum* in an apsidal space in the hot bath.⁷¹ The *labrum*, known archaeologically from the late republican and early imperial public baths of Pompeii and Herculaneum, is a shallow basin raised up on a pedestal.⁷² The water is supplied directly through a pipe to the basin, and there is some provision for drainage. In the men's *caldarium* of the Stabian baths, the *labrum* rests over the opening of a furnace, like a pool. The heated apse of the pool could also apparently be supplied directly from the cold reservoir with cooling water.⁷³ Since the

⁶⁹ See above, p. 90.

⁷⁰ The description of this room (*Maisons à mosaïques*, 164) is difficult to follow. Blanchard-Lemée mentions a triangular heated pool, 0.90 m x 2.70 m. This must be the rectangular area, c. 1.80 x 0.80 m at the southwest end of XXX. In a subsequent reference, XXX is described as a pool paved with black *tesserae*, like pool XXXII in the *frigidarium*. The whole room does not appear to be a pool, but rather a hot room with a pool; see above, p. 94.

⁷¹ See above, pp. 22-23.

⁷² *Thermae et Balnea*, 30, 33, 158.

⁷³ In the last stage of the Stabian baths, the pedestaled *labrum* of the men's *caldarium* was supplied by a pipe from an unheated reservoir (Eschebach, *Stabianer Thermen*, 46). Nielsen suggests that the water here and in the women's *caldarium* of the same baths would be warmed, since the pipes ran directly through the *prae-furnium* canal (*Thermae et Balnea*, 33). The water of the *labrum* could be heated or unheated.

labrum is not preserved in any of the North African private baths, its presence can only be inferred from a space which could be reserved for the basin, an aspect which has not been considered in the original publications of the baths. Lenoir has recently addressed this oversight, discussing the presence of *labra* in the public baths of Mauretania Tingitana.⁷⁴ In the thermes du nord at Volubilis and the thermes du nord at Banasa, she identifies the rectangular niche of the *caldarium* as the location for a *labrum*. The niche is placed orthogonally to the *solium*. In the smaller unit of the thermes du fleuve at Thamusida and in the thermes aux fresques at Banasa, Lenoir identifies the semi-circular apse situated orthogonally to the *solium* as the location of the *labrum*.

The identification of a *labrum* assumes that this feature and its function would remain unchanged from the late republican-early imperial examples of Pompeii and elsewhere. Nielsen, on the other hand, suggests that the *labrum* of the *caldarium* may eventually have been replaced by a small immersion pool in the *tepidarium*, a feature evident in the imperial public baths of Italy and North Africa.⁷⁵ Possibly in these baths of Mauritania Tingitana studied by Lenoir, the niche of the *caldarium* held a small immersion pool, replacing the *labrum*. Lenoir herself states that although the rectangular niche in the thermes du nord at Volubilis was occupied by a proper immersion pool (*solium*) rather than a basin, she will call it the *labrum*.⁷⁶ Presumably, then, she considers the construed function to supersede the reconstructed form of the receptacle for water. It should be pointed out that ancient literature does not illuminate the presence or function of different types of immersion pools in the *caldarium* and their usage.⁷⁷

Among the private baths of Volubilis, two baths have a semi-circular apse placed orthogonally to the *solium*. These are the baths of the maison aux travaux d'Hercule (C.2) (fig. 22, room 30) and the thermes de l'îlot ouest (C.6) (fig. 49, room 4c). As discussed above, the first example is a second *solium*. The second example lacks sufficient features to

⁷⁴ Lenoir, "Thermes romains de Maurétanie Tingitane," 157-158.

⁷⁵ *Thermae et Balnea*, 158.

⁷⁶ Lenoir, "Thermes romains de Maurétanie Tingitane," 155.

⁷⁷ See discussion of *solium* above, pp. 37-38.

determine what the apse may have held.⁷⁸ In the édifice des Asclepieia (C.31) (fig. 91), an alcove or room (57) is situated orthogonally to the pool of the *caldarium* (56). The size of this space and lack of structural separation from the *caldarium* suggest that it may have been an alcove of the *caldarium*, or possibly the location of a second pool or a basin.⁷⁹

Only in the baths of the maison à Sidi M'Cid (C.27) (fig. 85) can the Vitruvian description of a basin in an apse be tentatively reconstructed. The *caldarium* (A) has a rectangular niche at the north end, which held the immersion pool. At the south end, the mosaic floor extends partially into the apsed end. This apse was probably the location for a circular basin. This identification depends on the similarities that the baths share with Campanian examples, notably from Pompeii. This is the earliest identifiable example of a Roman bath in North Africa, probably dating to the last quarter of the first century BC, or the beginning of the first century AD.⁸⁰

Since the *solia* of the baths have collapsed and their remains have disappeared, only general observations on the size of these pools are possible. The two baths with partially preserved examples differ in size and placement. In the maison d'Orphée (C.1) (fig. 9) at Volubilis, the pool of C1 measures ca. 2.40 m by 1.25 m, and the one in C2 ca. 1.00 m by 2.00 m, with the greater length open to the room. In the maison des bains (C.38) (fig. 128) at Carthage, the two small pools situated side by side in room AM are at the most 1.60 by 1.15 m. The size of the *solia* in the maison d'Orphée is more representative of the other examples than *solia* in the maison des bains, which are particularly small. The palais de Gordien (C.4) at Volubilis contains the largest *solium*. The destroyed pool in room 29 occupied a space nearly 6.00 m long and over 2.00 m wide. The first examples, from the maison d'Orphée, could presumably accommodate more than one person at a time, but the pools would not be able to hold many people. This is in contrast to the *solium* of the baths in the palais de Gordien, which would offer a longer ledge at the front of the pool for

⁷⁸ There is a large break in the wall of the apse, but a cleaning of the features in the apse produced no evidence of a furnace. The wall is simply destroyed at this point.

⁷⁹ See above, p. 133.

⁸⁰ The dating of the baths depends on the similarities shared by the mosaic decoration and layout of the baths with datable Pompeian examples. See below, pp. 222-223.

bathers to sit on. In the *maison des bains*, on the other hand, the pools are so small, that it seems unlikely more than one person could occupy a basin comfortably. This is perhaps the reason for the double basin, so that more than one person could be immersed in water, without actually sharing the water. This arrangement is also found in the *frigidarium* of the *maison des bains*, where two small immersion pools are situated side by side, a peculiarity of these baths. It should be noted that no date has been assigned to the architectural phases of the baths of the *maison des bains*, which makes it difficult to attribute this type of small pool to a trend in bathing practice.

Other rooms

Three of the baths at Volubilis are distinguished by the presence of an additional room for the bathers with some shared characteristics. Room D of the baths in the *maison d'Orphée* (C. 1) is connected to the unheated section through the small *frigidarium* (C) and may have been accessible from the *caldarium* C2 (figs. 9, 21).⁸¹ It may have been the last room in the heated sequence, which did not have to be reentered to reach the unheated section. A duct located under the floor opens to the hypocaust of room C2, permitting a limited flow of heated air under the room. Room 23a of the *maison au cortège de Vénus* (C.3) (fig. 27,28) also has a duct extending under it from the hypocaust of room 23. This room is accessible from *caldarium* 23 of the heated section. It is the last room in the sequence of heated rooms, from which the other rooms must be reentered to reach the unheated section.⁸² In the *maison aux travaux d'Hercule* (C.2) (fig. 22), room 34 is raised up to the level of the hypocaust rooms, but is apparently accessible from the unheated section.⁸³ The room may have been entered from the stairs leading to the *frigidarium* (27) from the entrance room (26) of the baths. Proximity to the heated section would create a moderately warmed room.

Although they are located at different points in the sequence of unheated and heated

⁸¹ On the sequence of rooms, see above, pp. 59-60.

⁸² Discussed above, pp. 64-65.

⁸³ On the difficulty of identifying the doorways of this room, see above, pp. 61-62.

rooms these rooms share common features. All three identified above are moderately heated. They do not belong to the sequence of heated rooms, namely *tepidarium*, *sudatorium* and *caldarium*, but are found in addition to these rooms. Room D of the maison d'Orphée has a mosaic floor superseded by one in *opus sectile*, and room 23a of the maison au cortège de Vénus was adorned with a mosaic floor, evidence that they would be important rooms in the sequence, for use by the bathers.⁸⁴ The function of this room, a distinct room type at Volubilis, is difficult to determine. A possibility is that it served as a room for oiling, massage and the other bodily cares (*unctorium/unguentaria*) of the bathers in a room of ambient temperature. While literary sources mention the presence of such a room in baths,⁸⁵ archaeologically it presents no distinctive characteristics. In these small baths, one might even expect the *tepidarium* to serve as the anointing room.

The other three private baths at Volubilis do not have this additional room. On the other hand, the other three baths differ from these ones just discussed. The baths of the maison au cadran solaire (C.5) are the only truly private baths in terms of access, and although outfitted with a full selection of bathing rooms including three heated ones, they are particularly small. The thermes de l'îlot ouest (C.6) are also very small, with only the three standard heated rooms built into a narrow and restrictive space. At the other extreme are the baths of the palais de Gordien (C.4), with only three heated rooms, but on a much grander scale. A moderately heated room of this type is not recognizable among the other North African domestic baths.⁸⁶

Two baths have space available for a *palaestra* or exercise yard. In the baths of the grand maison au nord du capitole (C. 27) (fig. 84, courtyard 170) and of the palais de Gordien (C.4) (fig. 34, courtyard 24) the open air courtyard gives access to the baths. Apart from these two examples, the domestic baths of North Africa appear to lack an

⁸⁴ In the maison aux travaux d'Hercule the floor is gone, and there is no trace of how it may have been decorated.

⁸⁵ On special rooms for oiling, see above, pp. 31-33.

⁸⁶ A possible exception is room E of the baths in the maison du péristyle figuré (C.41) in the second phase. It ceased to be directly heated, the furthest hypocaust room from the new furnace of *caldarium* G, and is "off the beaten track" to the *caldarium*. This new room arrangement results from the spatial constraints when a larger *caldarium* and *solium* were constructed; see above, p. 154.

outdoor exercise area. Even the baths which catered to people entering from the street, apart from these two, do not provide the bather with this pre-bathing facility. This factor distinguishes the domestic baths with public access from the public baths, where exterior and interior space may be available for a recreational warm-up before the bath. Reference to this facility by Pliny the Younger demonstrates that it could be a feature of private baths, although Pliny's baths belong to two villas, rather than a *domus*.⁸⁷ In the baths of his Tuscan villa, the *sphaeristerium* is built above the *apodyterium*. Poor preservation of the baths does not permit identification of facilities on upper stories, since the walls of the ground floor are seldom preserved more than a meter in height. On the other hand, evidence of stairs which could lead to the roof or an upper level does not exist in these baths.

A final facility associated with baths is the latrine. Leveau, following the suggestion of Rebuffat, maintains that private baths will not have latrines associated with them.⁸⁸ On this assertion, he claims that the thermes de la propriété Volto at Caesarea are not private, since they include latrines.⁸⁹ Indeed, nothing supports the clear identification of a *domus* associated with these baths. The maison d'Europe (C.13) (fig. 68) at Cuicul, however, does have latrines associated with the large baths of the house, in room 29. The latrines with three seats are publicly accessible, like the baths themselves, but belong to a house. Ballu identified a latrine adjacent to the *frigidarium* (XXVIII) of the large baths in the maison de Castorius (C.12) (fig. 63), also at Cuicul, but this was not preserved when Blanchard-Lemée studied the house.⁹⁰ It is worth mentioning that the maison d'Amphitrite has the third set of latrines among the houses at Cuicul studied by Blanchard-Lemée.⁹¹ These are located in a room accessible from the street, and with eight seats are the largest in a house at the site. Although this house does not have baths, the presence of multiple latrines and their accessibility suggest that these latrines, like some private baths, were for public use.

⁸⁷ Plin. *Ep.* 2.17.11; 5.5.26. See above, p. 31.

⁸⁸ P. Leveau, "Les maisons nobles de Caesarea de Maurétanie," *AntAfr* 18 (1982) 148; R. Rebuffat, G. Hallier, and J. Marion, *Thamusida II* (Paris 1970) 195-196.

⁸⁹ See above, p. 85.

⁹⁰ Fragments of the seats were found in the collapsed debris from the area overhanging the small baths. See above, p. 93.

⁹¹ *Maisons à mosaïques*, 113.

Two of the buildings at Volubilis which have baths also have multiple seated latrines attached to them, but these are not directly linked to the baths. The first is the *maison au cadran solaire* (C.5) (fig. 47). Latrines are situated at the southeast side of the house on the *decumanus* south I, in the south corner of the building. Currently, only the u-shaped drain of the latrines on a raised platform is preserved. There is no indication of how the latrines were accessible, since the walls in this corner of the house are destroyed.⁹² They could not be reached directly from the baths of the *maison au cadran solaire*, which are accessible only from the interior of the house. The other latrines are located in the *palais de Gordien* (C.4) (fig. 34). Again, only the the drain extending around the perimeter of room 31 in the northwest half of the house is preserved. The room is accessible from a corridor (30), which in turn can be entered from the north entrance from *decumanus* north I. This doorway from the street is located further west along the *decumanus* north I than the doorway to room 35 of the baths. To move from one to the other would require the bather to exit the building, or penetrate into heart of the so-called residential section.

At Volubilis, the other houses with baths do not have readily identifiable latrines, with the exception of the *maison d'Orphée* (C.1) (fig. 9). In this house, there is a small latrine at the end of the corridor between rooms 13 and 15, and another one between rooms 6 and 7. The former is separated from the entry room (A) of the baths by room 15, and is accessible from the peristyle of the house, indicating that it was for private use by the household.

The *maison des bains* (C.40) (fig. 128) at Carthage has a small latrine adjacent to room AA, located in the area marked AD. These were accessible from the large courtyard of the building (BC), and so not directly linked to the baths. In the *maison de la chasse* (C.34) (fig. 100) at Bulla Regia the relationship between the latrines and the incomplete baths is not preserved.⁹³ Room 35 contains a two seated latrine, adjacent to an unheated pool (34). Both of these installations are isolated from the heated section, and in their current state are connected to the basilical hall (24).

⁹² *Quartier nord-est*, 107.

⁹³ See above, p. 139, on the alteration to the baths.

Latrines constructed in the North African *domus* are, apparently, either private or public in usage, a characteristic they share with the private baths. The latrines which are open to general admission are usually u-shaped, with several seats, while those accessible from the interior of the house are linear, with one or two seats. Latrines are not identified in most houses, and the majority of private baths are not furnished with this installation. The waste water of the baths, on the other hand, could be conveniently utilized in the flushing of the latrine drain, as demonstrated in the maison d'Orphée. The drain of the latrine between rooms 6 and 7 is attached to the main drain of the cold pool under the floor of room B.

Heating System

The bathing rooms of Roman baths, beginning in the first century BC, were heated by a hypocaust system.⁹⁴ The floor was hollow to receive the radiating heat from one or more furnaces, which warmed the bathing rooms above. Refinements include the addition of heated walls and heated ceilings. Modern discussions of the heating system invariably open with commentary on Vitruvius' account of baths,⁹⁵ and the identification of the features he describes in the baths of Pompeii and Herculaneum. The well-preserved features of these baths agree remarkably with the description in Vitruvius, making this perhaps a valid comparison.⁹⁶ The North African private baths are later in date, with the exception of the baths (C.27) at Cirta. While there are variations and refinements in the parts which constitute the hypocaust, the basic features described by Vitruvius are universal to Roman

⁹⁴ The origins and development of the hypocaust system have been the subject of numerous recent studies, but there exists no common consensus on these topics. J.-M. Degbomont, *Le chauffage per hypocauste dans l'habitat privé. De la place St-Lambert à Liège et à l'Aula Palatina de Trèves* (Études et recherches archéologiques de l'Université de Liège, XVII, Liège 1984), 23; *Thermae et Balnea*, ch. 1; *Baths and Bathing*, ch. 3; summary of theories and problems in J. DeLaine, "Roman Baths and Bathing," *JRA* 6 (1993) 354-355.

⁹⁵ Vitruvius' description of the heated section in a Roman bath is outlined above, p. 21.

⁹⁶ Vitruvius does not, however, give a detailed account of such features as the furnace, but is selective. The Pompeian and Herculanean baths, because of the excellent level of preservation, are important for identifying elements of the heating system such as metal fixtures, which in other baths have long ago disappeared. They are also preserved to the level of the ceiling, unlike other baths which have been subject to the elements and stone robbers. However, these baths are considerably earlier than the majority of baths in Italy and North Africa, which are products of the Imperial period, flourishing from the second century AD onwards. The application of Vitruvius' descriptions to the Campanian remains is discussed above, p. 41.

baths.

The hypocaust systems in the private baths in North Africa are found in a state of ruin, with limited preserved features. The principal building material employed in the hypocaust is brick. This is used in the construction of furnaces, to line the lower surface and walls of the hypocaust, for the *pilae* which supported the *suspensura*, and to support the upper walking surface of the heated rooms. The fire-resistant quality of brick makes it the most suitable material to withstand the constant heat of the hypocaust system. The walls of the heated rooms are usually masonry, but the interior of the hypocaust is protected by a layer of brick. This is best preserved in the baths of the maison d'Orphée at Volubilis, which still retain this lining in all of the heated rooms. The ready availability of calcareous stone accounts for its frequent use in the hypocaust, but it has poor heat tolerance.

Pilae

The supports (*pilae*) of the hypocaust floor are often constructed from brick tiles. *Pilae* cut from a single piece of limestone are used in the *caldarium* of the palais de Gordien (C. 4) (fig. 44) at Volubilis along with *pilae* of brick. Limestone does not withstand heat efficiently, and cracks under intense heat. Thus brick tile is preferable, and more durable. Thouvenot suggests that the limestone pillars, already reused in these baths, were replaced by brick as they collapsed. The earliest baths at the site, below the maison à la citerne, used only limestone *pilae*. Reuse in the Palais de Gordien of limestone *pilae* suggests an opportunistic application, rather than a preference. In the maison aux travaux d'Hercule, round *pilae* were constructed from semi-circular brick tiles. The brick *pilae* in the palais de Gordien are also circular, while the other baths employed rectangular brick tiles.

The baths of northern and coastal Tunisia have *pilae* of brick, but also employ a porous volcanic stone. In the maison du péristyle figuré (C. 43) (fig. 138) the destroyed *suspensura* was supported by *pilae* made of large blocks of volcanic stone and brick. The furnace of the baths is also built with bricks and volcanic stone. This type of volcanic stone

was also used in the baths of Thuburbo Maius,⁹⁷ and Carthage.⁹⁸ The employment of this stone may result from the proximity of these coastal sites to the volcanic islands of southern Italy or Sicily, probable sources for the material. Similar material is identified in the hypocaust of a domestic bath in Sicily, at modern Marsala.⁹⁹ Further away from the coastal area, local limestone is extensively employed.¹⁰⁰ This suggests that brick was not readily available in much of Africa Proconsularis, although it evidently was employed in bath buildings in the other North African provinces to the west.

Praefurnium

The furnaces (*praefurnia*), in their simplest form, are arched openings in the wall of the hypocaust (**fig. 1**). The fuel was placed directly on the floor of the arch, usually lined with bricks. The channel of the arch could extend out from the furnace forming arms into the service room, and extend into the room under the floor of the hypocaust, forming a vaulted channel. In the former case, the arms usually supported the heating tanks for the water of the hot pools. In the baths of the maison au cortège de Vénus (C.3) and the palais de Gordien (C.4) (**fig. 42**) at Volubilis, these arms are built of large blocks of very friable sandy marl, badly decayed.¹⁰¹ Furnace F1 in the palais de Gordien has a stairway preserved along the left side, which would have given access to the boilers placed above the heat

⁹⁷ Preserved in hypocaust of the bains des étoiles, personal observation.

⁹⁸ Personal observation. Blocks of porous volcanic stone were employed in the construction of the furnaces in the cryptoporticus baths, but they are not mentioned in the publication (M.B. Garrison, P. Foss and C.M. Wells, "A newly-discovered cryptoporticus and bath at Carthage," *JRA* 6 [1993] 251-260).

⁹⁹ The material used for the *pilae* of the hypocaust in the Capo Boeo house at Marsala is identified as red-brown basalt, possibly from Pantelleria (R.J.A. Wilson, *Sicily under the Roman Empire. The Archaeology of a Roman Province, 36BC-AD535* [Warminster 1990] 240, and 124-125). These may, in fact, be similar material. The volcanic rock from Tunisia is scoria, formed from solidified molten lava made light and porous by trapped gasses.

¹⁰⁰ For instance, in the hypocaust and furnace arches of the édifice des Asclepieia (C.32) at Althiburos.

¹⁰¹ The large blocks of the furnace are recognizable as the sandy marl (la marne verdâtre) identified by Jodin in his study of the building stone employed at Volubilis (A. Jodin, "Remarques sur la pétrographie de Volubilis," *BAM* 8 [1968-1972] 160, 167). The composition of the stone is 71% CaCO₃, 13% clay, and 16% fine-grained quartz sand. Exposure to the elements has given the surface of the blocks an orange to red patina. Where more recent erosion has taken place, the underlying stone is a greenish-grey. The marl is very friable, and the blocks have weathered to more rounded shapes. Its employment in the furnaces, and the clay and sand content, indicate that this stone was fairly heat resistant.

channel of the furnace.

Modern studies of the furnace-boiler combination depend on the description given by Vitruvius (5.10.1) and the preserved examples from Campania.¹⁰² The boilers are cylinders of bronze placed over the furnace, and accessible from the stoker. They can be stacked on top of each other, or placed side-by-side. Very few examples of the boilers are preserved. The best preserved one is the small stacked boiler from the villa at Boscoreale. Remains of a similar boiler come from the baths of the Villa Iovis on Capri.¹⁰³ The examples in the Stabian and Forum baths at Pompeii are arranged in a row, to accommodate their large size.¹⁰⁴ Two bronze tanks found *ex situ* in the baths of the maison au cortège de Vénus (C. 3) formed part of the boilers, the only examples preserved from the North African private baths. One is a long, narrow cylinder, and the other a large drum open on the top. Both are made of riveted sheets of bronze. Their placement in the furnace, or function relative to each other, is not preserved.

Boilers were robbed out the ruins of the baths for the bronze, but the presence of a circular gap in the exterior arms of the furnace indicates the location of a boiler.¹⁰⁵ The circular space forms the negative imprint of the furnace-boilers. Furnaces of this type are found in the large baths of the maison de Castorius (C. 12) and the maison d'Europe (C. 13) at Cuicul.¹⁰⁶

The arms of the furnace which extend into the hypocaust, on the other hand, would support the *solium* located in front of the *prae-furnium*.¹⁰⁷ This inner channel does not appear among the North African private baths. Here, the *solium* is usually supported by a small wall or piers under the front of the pool.

¹⁰² *Baths and Bathing*, 373; *Thermae et Balnea*, 16. On Vitruvius' description, see above, p. 20.

¹⁰³ E. Fabbricotti, "I bagni nelle prime ville romane," *CronPomp* 2 (1976) 101.

¹⁰⁴ *Thermae et Balnea*, 16.

¹⁰⁵ Degbomont, *Chauffage per hypocauste*, 87.

¹⁰⁶ See above, pp. 93-94, for a general description.

¹⁰⁷ Degbomont, *Chauffage per hypocauste*, 86-87.

Tubuli

Tubuli are used in the walls of a few *caldaria* and *sudatoria*. They appear *in situ* only in *caldarium* C1 and *sudatorium* L of the maison d'Orphée (C.1) (fig. 17, 19, 20). The box tiles are arranged in vertical rows, open at the bottom to the heat of the hypocaust. The *tubuli* ensured that the walls were heated, maintaining the temperature of the rooms, but also reducing condensation on the walls. Although not preserved, there is enough evidence to suggest heated walls in some of the other private baths at Volubilis. However, since the brick lining of the *caldaria* and *sudatoria* has disappeared, one cannot say how common *tubuli* were among other private baths.

Chimneys

The hot gases of the hypocaust require an outlet. Chimneys are, in fact, difficult to distinguish archaeologically. Only the lower opening of the chimney flue would be preserved, since the upper walls of the baths are generally no longer standing. Degbomont discusses the role of chimneys in maintaining the heat and combustion of the furnace. The greater the heat needed, the higher the chimney must be to increase the draw of air.¹⁰⁸ In many baths this did not necessitate a chimney that was as high as the roof, since the furnaces burnt slowly. They can be difficult to distinguish from other openings in the walls to permit heat to rise, such as *tubuli*. Nielsen identifies three ways flues may be constructed. They are either built into a wall, laid in grooves on the wall, or built against the surface of the walls, often in the corners of the room.¹⁰⁹ The flues were normally formed with square or round ceramic tubes.

Three baths at Volubilis have identified chimneys. These are located in the *tepidarium*, in the wall furthest away from the heat source. Room T in the maison d'Orphée (C.16) (fig. 2) has two sets of ceramic tubes in two rows, embedded in the wall opposite each other on west and east sides of the room. The rows are open at the bottom to the hypocaust, and the tubes have a diameter of approximately 0.12 m. These four rows of

¹⁰⁸ Ibid., 183.

¹⁰⁹ *Thermae et Balnea*, 15.

cylindrical tubes are the only currently identifiable chimneys.¹¹⁰ In the *maison aux travaux d'Hercule* (C.2) the chimney is built into the brickwork of the room in the *tepidarium* (32), identified by Thouvenot, but no longer visible. These outlets are distinct from *tubuli*, but their openings to the exterior are not preserved. The most obvious benefit of these openings would be to draw the heat through the baths, and they are no doubt important for the air supply and combustion of the furnace. Thouvenot lists a chimney in the *tepidarium* (45) of the *palais de Gordien* (C. 4), but gives no specific location.

Water Supply

The practice of bathing in large communal pools of heated and unheated water necessitated the acquisition of an abundant and regular water supply. Solutions are well understood in the baths of Pompeii, where the transition to communal immersion bathing from the small individual hip baths is accompanied by increased facilities for the provision and storage of water.¹¹¹ In the earlier stages, the baths were dependent on wells and rain water collected in cisterns. With the construction of the Augustan aqueduct for the city, a steady supply of running water was available, and a distribution branch could carry water directly to the enlarged reservoirs of public baths, as seen in the Stabian baths.¹¹² The supply of running water via aqueducts to the urban areas of the Roman empire was undoubtedly an important factor in the growth of public baths, and also, one can presume, for the development of private baths. The more prosperous houses enjoyed the supply of running water, which augmented rain water and well water. Richardson deems this supply to individual houses to be small at Pompeii, and undoubtedly expensive, reflecting the

¹¹⁰ This identification was not made by Thouvenot, who believed that they were tubes for circulating heat in the walls ("Maison d'Orphée," 53).

¹¹¹ The stages of water supply for the baths at Pompeii are outlined in *Thermae et Balnea*, 23-24; *Baths and Bathing*, 389-391; J.-P. Adam, *Roman Building: Materials and Technique* (Bloomington and Indianapolis 1994), 235-237, 250-253. The water supply of private baths in Pompeii is also discussed by N. de Haan ("Die Wasserversorgung der Privatbäder in Pompeji," in *Cura Aquarum in Campania. Proceedings of the Ninth International Congress on the History of Water Management and Hydraulic Engineering in the Mediterranean Region*, ed. N. de Haan and G.C.M. Jansen (BABesch suppl. 4, Leiden 1996) 59-65.

¹¹² Eschebach, *Stabianer Thermen*, 34; *Thermae et Balnea*, 23.

limitations of the Pompeian aqueduct.¹¹³ This suggestion makes sense of the lack of a cold immersion pool in some of the private baths, such as in the Casa del Menandro, even though it was under reconstruction at the time of the eruption,¹¹⁴ and despite the appearance of this facility in other first century AD baths.

Among the North African examples, a variety of means for the supply and storage of water is evident. Cisterns for the storage of water are almost universal in North Africa, and wells are found in some houses. For clean running water for the immersion pools, however, one would expect the availability of water supplied from the aqueduct to private houses to be an important necessity.¹¹⁵

The earliest of the North African private baths, the maison à Sidi M'Cid at Cirta (C. 28) (fig. 85), is conspicuously missing a cold immersion pool. The absence of this installation, combined with the resemblance of the *caldarium* to Pompeian examples, reinforces the impression that these baths belong to an early period in the development of bathing architecture.¹¹⁶ A dominant feature of the baths is the large cistern (E). These baths may only be supplied by rain water, and possibly well water.

Cisterns and wells are identifiable in connection with the later private baths of North Africa. In the maison des bains (C. 40) (fig. 128) at Carthage, an extensive system of seven cisterns (C1-5, C7-8) lies below the floor level of the exposed area. The dating and contemporaneity of their use has not been determined, but they appear to belong to three periods of construction, and two different designs.¹¹⁷ Where the supply originated from is not known, but part of the internal distribution system is preserved. Inside three different walls, a limestone basin was found, with two or three holes bored into it. The water was piped into the basin from an unknown source, and then was diverted through the holes to

¹¹³ L. Richardson, Jr., *Pompeii: an Architectural History* (Baltimore 1988), 62-63.

¹¹⁴ R. Ling, "The baths of the Casa del Menandro at Pompeii," *PompHercStab* 1 (1983) 49ff

¹¹⁵ In a study of the water supply and distribution for Carthage, A. Wilson stresses that in North Africa a variety of storage and supply systems were used to meet public and private demand, a necessity in an arid country with limited rain fall ("Water Supply in Ancient Carthage," in *Carthage Papers* [JRA suppl. 28, Portsmouth 1998] 90-91).

¹¹⁶ On the *caldarium*, see above, p. 184; and on the dating of the mosaics, see below, p. 221ff.

¹¹⁷ Styrenius et al., "Swedish Carthage Excavations, preliminary report of the third campaign," 78.

channels under the floor for individual cisterns. Although the partial excavations do not permit an estimate of the total water capacity of the cisterns, ability to store large quantities of water is readily apparent. Conversely, the pools of the baths in this building are very small, suitable for a single bather, which suggests that there was not an abundance of water. Collection and conservation of water characterize the building, which suggests that it may not benefit from a regular supply of water.

While the houses are frequently provided with cisterns, a connection to the water supply of the baths can only be established in a few instances. In the maison de l'âne (C. 11) (fig. 59) at Cuicul, room XV is a reservoir of water. Located between P2 of the baths and one of the small fountains (f1) in room XI, it is easily associated with the supply of the baths as well as of the fountains.¹¹⁸ In the maison d'Europe (C. 13) (fig. 68) at Cuicul, reservoirs are located adjacent to the baths.¹¹⁹ The large and small baths and the fountain (F) in this part of the house would require a good water supply. In the maison aux stucs (C. 14) (fig. 69), the reservoir (r) of the defunct baths was fed directly from the urban supply. This is the only reservoir where the supply of water is still preserved.¹²⁰

The urban supply of water offered the wealthy owners a regular and increased source of water for their houses. The pipes which brought the water into the buildings, however, are seldom preserved. Basins, fountains, nymphaea and the pools in private baths form the strongest evidence for this amenity.¹²¹ The houses of the central quarter at Cuicul have several of these installations. Interestingly, these houses are mostly situated along the *grand cardo*, where a channel carrying the urban supply has been identified (fig. 19).¹²²

The relationship of the private baths in the northeast quarter at Volubilis to the

¹¹⁸ *Maisons à Mosaïques*, 30.

¹¹⁹ Rooms 3 and 4, and probably the apsed room immediately east of room 3.

¹²⁰ *Maisons à Mosaïques*, 188.

¹²¹ A. Wilson identifies the presence of basins with fountains supplied by running water as a status symbol among the peristyle house, using Volubilis as a model ("Running Water and Social Status in North Africa," in *North Africa from Antiquity to Islam. Papers of a Conference Held at Bristol, October 1994*, ed. M. Horton and T. Wiedemann [Bristol 1995] 53-54).

¹²² The maison d'Amphitrite, the neighboring building to the north, and the thermes du capitole, all located further west, along the rue de la curie, had similar requirements, but the supply in this part of the city has not been isolated.

aqueduct which traveled down the *decumanus* south I has already been discussed as an element in determining the urbanization of the quarter.¹²³ A direct supply can only be established for the palais de Gordien (C.4). Sections of lead pipe carrying water to the building across the main sewer of the *decumanus maximus* were isolated, and the distribution system from a small settling tank in courtyard 13 to the baths in the northeast corner and the basin in room 22 of the west half of the building were identified.¹²⁴ Other pipes appear to have carried water along the east side of the building to reservoirs 26 and 41 near the baths. These provisions would ensure a plentiful source of running water for the three basins and small fountain in the west half and the pools of the baths. A substantial supply directly from the aqueduct underlines the important position this building must have enjoyed.

The other baths in the quarter must have benefited from the aqueduct supply, although evidently much less conspicuously. In addition to providing the space for the construction of the baths in the maison au cadran solaire (C.5) and the thermes de l'îlot ouest (C.6),¹²⁵ the construction of the aqueduct could furnish the necessary clean water. The baths of the maison au cortège de Vénus, located on the other side of the *decumanus* south I, probably received water from the aqueduct, as well as the more distant maison aux travaux d'Hercule.

Proximity to the urban supply of water for the public baths must also have been a consideration in the construction of other private baths. At Bulla Regia, baths were added to the maison de Diane (C.33) after the construction of the adjacent thermes Memmiens.¹²⁶ The proximity of public baths did not negate the need for a private bath, and possibly the nearby supply of running water to the thermes Memmiens enabled this construction. A similar relationship can also be construed for the two private baths adjacent to the Antonine baths at Carthage. The maison des corbeilles (C.41) and the adjacent house (C.42), situated on the terrace immediately southeast of the Antonine baths, have private baths adjacent to the

¹²³ See above, pp. 75-78.

¹²⁴ Thouvenot, "Maisons de Volubilis," 35-36.

¹²⁵ Discussed above, p. 77.

¹²⁶ See above, p 137.

large public baths. Perhaps here also, the close location of the water supply to the public baths made the supply for private baths convenient.

Plans

Most of the North African domestic baths are retrograde in plan.¹²⁷ Only three baths may belong to the ring type. These are the baths of the maison d'Orphée (C.1) at Volubilis, the maison de Sertius (C. 23) at Timgad, and the grand maison au nord du capitolé (C.27) at Timgad.¹²⁸ For all three, however, problems exist in the identification of doorways between rooms. The main distinction is the circular route through the heated rooms, which required no doubling back.

While the private baths of North Africa mostly belong to a single type of plan, retrograde, there are considerable variations among them that may be divided into groups sharing common characteristics. The divisions correspond to the facilities that each bath provides for the bather. Traditionally, modern scholars use the number and type of heated rooms as the foundation for typological divisions. Important distinctions among the domestic baths are whether they are accessible from the interior alone, or also from the exterior, as well as the number of rooms and the elaboration of the facilities through decoration.

Only seventeen of the forty-three identified domestic baths have enough of the plan well-preserved to be divided into types, and there are still a few questionable features in some of these baths. Five others may also be included among these types, if uncertainties about access between the rooms can be resolved.

Typological divisions should, hopefully, reflect more than the physical differences between the baths, such as geographical or chronological trends. Only one of the baths is distinguished by a plan which separates it chronologically from the other baths. The baths of the maison de Sidi M'Cid (C. 27) at Cirta share important characteristics with late Republican baths from Campania. This includes two unheated rooms and one directly

¹²⁷ See above, p. 2.

¹²⁸ See above pp. 58-60, 112-114, and 119-120, on individual baths.

heated room, the *caldarium*. The *caldarium* has a rectangular basin at one end and an apsed space at the opposite end of the room. These baths lack a *frigidarium* with a cold immersion pool. Such features are evident in the private baths at Pompeii, most notably in the Casa del Menandro.¹²⁹ The arrangement of three rooms places these baths in de Haan's type 3 among the private baths from Pompeii.¹³⁰ These baths have three rooms, which are identified as an *apodyterium*, a *tepidarium*, and a *caldarium*. The *frigidarium* is not a common feature, but appears in two Pompeian baths which were expanded.¹³¹

Other baths with reduced facilities are later. There is a *frigidarium*, an intermediary heated room, and a *caldarium* in the small baths of the maison d'Europe (C.13) at Cuicul, which are accessible from the interior of the building. The small baths of the maison de Castorius (C.12) at Cuicul, which are accessible from the street, have only one heated room with a *solium*, and a cold room with two pools. Both of these baths exist in addition to a larger and more complete set of baths in the houses.

Three baths at Volubilis share several characteristics. The baths of the maison aux travaux d'Hercule (C.2), the maison d'Orphée (C.1) and the maison au cortège de Vénus (C.3) have the principal access from the exterior. A large room precedes the *frigidarium*, the distinguishing characteristic. There is also a full complement of heated rooms, including a *tepidarium*, *sudatorium* and *caldarium*. All three have two heated pools, three heated rooms, and a large entry room or *apodyterium* accessible from the street. A moderately heated room, contiguous to the heated section, completes the facilities.

The baths of the maison au cadran solaire (C.5) and the thermes de l'îlot ouest (C.6) at Volubilis have a complete, but basic set of facilities. There is a vestibule and/or a changing room preceding the *frigidarium*, and three small heated rooms, a *tepidarium*, *sudatorium* and *caldarium*. The former, however, are accessible only from the house, while the latter have no direct access from the adjoining house.

¹²⁹ R. Ling, "The Bath of the Casa del Menandro," 58-59.

¹³⁰ N. de Haan, "Privatbäder in Pompeji und Herkulaneum und die städtische Wasserleitung," *MInstWasser* 117 (1992) 426. See above, p. 7.

¹³¹ De Haan, "Privatbäder in Pompeje," 426.

Other baths which are accessible from the street usually have a full set of heated rooms. There is a vestibule and changing room(s) preceding the *frigidarium*, and three heated rooms: *tepidarium*, *sudatorium* and *caldarium*. The large baths in the maison d'Europe (C.12) and the baths of the palais de Gordien (C.4) belong to houses of large dimensions, and are spacious. The former has latrines attached to the main hall or changing room (30), while the latter has four unheated rooms attached to the main hall (32). The baths of the grande maison à l'ouest des thermes des Filadelfes (C. 26) may also belong to this type, but lack a description of the heated rooms. There are apparently three heated rooms; a small *tepidarium* (B) and the *caldarium* (C) with a heated pool at the north end, and another room (D) with a furnace at the north end, but no identifiable pool. This room is adjacent to the *caldarium* and not on the direct line of access. Room A separates them from the *frigidarium*, and could be a fourth heated room.

Among baths only accessible from within the house, there may only be two heated rooms. No unheated rooms precede the *frigidarium*. The baths of the maison de l'âne (C. 11) at Cuicul, the maison des bains (C. 40) at Carthage and the maison du grand oecus (C. 38) at Utica belong to this group, but some questions exist concerning the layout of each of these baths. These baths also range in date from the second century until at least the fourth century. This type does not appear at Volubilis, but one would expect to find it at Timgad, if sufficient information could be found. In the maison du péristyle figuré (C. 43) at Pupput the baths of the first phase have two heated rooms. During the second phase, the baths are accessible from the interior of the house. Three small rooms without distinctive features separate the baths from the peristyle of the house. The enlargement of the preexisting structure adds rooms to the facilities, creating an unusual arrangement of the heated rooms.

Among the baths accessible from the interior, the baths of the édifice des Asclepieia (C. 32) are unique in the amount of space reserved for the cold rooms. These baths are distinguished by the presence of vestibule, changing room, additional rooms adjacent to the *frigidarium*, and heated rooms. The heated rooms pose some difficulty in their organization, but appear to consist of only two rooms.¹³²

¹³² See above, pp. 132-133.

The maison de la pêche (C. 35) at Bulla Regia has the largest space reserved for the heated section among the baths accessible from the interior. There are at least two *caldaria*, 13/15 and 17, one on either side of a narrow heated corridor (14). A third heated room (18) probably also had a pool. Rooms 17 and 18 appear to be an addition to a smaller set of baths, which would explain the unusual layout.

Regional preferences may account for similarities among groups of baths, such as with the baths of the maison d'Orphée (C.1), the maison aux travaux d'Hercule (C.2), and the maison au cortège de Vénus at Volubilis (C.3). The private baths of Bulla Regia, on the other hand, do not share the usual rectilinear shape of rooms at the other sites. An octagonal shape is used for the *frigidarium* (12) of the maison de la pêche (C.35)¹³³ and a circular shape with four apsed niches in one of the heated rooms (42) of the maison de la chasse (C.34).¹³⁴ The walls of three heated rooms (18, 19, 20) preserved in maison 8 show that they were elliptical rather than rectangular. The double set of baths in the maison d'Europe (C.13) and the maison de Castorius (C.12) are also unique to Cuicul, but there are differences in the access and set up of the two baths in each house.¹³⁵ In other areas, there is insufficient information on the plans of the baths, or the baths are isolated examples, making it difficult to identify a pattern.

Temporal Distribution

Lack of datable material from most of the baths makes it difficult to trace evolution in bathing habits and needs over time. The relative dates for these baths fall from the first to the fourth centuries, with two at least continuing in use until the fifth century.¹³⁶ The earliest example is the maison de Sidi M'Cid (C.28) at Cirta, which belongs stylistically to an

¹³³ An octagonal *frigidarium* is also found in the Northeast Baths at Bulla Regia. Here the pools are on the NE and SW sides, opposite each other, and the entry to the baths and to the heated rooms on the NW and SE sides. Each of the four remaining sides, oriented to the cardinal points, have a semi-circular niche.

¹³⁴ This is taken to be the *caldarium* in the reports, but these baths underwent considerable alteration; see above, p. 140.

¹³⁵ See above, pp. 93-94, 96-98, on the differences between the two baths.

¹³⁶ Most of the dates for the baths are based on relative chronologies. The basis of this information is discussed in ch. 2, above.

architectural type of the late Republican period.

A group of baths fall within the second to third centuries. The baths of the *maison du grand oecus* (C. 38) at Utica are dated by brick stamps to around the reign of Lucius Verus and Marcus Aurelius (161-169), and went out of use during the third century. The baths in the northeast quarter at Volubilis were constructed by the third century. Housing spread in this direction from the end of the first century AD. The baths, certainly in use in the early to mid-third century, were probably constructed beginning in the early second century AD. A date can be given to the rebuilding of one of these private baths. An inscription records the restoration of the house and baths of the *palais de Gordien* (C.4) under Gordian III (238-244).¹³⁷

The baths in the *maison de Sertius* (C.23) at Timgad are dated to the early third century by the inscriptions for Sertia and Sertius.¹³⁸ The mosaic style of this period found in other houses also suggests that they are contemporaneous.¹³⁹ This includes mosaics found in the *grande maison à l'ouest des thermes des Filadelfes* (C.26),¹⁴⁰ and in the baths of the *maison près du marché aux vêtements* (C.25).¹⁴¹ An early third century fragment of mosaic in the *maison de Januarius* (C.17) is also a contemporary of these mosaics, but the geometric mosaics of the baths are considered to be later.¹⁴²

The baths of the *maison de Diane* (C.33) at Bulla Regia were constructed after the *thermes Memmiens* (220/240 AD), probably in the second half of the third century.¹⁴³ The baths of the *édifice des Asclepieia* (C.32) were constructed in the first phase of the second period, dated by mosaics to the last decades of the third century, and continued in use beyond the mid-fourth century.¹⁴⁴

The baths in the *maison au péristyle figuré* at Pupput (C.43), dated by mosaics to

¹³⁷ See above, pp. 66-67.

¹³⁸ See above, p. 112.

¹³⁹ E. Fentress, "Frontier Culture and Politics at Timgad," *BAC* 17B n.s. (1984) 402.

¹⁴⁰ The mosaics are from the house and from the baths; *Mosaïques de Timgad*, 82-85, 152, 154.

¹⁴¹ *Ibid.*, 96, 152.

¹⁴² *Ibid.*,

¹⁴³ See above, p. 138.

¹⁴⁴ See above, pp. 134-135.

the fourth century in the first phase of the baths, and to the fifth century in their second phase, are among the latest. Numismatic evidence from the baths of the maison des bains (C.40) at Carthage, still awaiting final publication, suggests that they were in use from the fourth century into the Byzantine period. The baths of the maison de l'âne (C.11) at Cuicul are attributed to the mid-fourth century by their encroachment on the derelict temple.¹⁴⁵ This group of baths was noted above to have only a small heated section. To it can be added the baths of the maison de la chasse (C.34) at Bulla Regia. They were also constructed in the fourth century, but later alterations have destroyed the original plan.

¹⁴⁵ See above, p. 91.

CHAPTER FOUR

DECORATION

In this chapter, the decorative elements of the baths are considered. The preserved decoration is not, however, comprehensive of the original decorative programs which the domestic baths may have received. Some of the decoration is by nature not durable, or could have been removed for other uses. Marble revetment is attested, but its value as lime accounts for the pillaged state of the remains. The walls and ceilings of the baths may have received painted or stucco decoration, but these fragile media are unrepresented *in situ* among the remains of the baths.¹ Embellishment did not stop with the decoration of the walls, floors and ceilings. These elements could provide a setting for various portable objects designed to enliven the baths. Statuary was used as a form of decoration in public baths, and at Timgad there is evidence for its placement in domestic baths.² Luxury could be extended to fixtures of the baths, such as the lavish silver basin recorded by Statius in the baths of Claudius Etruscus.³ Portable features such as these, however, would have been

¹ The extent to which the walls of the baths could be decorated with wall paintings is best exemplified in Roman Africa by the Hunting Baths at Leptis Magna (J.B. Ward-Perkins and J.M.C. Toynbee, "The Hunting Baths at Leptis Magna," *Archaeologia* [1949] 165-195). The preservation of other baths in North Africa is not such that the walls are sufficiently preserved. The baths at Pompeii retain the best example of wall paintings in a private setting (N. de Haan, "Dekoration und Function in den Privatbäder von Pompeji und Herculaneum," in *Functional and Spatial Analysis of Wall Painting*, ed. E. Moormann [Leiden 1993] 34-37). Among the domestic baths of Roman Africa, the painted plaster still decorating the walls of the room 15 in maison no. 8 (C.36) at Bulla Regia cannot be associated with the baths themselves. The painting clearly overlies the renovations which followed the decommissioning of the baths, when they became living space (personal observation, July 1997). The painted plaster found in the debris filling the hypocaust in the maison à Sidi M'Cid (C.28) may originally come from the walls of the baths, but is out of context.

² See below, p. 205.

³ *Silv.* 1.5.49. Other references mention *labra* of bronze, with a furnace (*CIL* XI 3677) at Marsi Marruvium, and with three spouts in the form of *rostra* at Lanuvium (*CIL* XIV 2119). Silver would be a more luxurious medium for the basin, appropriate for the excessively decorated baths of Claudius Etruscus.

removed in antiquity. The natural durability of mosaics makes this the most commonly found form of decoration. The preserved examples are restricted to the floors and pools; any evidence of wall or ceiling application has disappeared in the collapse of the structure. Geometric designs are the most numerous among the preserved examples. There are, in addition, a small number of inscriptions in mosaic and figural representations.

The preserved decoration of the baths is discussed here, and consists of statuary, marble pavements and wall veneer, and mosaics. Since the mosaic floors are the most commonly found decoration, they form the principal evidence for discussion of the elaboration of the installations. The extent to which the private baths provided an elegant setting is considered, and the differences in overall adornment between the baths. As the mosaic decoration is often the only indicator of a relative date for the structures, this is also considered. The decoration may be indicative of the tastes and aspirations of the proprietors. This is particularly relevant to figural decoration and mosaic inscriptions. Preferences for themes or allusions to the position or affiliation of the owners suggested by the decoration is treated in more detail in a subsequent section.

Statuary

While no statuary has been found in the domestic baths, inscriptions record that statues of Asclepius and Hygieia were set up in the baths of the *maison de Sertius* (C. 23)⁴ and the *maison de Januarius* (C.17)⁵ at Timgad. In the former case, the inscription to Hygieia has been used to identify the owners of the house as M. Plotius Faustus (Sertius) and his wife Cornelia Valentina Tucciana (Sertia); in the latter to identify the owner as Lucius Julius Januarius. In both instances the inscriptions, although found *ex situ*, state that

⁴ *Aesculapio Aug(usto), at exornationem balnei, Primitiv(us) actor* (S. Gsell, "Notes d'archéologie algérienne I: inscriptions latines," *BAC* [1901] 311); *Hygiae Aug(ustae) Faustus et Valentina* (R. Cagnat, "11 Juin 1901: Séance de la commission de l'Afrique du Nord," *BAC* [1901] ccx; *BCB*, *Timgad*, 328); and on their find sites and association with the baths, see above, p. 112.

⁵ *Hygiam Lucius Acilius Granianus Lucio Julio Januario socero suo ad exornationem balinei dono dedit*. Only the inscription for the statue of Hygieia is given, but the inscription from the statue of Asclepius is said to be worded the same way (*Ruines de Timgad* II, 31). On their discovery and association with the baths, see above, pp. 105-106.

the statues are intended for the decoration of the owners' baths. The lower part of two matching pedestals were found *in situ* in the *frigidarium* of the maison de Sertius, which are of the correct dimensions to support the inscribed stones.⁶

Asclepius and his daughter Hygieia have cults at healing spas as gods of healing. They are naturally associated with water, and even bathing, through the spas. Their association with these elements translates well into the salubrious context of baths. Statues of the pair are known to have been set up in baths throughout the Roman world, individually or as pairs.⁷

Marble paving (*opus sectile*) and revetment

The most lavish form of floor cover, *opus sectile*, is conspicuously absent from the decoration of the baths. Indeed, it is rarely found in the rest of the house among this group from North Africa.⁸ Marble was used for decoration of the baths in only three examples, all at Volubilis, and is virtually unpreserved because of its systematic removal to render into lime during the Islamic period. In the palais de Gordien (C.4), it was used in heated and unheated rooms, while in both the maison d'Orphée (C.1) and the maison au cortège de Vénus, a single unheated room with a mosaic pavement received a new pavement in marble. In all of the examples, the preserved elements consist of square or rectangular tiles of gray, white or pink marble. There is no indication that the marble was cut to form colored

⁶ The exact location of the pedestals within the room is not given (BCB, *Timgad*, 328).

⁷ Lucian records the presence of two statues in the baths of Hippias, one of Asclepius, and the other of Hygieia (*Hipp.* 5). The statues are examples of the lavish decoration in these baths. Archaeological finds of statues of Asclepius and Hygieia in public baths are collected by H. Manderscheid (*Die Skulpturenausstattung der kaiserzeitlichen Thermenanlagen* [Berlin 1981] 31; Asclepius, catalog nos. 46, 71, 72, 110, 130, 132, 134, 135, 175, 208, 259, 293-298, 352, 384, 433, 444, 446, 456, 457, 462, 488, 504; Hygieia, catalog nos. 24, 73, 74, 131, 133, 136, 176, 192, 209, 265, 385, 445, 447, 458, 475, 478).

⁸ In addition to marble decoration in the baths of the Palais de Gordien at Volubilis, the floors in rooms 13 and 35 of the west half of the building are paved with marble, partially preserved (Thouvenot, "Maisons de Volubilis," 19-20). Two other houses have *opus sectile* floors in areas other than the baths. The first, the maison au grand oecus (C.38) at Utica, has *opus sectile* floors in rooms XVI, XXI, XXII and IX. These floors probably belong to a late first-early second century decorative program (Dulière et al., *CMT 1.2: Utique* (Tunis 1973) 8, 12, 15). The second house is the maison au corbeilles (C.41) at Carthage, found in a room to the west of the baths (L. Poinssot and R. Lantier, "Ruines romaines d'Ard-et-Touibi," *BAC* (1927) 461).

patterns. In nearly all of the examples, it is only the bedding for the marble which is preserved.

The greatest use of marble is in the baths of the Palais de Gordien (C.4). The walls and floor of the circular room (44) were lined with marble, as the preserved segments demonstrate (fig. 40). These marble tiles are still *in situ* on the floor against the south circumference of the wall, and a single level of three pieces extends up the wall from the floor. These are either gray, white, or pink, with no evidence of a pattern in the color arrangement. More marble is preserved in the doorway to the *tepidarium* (45). The pieces of marble lining the lower part of the northwest apse in the *tepidarium* (fig. 41) show that this room also had marble on the walls, and probably on the floor.⁹ In the *frigidarium*, marble fragments were found in the areas of the pools, and a few fragments still line the balustrades of the pools. The paving of the floor in this room is destroyed, leaving only traces of its arrangement. The plaster bedding has raised ridges which mark the joints of large squares or rectangles. In addition, the plaster has flat, irregular-shaped pieces of marble embedded in it (fig. 45). This is an identifiable manner of forming the bedding for the marble.¹⁰ It is found in the *apodyterium* (19) of the baths in the maison au cortège de Vénus (C.3) and room C of the baths in the maison de Orphée (C.1). In these two examples, the bedding covers an earlier geometric mosaic, and the use of marble is restricted to a single repaving. The marble which rested on the bedding is gone in all examples. The baths of the palais de Gordien naturally stand out, since they have the most extensive use of marble paving and wall veneer. Only the Thermes du Nord, a public bathing installation at

⁹ Since the hypocaust and wall lining in the heated rooms are destroyed, it is impossible to determine whether marble was used in all of the rooms as floor and wall coverings. The evidence from the other rooms, on the other hand, suggests that it was employed throughout the principal bathing rooms. Ash from lime rendering in the ruined furnace of room 30 and the service areas is an indicator of the fate the marble suffered when the baths went out of use (R. Thouvenot, "Maisons de Volubilis," *PSAM* 12 [1958] 27).

¹⁰ This combination of plaster with embedded marble fragments was identified as the bedding of a destroyed marble surface in the cold pools and a room of the Thermes du Nord (E. Lenoir, "Les thermes du Nord à Volubilis: recherches sur l'époque flavienne au Maroc," Ph. D. dissertation [Paris-Sorbonne] 117-119).

the site, shows evidence of extensive use of marble.¹¹ With the exception of the palais de Gordien, marble veneer and paving have not been identified in other domestic contexts.

The date for the marble decoration in the various baths at Volubilis has not been determined. The palais de Gordien has no mosaic decoration. In the residential west half, two rooms (13 and 35) are also decorated with marble paving.¹² The other floors are either formed of limestone slabs, brick tiles, or simple plaster floors. The restoration of the house and baths of the palais de Gordien is recorded in the reign of Gordien, ca. 240 AD.¹³ Thouvenot suggests that at this time either marble was preferred, or there was no mosaic atelier working at the site to explain the absence of mosaics in such an important building.¹⁴ As mentioned above, the marble paving in the baths of the maison d'Orphée and the maison au cortège de Vénus was preceded by an earlier mosaic floor. In the former case, the simple geometric mosaic was in a good state of repair. It seems likely that the marble floor was laid down over it to create a more luxurious appearance, rather than out of necessity. This embellishment occurred after the original construction of the baths, the date of which is not known. The marble decoration of the Thermes du Nord, on the other hand, is probably earlier. Lenoir has established a Flavian date for the baths, and the marble is employed in the early use of these baths.¹⁵

In literary sources which praise a particular set of baths, it is the marble revetment which is stressed as the most elegant form of wall covering. Lucian's encomium on the baths of Hippias records the use of various imported marbles, including Laconian, Phrygian and Numidian, and purple stone.¹⁶ The baths of Claudius Etruscus were so famous in their day that two poets have left eulogies to their opulence, which included costly imported

¹¹ The bedding of marble floors and marble veneer for the cold pools are preserved. In a later phase the bedding was covered by a fine *opus signinum* (ibid., 117).

¹² See above, p. 206, n. 8

¹³ See above, p. 67.

¹⁴ R. Thouvenot, "Les Mosaïques de Maurétanie Tingitane," *La Mosaïque Greco-Romaine* (Paris 1965) 274. The rooms decorated with marble, on the other hand, could have a more luxurious appearance than mosaics would have conveyed.

¹⁵ Lenoir, "Thermes du Nord"; "Thermes Romains de Maurétanie Tingitane," *Les Thermes Romains* (CEFR 142, Rome 1991) 156.

¹⁶ *Hipp.* 5-8.

stone.¹⁷ Statius praises their decoration with porphyry, Synnada and green Laconian stone,¹⁸ praise echoed by Martial.¹⁹ Decoration in marble is also commemorated in inscriptions from public baths, as at Madauros.²⁰ Expensive colored stone is certainly the most lavish form. These few examples indicate that such luxurious and costly decoration was not undertaken for the domestic baths of North Africa.

Mosaic Decoration

The preserved decoration of baths is primarily in the form of mosaics, which have both a decorative and functional aspect. Mosaics set in a waterproof bedding are suitable for areas exposed to considerable moisture, forming an impermeable barrier for the underlying structure against water damage, and a waterproof lining for pools. They also withstand the elevated temperatures of the heated rooms, creating the decorative walking surface of the *suspensura*.

The mosaic decoration is also a useful chronological indicator. The early date at which some of these baths were excavated resulted in a complete lack of stratigraphical records, or sufficient documentation of such portable objects as coins and pottery which might provide dates. More recent studies of mosaics from these excavations help to attribute a relative chronology to the buildings in which they are found. Successive repaving in mosaic provides an indication of the duration of occupation, and even approximate dates for remodeling. The chronology of North African mosaics still poses some problems, since most mosaics can only be attributed to a fairly broad period based on stylistic or iconographical features. Most are assigned a date to a particular century, and sometimes not even that with certainty. Recent studies of the mosaics at a particular site have provided a stronger framework for developing chronologies.²¹ Most of the mosaics from the domestic

¹⁷ Indeed, the absence of commonly used marbles from Thasos (Thasian) and Euboea (Carystian) in the baths merits praise.

¹⁸ *Silv* 1.5, esp. 34ff.

¹⁹ *Mart. Ep.* 6.42.

²⁰ *IIAlg* I 2102.

²¹ These studies have been important for providing dates for some of the houses with baths; for the relevant studies and sites, see above, pp. 53-55.

baths are geometric, displaying motifs which often enjoyed a long period of application. Among these examples, figural mosaics are usually not situated in the baths, but in the main rooms of the house around the peristyle. The mosaics may provide a date for the decoration of a particular room of the house, but unless a connection between these mosaics and the decoration in the baths is established, one cannot state that they have been decorated at the same time. Often, studies of the architectural remains demonstrate that the baths are an addition to the preexisting structure.²²

Non-figural mosaics have been found in seventeen of the domestic baths.²³ Two of these baths also contain mosaic inscriptions,²⁴ one has a group of objects depicted on a threshold,²⁵ and one also has a figural mosaic.²⁶ In addition to these seventeen baths, there are two with figural mosaics only,²⁷ giving a total of nineteen baths with mosaic decoration. This figure represents slightly less than fifty percent of the forty-three cataloged baths, but is unlikely to be representative of the overall frequency of mosaic decoration. Some of the baths are too badly damaged or incompletely excavated to determine whether they contained mosaics. On the other hand, the majority of the houses to which they belong have mosaic decoration in residential rooms.²⁸ This suggests that mosaic decoration may have been more common in the baths than the preserved examples indicate. Only three baths probably had no mosaic decoration, all located at Volubilis.²⁹ Even in these three examples, the destruction of the hypocaust floors in the heated rooms makes it impossible to determine

²² This is true for all of the baths at Volubilis.

²³ These are C.1, C.2, C.3, C.12, C.13, C.17, C.23, C.25, C.26, C.27, C.28, C.32, C.34, C.35, C.41, C.43.

²⁴ C.25, C. 27

²⁵ C.32.

²⁶ C.28.

²⁷ C.7, C.11.

²⁸ This is true of C.8, C.9, C.10, C.14, C.15, C.29, C.30, C.36, C.37, C.39, C.40, and C.42.

²⁹ The baths of the palais de Gordien (C. 4) have already been mentioned above, p. 207. The other two are baths of the maison au cadran solaire (C.5) and the thermes de l'ilot ouest (C.6). The floors of the unheated rooms are preserved, paved in either *opus signinum* or brick tiles. While the floors of the heated rooms are not preserved, it seems unlikely that these were paved with mosaics. No mosaics at all have been discovered in the palais de Gordien and the maison au cadran solaire, in either the house or the baths.

how they may have been paved. The distribution of mosaic floors in heated and unheated rooms is not readily comparable, precisely because of the collapse of the hypocaust. Mosaics are found in the heated rooms of only nine examples.³⁰ The other ten baths have mosaics in the unheated rooms, and no floors preserved in the hypocaust rooms.

Non-figural mosaics

Non-figural mosaics are found in nineteen examples distributed throughout the area of study. They can be indicative of an attempt to create an appealing setting, but can also be the simplest form of mosaic decoration. In general, the existing studies on the mosaics of these sites vary greatly in treatment and detail, and only the mosaics from Timgad, Cuicul, Althiburos and Utica have been systematically studied.³¹ The mosaics of the more recently excavated maison du péristyle figuré (C.43) have been published and dated.³² The information which can be discussed from the baths varies with the individual sites and examples, and so must be treated individually.

At Volubilis, the maison d'Orphée (C.1) and the maison au cortège de Vénus (C.3) have geometric mosaics in non-heated and heated rooms. The maison aux travaux d'Hercule (C.2) has traces of a geometric mosaic in at least one heated room. The evidence from their distribution suggests that care was taken in these three examples to decorate the baths. It has already been noted that in the first two baths, the mosaic floor of the one unheated room in each was repaved with marble.³³ The mosaic in the *tepidarium* (T) of the maison d'Orphée was also repaired in areas subjected to greater traffic, especially at the

³⁰ More or less complete mosaics are found in: C.1 (room T); C.27 (room 176, 177 and 178); C.28 (room A); C. 35 (rooms 13 and 14). Small fragments are still *in situ* in C.1 (room L); C.3 (room 23); C. 32 (room 56); C.39 (room 4). Fragments found *ex situ* in the debris are recorded for C.2 (room 32), C.25 (room 6). These are all non-figural mosaics, with the exception of C.28 (discussed below, pp. 218-225).

³¹ *Mosaïques de Timgad, Maisons à Mosaïques, Althiburos, and CMT 1.2: Utica.*

³² A. Ben Abed Ben Khader, "Les mosaïques de la Maison du 'Péristyle figuré' et de ses thermes à Pupput (Hammamet)," in *Fifth International Colloquium on Ancient Mosaics held at Bath, England, on September 5-12, 1987*, ed. P. Johnson, R. Ling, and D.J. Smith, Part I (*JRA* suppl. 9, Ann Arbor 1994) 173-186.

³³ In the maison d'Orphée, the small unheated room D was repaved, and in the maison au cortège de Vénus, the east half of the *apodyterium* (19) was repaved.

point of entry to the other heated rooms, with large white *tesserae*, suggesting that the baths operated for some time, or that they were regularly frequented. All three of these baths are accessible from the exterior, and while a comparison between the decoration of these baths is not possible, the similar level of decoration is another connection between these three examples.

The most numerous preserved mosaics are at Timgad. Germain emphasizes that more than one third of the mosaics come from bathing establishments, both public and private.³⁴ These mosaics are mostly found in the public baths, but a number are also found in the domestic baths. Remains of a destroyed hypocaust mosaic come from the heated section of the *maison près du marché aux vêtements* (C.25), and the mosaics of two heated rooms in the *grande maison au nord du capitolé* (C.27) are preserved.³⁵ The other geometric and floral mosaics come from the unheated rooms. In addition to the two examples noted above, which also have mosaics in the unheated section, the unheated sections of the *maison de Januarius* (C.17), the *maison de Sertius* (C.23) and the *grande maison à l'ouest des thermes des Filadelfes* (C.26) have geometric mosaics. Interestingly, these are the large houses of the suburbs and those located along the principal routes of the main streets in the central quarter. Germain notes that little mosaic decoration appears to have been used in houses away from the main streets of the central quarter.³⁶

No figural mosaic has been found in the domestic baths of Timgad. The mosaics from the public baths at Timgad have mostly geometric or floral designs, and indeed there are only twenty-three figural mosaics out of the 235 cataloged mosaics from the entire site.³⁷ The figural panels are often small and surrounded by a much larger surface of geometric or floral designs.³⁸ The geometric decoration and the floral patterns are executed as principal decoration, a characteristic of mosaics at this site.³⁹ In the *frigidarium* of the *maison de*

³⁴ *Mosaïques de Timgad*, 148.

³⁵ *Mosaïques de Timgad*, mosaic 133 (p. 96, not illustrated) and mosaics 176 (p. 116-117, pl. LIX) and 178 (p. 117, pl. LIX).

³⁶ *Mosaïques de Timgad*, 149.

³⁷ *Ibid.*, 150.

³⁸ *Ibid.*, 151.

³⁹ *Ibid.*, 84 (mosaic 107, pl. XXXVIII).

Sertius, the mosaic imitates marble (fig. 142), like the wall paintings of the pools in the thermes des Filadelfes. This imitation is a cheaper version of flooring than true *opus sectile*. At the same time, it demonstrates the intention of the owner to create a luxurious bathing environment in the baths.

The decoration of several houses, some with domestic baths, displays similarities to decoration of the thermes des Filadelfes, an independent establishment. This has led Fentress to identify an aristocratic group living in these houses in the first quarter of the third century and sharing aesthetic ideals.⁴⁰ She includes the maison de Januarius (C.17), the maison de Sertius (C.23), and the grande maison à l'ouest des thermes des Filadelfes (C.26) on the shared decoration of the house in general. It should be noted that the datable examples show that the mosaic floors were laid down at different times, and are indicative of the length of habitation in some houses. The mosaics in the baths of the maison de Januarius, for example, cannot be dated to the same period as the mosaic in the style of the thermes des Filadelfes from room .

The maison des Asclepieia (C.32) at Althiburos contains the most extensive mosaic decoration in the baths, preserved in all of the rooms and on the thresholds between the rooms. Twelve of the fourteen mosaics are geometric or floral.⁴¹ On the other hand, the elegant figural compositions, including the boat catalog in the vestibule to the house (4) and the hunting scene from room 16, are located around the peristyle (13) of the house.⁴² This is true also at Volubilis, Bulla Regia and Pupput,⁴³ where figural mosaics are found in the rooms around the peristyle of the house, but not in the domestic baths. In fact, at Volubilis,

⁴⁰ E. Fentress, "Frontier culture and politics at Timgad," *BAC* ns 17B (1984) 402.

⁴¹ A fragment found in the debris of the *frigidarium* shows the bust of a youth, identified as evoking the autumn (*Althiburos*, 140), but not identified with any of the *in situ* mosaics. The other mosaic is from the threshold of the *frigidarium* showing a crown.

⁴² *Althiburos*, 94-101.

⁴³ Maison d'Orphée (C.1) (*tepidarium* T, room D); maison aux travaux d'Hercule (C.2) (fragment in hypocaust room 32); maison au cortège de Vénus (C.3) (*apodyterium* 19, *caldarium* 23) at Volubilis; maison de la pêche (C.35) (heated rooms 13 and 14) at Bulla Regia; maison du péristyle figuré (C.43) (*frigidarium* B, threshold C to heated section) at Pupput. Geometric fragments are also found in maison des corbeilles (C.41) at Carthage and the unheated section of the baths in the maison du grand oecus (C.38) at Utica.

there appears to be less care taken with the decoration of the domestic baths in comparison with the rest of the house.⁴⁴

This is in contrast with the few well-known examples of domestic baths in villas, which often have a variety of figural compositions. The baths at Oued Athménia in Algeria,⁴⁵ at Sidi Ghrib in Tunisia,⁴⁶ and at Piazza Armerina in Sicily⁴⁷ have figural mosaics depicting variously, hunting scenes, a race at the circus, race horses at a stable, activities on an estate, marine creatures, and even bathing and toilet scenes. These examples are all dated to the fourth or fifth centuries AD. Several other figural mosaics which have been ascribed to baths in a domestic setting are also evidently from villas.⁴⁸ This indicates that, for the majority of the domestic baths in urban context, the simplest form of decoration is used.

Symbols and inscriptions in mosaics

Three mosaics composed of symbols, inscriptions, or both, are found in the baths. The first one is on the threshold between rooms 51 and 52 in the édifice des Asclepieia (C.32).⁴⁹ The other two are found at Timgad. One is a threshold mosaic between the *frigidarium* and *tepidarium* of the baths of the grande maison au nord du capitole (C.27), and the other decorated the *frigidarium* of the baths in the maison près du marché aux vêtements (C.25).⁵⁰

The mosaic threshold in the édifice des Asclepieia (C.32) (fig. 143) has a crown with five points and a ribbon as the central motif, and a palm branch and jug to the right and

⁴⁴ With the exception of the palais de Gordien (C.4).

⁴⁵ J.-A. Poule, "Les bains de Pompéianus," *RecConst* 19 (1878) 431-454.

⁴⁶ A. Ennabli, "Les thermes du thiase marin de Sidi Ghrib (Tunisie)," *MonPiot* 68 (1986) 1-59.

⁴⁷ A. Carandini, A. Ricci and M. de Vos, *Filosofiana, La villa di Piazza Armerina* (Palermo 1981) 326-373.

⁴⁸ These baths include examples with mosaics depicting the symbols of various *sodalitates*, such as the baths at Sidi Bou Ali and at Dar Zmela (Y. Thébert. "Les sodalités dans les thermes d'Afrique du Nord," in *Les Thermes Romains* [CEFR 142, Rome 1991] 201). Three other baths with *sodalitas* mosaics are of unknown status due to their incomplete excavation; the maison de Magerius at Smirat, a house at Uzitta, and a house at Hammamet. They are included by Thébert among his examples of private baths (ibid.)

⁴⁹ *Althiburos*, 139, no.53.

⁵⁰ *Mosaïques de Timgad*, 96, no.132.

a *kantharos* to the left.⁵¹ Ennaïfer identifies the crown as the symbol of the Pentasii, the name of a North African *sodalitas*.⁵² The *sodalitates* are associations or brotherhoods whose organization and purpose is still not well understood.⁵³ Inscriptions show their involvement in funeral monuments and the financing of *venationes* by members. Members also have economic connections, such as through the production of oil and shipping, and the groups evidently include wealthy members. The names of certain groups are known, some with a wide distribution in Roman Africa, and others are apparently more restricted in location.⁵⁴ Each *sodalitas* has a symbol combined with number as an emblem.⁵⁵

The symbols and names of the *sodalitates* are found in both public and private baths. This suggests a connection between the associations and the establishment. In private contexts, they are found in the baths and the house itself. In some instances, more than one *sodalitas* is represented in a house.⁵⁶ In public baths, the symbols can form part of

⁵¹ The *kantharos* is badly damaged, and the jug is called an *oenochoe* (*Althiburos*, 139).

⁵² *Ibid.*

⁵³ The various inscriptions of the *sodalitates* have been collected together and studied by A. Beschtaouch ("La mosaïque de chasse à l'amphithéâtre découverte à Smirat en Tunisie," *CRAI* [1966] 134-157; *idem*, "Nouvelles recherches sur les sodalités de l'Afrique romaine," *CRAI* [1977] 486-503; *idem*, "Une sodalité africaine méconnue: les Perexii," *CRAI* [1979] 410-418; *idem*, "Note sur la mosaïque des Amours <<venatores>> qui a donné son nom à la maison de la chasse," *Bulla Regia I* [*CEFR* 28, Rome 1983] 49-54; *idem*, "Nouvelles observations sur les sodalités africaines," *CRAI* [1985] 453-475).

⁵⁴ The Telegenii are known from inscriptions at Timgad in Algeria, and Kourba, El Djem and Carthage in Tunisia (*idem*, "Nouvelles observations," [1985] 469).

⁵⁵ The symbols (a crescent on a stick, a star, an ivy leaf, a sheaf of millet, a fish, and "S" are combined with a number (II, III, IIIII, X, XIII) to identify a particular *sodalitas* (*idem*, "Une sodalité africaine méconnue," 418, fig. 8). The crown with a *lemniscus* (ribbon) is also used to distinguish groups according to the number of points of the crown (Y. Thébert, "Les sodalités dans les thermes d'Afrique du Nord," in *Les Thermes Romains* [*CEFR* 142, Rome 1991] 195-196). Since, however, groups distinguished by different symbols can have the same number, the associations of the crowns with a particular group can only be made when the appropriate symbol accompanies it (*ibid.*, 196).

⁵⁶ A mosaic in the maison de Magerius, perhaps an estate in the region of Sousse and El-Djem, both depicts a gladiatorial scene of *venatores* against leopards, with a herald carrying four sacks of 1000 *denarii* each, and records the munificence of Magerius in paying the *venatores* Telegeniorum (Beschtaouch, "Mosaïque de chasse à l'amphithéâtre," 134-146). The Telegenii are the *sodalitas* to whom, apparently, the *familia venatorum* belongs (*ibid.*, 156). The symbols of another *sodalitas*, the Pentasii, also appear several times elsewhere in the same house, including the baths (Thébert, "Sodalités dans les thermes," 197). In the maison de la chasse (C.34) at Bulla Regia, the symbols of three different *sodalitates* appear in the mosaic of the underground peristyle and *triclinium* (Beschtaouch, "Note sur la mosaïque des Amours <<venatores>>," 49-54, and in the *Isaona* mosaic from El Djem five *sodalitates* are represented (Thébert, "Sodalités dans les thermes," 197)

the decoration, and include more than one group. In the thermes Memmiens, four or five *sodalitates* are represented.⁵⁷ Their symbols are sculpted in low relief on the keystones of four arched niches in the *frigidarium*. Thébert concludes that they were sculpted at the time of the original construction of the baths, but he also states that they were probably not visible to the bathers. The marble wall decoration would have covered them. The nature of the involvement of the *sodalitates* in the thermes Memmiens is not known, and the baths were clearly not restricted in use to them.⁵⁸ The presence of these symbols in baths could potentially mark them out as the property or exclusive meeting place of a particular association, or even several different associations. However, as Thébert points out, public baths were in general important centers of social life in a city, and their layout is favorable to the gathering of people, including such associations. He suggests that the symbols might be evidence of a benefactor's particular affiliation, but one cannot determine that the baths belonged to the associations.⁵⁹ Similarly, in the private baths of a house, he suggests that symbols let the owner's affiliation be known to guests.⁶⁰ This is probably how the symbol in the baths of the édifice des Asclepieia is to be interpreted.

The mosaic threshold between the *frigidarium* and *tepidarium* of the baths of the grande maison au nord du capitolé (C.27) at Timgad depicts two pairs of sandals, with an inscription below and above (fig. 144).⁶¹ Each pair points in opposite directions, and the two inscriptions are intended to be read from opposite directions. The salutation *bene lava* greets the bather entering the heated section. The inscription for the bather leaving the heated section has worn away, leaving only the *tesserae* which formed the bottom of some letters. The inscription is restored as [*salvu(m) lav*]isse.⁶² Together, the two express the wish for a good bath, and one accomplished safely.

⁵⁷ H. Broise and Y. Thébert, *Recherches Archéologiques Franco-Tunisiennes à Bulla Regia. II: Les Architectures. 1 - Les Thermes Memmiens* (CEFR 28/II,1, Rome 1993) 416-419.

⁵⁸ Thébert, "Sodalités dans les thermes," 200.

⁵⁹ *Ibid.*

⁶⁰ The appearance of the symbols of more than one group, however, is difficult to understand. In some examples, this may represent the different affiliation of successive owners (*ibid.*, 195)

⁶¹ *Althiburos.*, 116, no. 175.

⁶² *Ibid.*

This greeting to the bather on the mosaic floor is fairly wide spread in North Africa, appearing in baths at Timgad, Lambaesis, Setif, Sabratha, Oea, Lecourbe, Enfidaville, and Khalfoun.⁶³ An example in Greek comes from southern Turkey.⁶⁴ The inscription, found in public and domestic baths, may occur alone or with sandals, but the representation of sandals is not confined to the mosaics of baths.⁶⁵

Sandals on thresholds have been considered indicators of the direction of movement through the baths. In the example from the *grande maison au nord du capitole* at Timgad, the threshold serves as the entrance and exit to the heated bathing section from the *frigidarium* (fig. 84). In an example from a small bathing establishment at Thuburbo Maius, the threshold between the second *tepidarium* and the *frigidarium* carries a mosaic depicting a single pair of sandals without inscription, toes pointing into the *frigidarium*.⁶⁶ In these baths, the circuit is annular, and the sandals confirm the pattern of circulation construed from the doorways of the baths. Sandals are, however, often positioned at the entry to the heated section.⁶⁷ As such, they have been interpreted as a warning about the heated floor. They can be taken literally, as an instruction to put on bathing sandals to protect feet against the heat of the hypocaust floors.⁶⁸ They are not, however, always placed on a threshold to the heated section. The sandals appear to convey different types of

⁶³ The examples are collected together in K.M.D. Dunbabin, "*Baiarum grata voluptas: pleasures and dangers of the baths*," *BSR* 57 (1989) 18-19 and n.95.

⁶⁴ The Greek mosaic inscription was found in Baths III 2B at Anemurium, in Cilicia. There are two mosaic inscriptions in these baths. The first is at the entrance to the baths, and the second is in the palaestra. The inscriptions are set in a *tabula ansata*, with no accompanying sandals (J. Russell, "Mosaic Inscriptions from the Palaestra at Anemurium," *AnatSt* 24 [1974] 101f; *The Mosaic Inscriptions of Anemurium* [Ergänzungsbände zu den Tituli Asiae Minoris, XIII] Vienna 1987, 28-34, nos 3,4, figs 2-4)

⁶⁵ The examples of footprints and footwear are collected together and interpreted in K.M.D. Dunbabin, "*Ipsa deae vestigia...Footprints divine and human*," *JRA* 3 (1990) 85-109.

⁶⁶ M. Alexander *et al.*, *CMT* 2.1: *Thuburbo Majus*. (Tunis 1980) 27, in the bains du labyrinthe. The mosaic is dated to the late third, early fourth century AD.

⁶⁷ Dunbabin, "*Ipsa deae vestigia*," 99.

⁶⁸ Lézine (*Architecture romaine*, 15-16) interprets the mosaic sandals found on the *frigidarium* floor of a small bath in the Cap Bon region in this way. The first pair are found in front of the entrance to the *frigidarium*, pointing north into the room. The second pair are located to the left, pointing west at the entrance to the heated section. Lézine suggests that the first pair tell the bather to remove street shoes, the second to don sandals before entering the heated section.

information according to where they are placed in the baths.⁶⁹

It is, however, unlikely that such directional signals would be necessary for the Roman bather. Surely the heat alone emanating from the heated section would mark the way. It is also probable that a general flow of bathers would mark the way, or the various attendants and staff working the public baths. Its function as a directional indicator, although certainly evident in some examples, is likely to be secondary. The interpretation of the bathing sandal is more probably connected with thresholds carrying apotropaic symbols.⁷⁰ These symbols are frequently placed in doorways, a point which appears to have been considered particularly vulnerable to the admittance of evil or the *invidus*. Recurrent symbols and inscriptions warding off or negating the influence of *invidia* or the *invidus* in the baths suggest that baths were particularly vulnerable to the power of *invidia*.⁷¹ Thus the sandals could express the wish for a safe passage through the baths.⁷² The example from Timgad is found in baths which have public admittance from the street. The inscription is therefore intended as a salutation for a general audience.

There are several inscriptions in North Africa which are intended to turn away the *invidus* in the context of baths.⁷³ One of these inscription is also found in a domestic bath at Timgad, in the baths of the maison près du marché aux vêtements (C.25).⁷⁴ The mosaic floor of the *frigidarium* is decorated with an interlaced garland in the center of which is a black circle with the inscription: *B(onis) B(ene) | qui dixit | ridet qui | negabat | victus est* (fig. 145). In the surrounding spaces created by the garland, part of another inscription is preserved: *molant | --- | baline [] | avat | invid [] | ---*. The second inscription is incomplete, but connects bathing and *invidia/invidus*. Dunbabin has identified two particular types of *invidus* inscriptions in the baths of North Africa. The inscriptions counteract the effects of envy, which works through the evil eye of the envious. One group stresses the completion

⁶⁹ Dunbabin, "*Ipsa deae vestigia*," 101.

⁷⁰ Russell, "Mosaic Inscriptions," 102.

⁷¹ Dunbabin, "*Baiarum grata voluptas*," 33ff.

⁷² Dunbabin, "*Ipsa deae vestigia*," 102-103.

⁷³ Dunbabin, "*Baiarum grata voluptas*," 33-34.

⁷⁴ See above, p. 115-117, on the rooms.

of the building, which the envious had unsuccessfully tried to prevent. The other group negates the power of the *invidus* by actually inviting the envious. The inscription at Tingad could belong to both groups.⁷⁵

Figural decoration

Figural mosaics are the least common type in the domestic baths. There are only three figural scenes among these examples. It has already been noted that non-figural mosaics are generally employed in the domestic baths, even when the principal rooms of the house itself are decorated with figural mosaics. Among the domestic baths at Pompeii, in contrast, there is evidently a predilection for scenes associated with water, whether in the form of fishing and aquatic life, swimming, or sea-deities.⁷⁶ This is not true of the examples from North Africa, which each have unique themes, and so each one is treated separately here. Particular attention is given to the dating of the mosaic and the influence of the patron in selecting the theme.

Cirta

The first mosaic (fig. 146) with figural decoration is found in the baths at Sidi M'Cid (C.27), a suburb of ancient Cirta. The mosaic decoration preserved in the *caldarium* is probably the earliest example of a figural *opus tessellatum* mosaic in Roman North Africa.⁷⁷ Predominantly formed with black and white *tesserae*, the details are picked out in color. The technique is related to black-and-white mosaics found at Pompeii, rather than the polychrome tradition which developed later in North Africa.⁷⁸ The mosaic shares characteristics of what Clarke terms the "early silhouette style", where the silhouette of the figure, rather than the interior details, are emphasized. The use of color in these mosaics is limited to solid blocks of colored *tesserae*, without the use of tonally differentiated *tesserae*

⁷⁵ Dunbabin, "*Baiarum grata voluptas*," 34.

⁷⁶ N. de Haan, "Dekoration und Funktion in den Privatebädern von Pompeji und Herculaneum," in *Function and Spatial Analysis of Wall Painting*, ed. E. Moormann (Leiden 1993) 34-37.

⁷⁷ See above pp. 121-124.

⁷⁸ Dunbabin, *Mosaics of Roman North Africa*, 18-22.

to create the illusion of shading.⁷⁹ This style is best represented by mosaics of the last forty years BC at Pompeii.⁸⁰

The rectangular mosaic does not extend into the apsidal niche at the south end, nor into the rectangular niche at the north end, which must have contained respectively the *labrum* and *alveus*.⁸¹ It is laid upon the *suspensura* of the *caldarium*, and is divided into three panels. The central panel, which is the largest, contains a circular shield of curvilinear black and white triangles framed by a polychrome straight-tongued double guilloche. At the center is a circular medallion showing an eagle, with wings outstretched and a thunderbolt clasped in his talons. The details are picked out with colored *tesserae*. The corners of the square panel, within which the circular shield is inscribed, are filled with pyramidal candelabra in gray, red and yellow *tesserae*. The corners have alternately lotus and palmette as the central motif of the candelabrum.

The panels to the north and south of the central one are long rectangles enclosed by a black-and-white wave pattern. The compositions of both panels face into the center of the room. At the north end, in front of the rectangular niche, the panel shows two swimmers facing each other, executed in silhouette using black *tesserae* on a white background.⁸² The two swimmers are the only true silhouettes of the mosaic. Berthier states that the anatomical detail was executed in white *tesserae*, which proved to be white paint on black *tesserae*. He claims that when the mosaic was washed, the white paint came off. It is entirely unlikely that such detail would be applied in a water-soluble medium in a room which was likely to be humid and wet, and subject to frequent washing.⁸³ The second phase of use for this room involved the blocking of the hypocaust and removal of the bathing installations. If Berthier's identification of anatomy marked by the use of white paint on mosaic is true, it

⁷⁹ J.R. Clarke, *Roman Black-and-White Figural Mosaics* (New York 1979) 60-61.

⁸⁰ J.R. Clarke, "Mosaic workshops at Pompeii and Ostia Antica," in *Fifth International Colloquium on Ancient Mosaics*, part 1, ed. P. Johnson, R. Ling and D.J. Smith (*JRA* suppl. 9, Ann Arbor 1994) 91.

⁸¹ See above, pp. 122, 184.

⁸² Berthier, "Une mosaïque solaire," 116 .

⁸³ In Roman baths, the hot water of *solium* often drained right onto the floor of the room to facilitate cleaning.

might reflect a change in decorative taste, when the pure silhouette style of figure was no longer desirable. It could be added in the delicate medium of paint, however, only when the room no longer served as the *caldarium*. It is certain that the two swimmers were originally meant to be shown only in silhouette.⁸⁴

The south panel, in front of the apse, depicts four ships, represented by the fore without the riggings and with an emphasis on the prows. They face each other in two groups of two, arranged on different ground lines to illustrate depth on a white ground.⁸⁵ Each prow is depicted with different ornamentation and individually shaped prow stems, with a single row of oars. Each ship carries troops, represented by lances and shields. The first prow from the left is decorated with the images of a dolphin and snake, and the second one with a large eye on either side, both of which are illustrated (fig. 147). The second boat in this group has a prow that extends forward to form a ram at the waterline, marked by three horizontal lines. Above this, mid-way up the prow, extends a second projecting piece, the *proembolion*, terminating in the shape of a wolf's head.

In the second group of ships, the ship at the far right of the mosaic has a prow with an exaggerated concave profile (fig. 148). The stem terminates in a volute, while the bottom extends out to form a ram at the waterline, similar in shape to the ram of the first ship in the left hand group. Mid-way up the prow, there also projects a *proembolion* in the shape of a large wolf's head.⁸⁶ The only preserved decoration is a vine on the lower half of the hull, since the decoration of the upper half is destroyed. The fourth ship, the first one in this group, is the most ornately decorated. The upper part is executed in pink *tesserae* with a white spiral design, and the lower part of the prow has a white thunderbolt against a dark

⁸⁴ If these anatomical additions did indeed exist, it is likely that they were added later. This does not explain why white *tesserae* were not used originally. Quite likely, the mosaic was made when the early silhouette style was in favor, for which the only parallels are Pompeian of the last forty years BC (see below, p. 222). The practice of showing anatomical detail in black-and-white mosaics is a subsequent evolution of the style, beginning as early as the end of the first century BC, but popular in the following century (see Clarke, *Roman Black-and-White Figural Mosaics*; "Mosaic Workshops").

⁸⁵ Picard identifies a war galley and merchant ship for each group ("Une mosaïque pompéienne à Constantine et l'installation des Sittii à Cirta," *RA* [1980] 185), but all four carry armed troops. Only one ship on either side is furnished with a prominent ram, discussed below pp. 224-225.

⁸⁶ Again the wolf's head is decorative, and not a ram.

background. Midpoint up the prow is a swan with free-standing neck. Above, leaping over the straight stem of the prow, is a bull.⁸⁷ There is also a *proembolion* extending out above the swan, again terminating in a wolf's head.

The last panel is a narrow rectangle above the ship prows across the opening of the apse, into which it partially extends. A building at either end is distinguishable, while the center is too badly damaged to discern more than a few architectural features. The scene is difficult to reconstruct.⁸⁸

Picard drew attention to certain shared themes and motifs with mosaics in Pompeian private baths, in particular the black swimmers.⁸⁹ In the *casa di Marcus Caesius Blandus* (VII.1.40) the pavement shows four black swimmers around a disk bordered by triangles (fig. 149). In the *casa del criptoportico* (I.6.2) there is a rosette framed on one side by two black figures flanking an amphora, and on the other by two facing dolphins (fig. 150). In the *casa del Menandro* (I.10.4) there is a composition of black swimmers, marine creatures and a central disc of acanthus leaves (fig. 151). All of these mosaics decorate heated rooms in the baths and are executed in black-and-white. In the *casa del Menandro*, the details of the dolphins and vegetation are illustrated in color.⁹⁰ The parallels which the Cirta mosaic shares in style and imagery with domestic bath mosaics at Pompeii is quite significant. The established dates for the Pompeian mosaics are between 40 and 20 BC.⁹¹ Picard therefore

⁸⁷ Berthier suggests that rather than a figurehead, this is a live bull, carried up by his own momentum. The spears of the second ship are aimed at his rump as if to poke him. He continues with the swan, saying that it also looks as if it is leaving the boat ("Une mosaïque solaire," 115).

⁸⁸ Berthier suggests that the ships may, therefore, be placed into the context of a shoreline, along which are houses (ibid., 116).

⁸⁹ Picard, "Mosaïque pompéienne," 185. The three houses with similar mosaics in the baths are: the *Casa di Marcus Caesius Blandus* (VII.1.40); the *Casa del Criptoportico* (I.6.2); and the *Casa del Menandro* (I.10.4).

⁹⁰ These mosaics are discussed by Clarke (*Roman Black-and-White Figural Mosaics*, 61-62; "Mosaic workshops," 91, 95-96), who classifies them as early silhouette style mosaics of approximately 40 to 20 BC. The mosaics of the *Casa di Marcus Caesius Blandus* were repaired, replacing colored *tesserae* in the dolphins of the *fauces* to the house. Clarke notes the similarity of motifs employed in the threshold band of the *tablinum* in this house, and the motifs in *salon i* of the *Casa del Criptoportico*. These motifs are lightning bolts, shields and rosettes. With the exception of the rosettes, these motifs also appear in the mosaic at Cirta.

⁹¹ Clarke, "Mosaic workshops," 91.

suggests a similar date for the Cirta mosaic. Differences do, however, exist. Unlike the Pompeian examples, the swimmers are not ithyphallic. The overall composition of this mosaic is not found among the Pompeian examples, which tend to be of a single panel, and the prows of warships in mosaic are unique.

Nevertheless, the workshop that created the mosaic at Cirta is evidently imported, since there is nothing comparable in the earlier mosaic tradition to account for a local work in this style.⁹² The pavement is isolated, without contemporary parallels in North Africa. Comparative material from the first century in Roman Africa is missing, which suggests that the workshop did not continue production. The date of the mosaic at Cirta is, however, problematic, given the lack of stratigraphic evidence.⁹³ More of the individual elements find parallels in Pompeian artwork, or artwork of the late Republic and Augustan age, than of later periods.

Silhouette swimmers are fairly restricted in date. Only three other examples of mosaics representing swimmers of this type of known provenance exist. These are in the private Pompeian baths mentioned above, which were decorated between 40 and 20 BC.⁹⁴ While the Cirta mosaic does not share the ithyphallic characteristic of the others, the choice of swimmers is clearly appropriate for a bathing context.⁹⁵ Certainly, some wealthy resident who appreciated baths of the Campanian style and decoration commissioned the baths, and the Italian connection can be established both in the decoration and in the architectural form.⁹⁶ Parallels for the motifs exist among the Pompeian examples. The careful execution of the details suggests a skilled workshop, of the caliber which decorated the baths of the casa del Menandro. Since a workshop was evidently imported, it is not surprising that one

⁹² Dunbabin, *Mosaics of Roman North Africa*, 17.

⁹³ Picard identifies it as the earliest Roman mosaic in North Africa, dating it to the time of the Second Triumvirate (G.-C. Picard, "La mosaïque romaine en Afrique. A propos de l'ouvrage de K. Dunbabin, <<The Mosaics of Roman North Africa. Studies in Iconography and Patronage>>," *RA* 2 [1980] 350; cf. Dunbabin, *Mosaics of Roman North Africa*, 17, and n.18, for late first century AD/early second century AD date and parallels).

⁹⁴ *Ibid.*

⁹⁵ On the phallus as an efficacious apotropaic symbol, see Dunbabin, "*Baiarum grata voluptas*," 42. On aquatic images in the baths, see de Haan, "Dekoration und Funktion in den Privatebädern," 34-37.

⁹⁶ On the architecture and layout, see above, pp. 121-124, 184, 198-199.

capable of a high level of craftsmanship was acquired.

The shield of concentric triangles is perhaps the indicator of a date later than the Pompeian baths. It is difficult to date this element earlier than the first century AD. It appears in a mosaic of exedra G in the casa degli Amorini dorati (VI.16.7) at Pompeii (fig. 155). This floor may be contemporary with the third style decoration of the room, and is Augustan at the earliest.⁹⁷ The vegetal motifs in the corners are similar in execution to the ones in the Cirta mosaic, and have two alternating motifs: lotus and pomegranates or a vase and ivy.

An interesting theme developed in the Cirta mosaic is naval and military. This theme appears at Pompeii, in more isolated contexts.⁹⁸ Picard considers the prow with a bull figure-head in particular to belong to the extravagant prows of the Second Triumvirate.⁹⁹ The weapons shown in the boats prove problematic when one tries to ascribe them to a particular period, although round and oval shields certainly appear in artwork during this period.¹⁰⁰ Picard states that the weapons are, at least in part, those used at the end of the first century BC. In particular, the round shield is found in this period, when it was adopted by the Roman army.¹⁰¹

The ram on the ships is an indication of a date earlier than the late first century AD. While no remains of warships from this period have been recovered, two archaeological

⁹⁷ F. Seiler, *Casa degli Amorini dorati (VI 16,7.38). Häuser in Pompeji 5* (Munich 1992) 33, 111-112; M.E. Blake, "The Pavements of the Roman Buildings of the Republic and Early Empire," *MAAR* 8 (1936) 115-116, pl. 38 3.

⁹⁸ A naval scene with warships is shown in a small wall painting, Casa dei Vettii (VI.15.1), E. La Rocca, M. de Vos, A. de Vos, F. Coarelli, *Guida archeologica di Pompei* (Rome 1976) 271, with color illustration. A row of ship prows in stucco decorate the east wall of the men's *tepidarium* in the Stabian baths (Eschebach, *Die Stabianer Thermen*, 78), but they are depicted without prominent rams. Interestingly, the example in the casa dei Vettii depicts a battle between Roman and Carthaginian ships, differentiated by their prows. It is quite probable that the emblems on the Cirta ship prows had an understandable association that the owner wished to convey, but one that is perhaps no longer identifiable.

⁹⁹ Picard, "Mosaïque pompéienne," 187. Picard uses the parallels in the mosaic from Cirta with the Pompeian examples to connect the baths to the installation of Sittius at Cirta, dubbing the building the palace of the Sittii.

¹⁰⁰ Round shields in the painting from the Casa dei Vettii, oval shields in the *tablinum's* threshold mosaic of the Casa di Marcus Caesius Blandus.

¹⁰¹ Picard, "Mosaïque pompéienne," 187.

finds are enlightening on the shape of this ram, which is characterized by three strong horizontal bands. One is a second or third century BC bronze ram found off the coast of Athlit, in ancient Phoenicia (figs. 152-154).¹⁰² This ram has three horizontal fins projecting forward when seen in profile, with a central vertical section when seen from the front. This massive piece weighs 456 kg. The second piece of evidence is on the monument at Nicopolis to celebrate the sea victory of Octavian over Antony,¹⁰³ where the *rostra* taken from warships were displayed. The curiously shaped sockets of different sizes in the monument fit the profile of the Athlit ram, which would only have been in the middle range in weight. *Rostra* illustrated with strong horizontal members are well documented. This type of ram first appears around 400 BC, and is the form used for the next four centuries.¹⁰⁴ The prows of warships with this type of ram appear particularly on the coins of eastern Hellenistic kings, coins of the Republic, and on coins of Augustus commemorating his naval victories.¹⁰⁵ The massive ships which fought the wars of the Hellenistic and Republican period, on the other hand, go out of service at some point after the battle of Actium.¹⁰⁶ In illustrations from the second century onward, the rams have a blunt point, rather than the oblong face with transverse fins, and would be less massive and costly.¹⁰⁷ The rams illustrated in the mosaic from Cirta are like the Athlit type, and which suggests that the mosaic was made prior to the change in ram type, some time before the end of the first century AD.

The closest group of parallels for the Cirta mosaic are the Pompeian mosaics. This would suggest a particularly early date, as does the architectural layout. The mosaic and baths must certainly be dated earlier than the change in ram type and the adoption of the

¹⁰² Casson, *Ships and Seafaring in Ancient Times* (London 1994) 74.

¹⁰³ *Ibid.*, 89-90.

¹⁰⁴ W.M. Murray, "The Provenience and Date: The Evidence of the Symbols," in *The Athlit Ram*, ed. L. Casson and J.R. Steffy (Texas 1991) 72-71; L. Casson, "The Ram and Naval Tactics," in *The Athlit Ram*, ed. L. Casson and J.R. Steffy (Texas 1991) 76-82.

¹⁰⁵ Some examples are cataloged by J.S. Morrison (*Greek and Roman Oared Warships* [Oxford 1996] 199-235).

¹⁰⁶ Casson, *Ships and Seafaring in Ancient Times.*, 90.

¹⁰⁷ *Ibid.*, 95.

frigidarium in baths, both transformations completed by the late first century AD. An Augustan or Julio-Claudian date is therefore preferred, with some reservations about the particularly early date championed by Picard.¹⁰⁸

Cuicul

At Cuicul, the two figural mosaics are found in the baths of the maison de l'âne (C.11), and have a common subject, the *asinus nica*. They are, however, quite different in composition. The first one (figs. 157,158), in the *frigidarium* (XV), consists of medallions arranged five rows deep and sixteen rows wide. The central row is larger than the two flanking rows, and these medallions contain the more interesting subjects. The medallions are arranged so that they face outwards, oriented variously north, south, east and west. The first medallion (CI) in the central row contains an ass with the words *asinus nica* written above it. The *asinus nica* mosaic of the *tepidarium* (XVI) (fig. 156), on the other hand, is a square panel decorated with an ass. The square with the ass is located to the right and lower than the center of the mosaic, towards the door between room XVI and the *frigidarium* (XV). The ass moves towards the left, with a red palm in front of it and the inscription *asinus nica* written over a garland above it.

The interpretation of the ass with inscription poses some difficulty. The repetition in two rooms of the baths suggests that it conveys some important message relating to the proprietor. Blanchard-Lemée notes the presence of the ass in pagan and Christian art, either associated with Dionysos, or with the triumphant entry of Christ into Jerusalem. Nowhere, however, does it appear to have the triumphal character attributed to this one in the mosaic through the acclamation and palm. The problem remains that there are no convincing

¹⁰⁸ However, the earliest evidence for Roman baths constructed in North Africa is an inscription from Carpis (CIL 8.24106) dated to 43/42 BC. The inscription records the construction of *assa dextrictar(ium) solariumque* by the quaestor with propraetorian *imperium*, D. Laelius Balbus. The interpretation of the features is problematic (see above, p. 36, and *Vocabulaire thermal*, 9-10).

parallels for this imagery coupled with the inscription.¹⁰⁹ A final suggestion by her appears to me to be the most convincing. She adds that the image may simply be symbolic, “victoire de la sottise, de la lubricité, victoire porte-bonheur pour les utilisateurs des thermes.”¹¹⁰

A variety of figures appear in the mosaic of the *frigidarium*, otherwise unconnected to the *asinus nica*. Blanchard-Lemée divides them into different groups. Dionysiac motifs are reflected in the vine which forms the medallions, the craters, the ivy, the peacocks, and the dancing erotes and vintaging erotes. The second group of figures consists of large quadrupeds, the horse and the elephant, which have no relationship with the vintaging scenes and the season, autumn, to which she thinks the decoration alludes.¹¹¹ The last group consists of the human figures in the central medallions.

The large medallions of the central row contain several human figures in addition to the ass, a peacock and a bull. In medallion C II, a nude figure carries a pail in each hand (fig. 159). Blanchard-Lemée identifies him as a slave serving in the baths, or someone associated with athletic games.¹¹² The next medallion (C III) shows a man wearing an *exomis* (fig. 159). In one hand he holds the handle of a container with three small feet.¹¹³ This object may be a receptacle for holding the unguents used with strigils, for use in the bathing routine. The figure of medallion C IV is dressed in a long tunic stretching to the ankles, with *orbiculi* on the shoulder and hem, and a *paragaude* (fig. 160).¹¹⁴ The robe,

¹⁰⁹ Blanchard-Lemée dwells on the word *nica* in particular, looking at Christian and pagan possibilities, without finding one that is truly similar in application. She suggests that this mosaic may represent the work of a pagan proprietor in the face of Christianity's victory over paganism at the end of the fourth century. This interpretation she sees as plausible, but not provable (*Maisons à mosaïques*, 100). *Nica* is standard acclamation in a variety of contexts.

¹¹⁰ Ibid.

¹¹¹ *Maisons à mosaïque*, 93.

¹¹² Ibid., 87, 94.

¹¹³ The object resembles the perfume caskets shown on the fresco of a hypogeum at Silistra (E. Barbier, “La signification du cortège représenté sur le couvercle du coffret de Projecta,” *CahArch* 12 [1962] 20, 22, fig. 14). Blanchard-Lemée follows Barbier concerning the identification of the casket (*Maison à Mosaïques*, 94).

¹¹⁴ The decoration of clothing with *orbiculi* is a fashion which begins in the fourth century, and is represented in illustrations for the next two centuries (G. Fabre, “Recherches sur l'origine des ornements vestimentaires du Bas-Empire,” *Karthago* 16 [1971-1972] 109-128).

which extends to his ankles, indicates a person of importance, and Blanchard-Lemée suggests that he is probably the owner of the house.¹¹⁵

The figure in medallion C VI (fig. 161) has fair shoulder-length hair with bangs, and is also well-dressed. He wears a mid-length robe with two vertical bands on the front and bands at the cuffs of the sleeves. There are *orbiculi* on the shoulder and above the hem of the front. The resemblance of this youth's hairstyle with the two youths flanking the *domina* in the mosaic of vestibule 21 at Piazza Armerina (fig. 165), Sicily, is noted by Blanchard-Lemée.¹¹⁶ These two youths and two female servants accompany the mistress to the baths. The females carry a casket with folded clothes and a small box suspended by a chain. The young male servants who accompany the rich to the baths, and attend to their master in the baths, are sometimes represented with long hair. Another mosaic from exedra 4b in the *frigidarium* at Piazza Armerina shows a long haired young servant holding a cloak for the *dominus* (fig. 167). The same type of person also appears in the tomb at Silistra, carrying the cloak of the master (fig. 162), on the Proiecta casket carrying candlesticks on the body and leading the way to the baths on the lid (figs. 163, 164),¹¹⁷ and on the only fragment preserved from room 1 of Baths D at Antioch.¹¹⁸ The hairstyle, in the context of the baths, is linked to the notion of service, rather than to a particular social class. On the other hand, these servants are usually shown in finer garments than an average servant, and prominently placed.¹¹⁹

The long-haired youth in the mosaic at Cuicul probably represents one of the servants in a luxurious house, linked to the bathing routine by a towel.¹²⁰ According to Blanchard-Lemée, the figure is placed facing two doorways. Visible from the peristyle, he would invite the guests to come and bathe and relax. However, she states that the

¹¹⁵ *Maisons à mosaïques*, 94.

¹¹⁶ *Ibid.*

¹¹⁷ Concerning the two servants holding candlesticks, cf. Barbier, "Signification du cortège," 13.

¹¹⁸ D. Levi, *Antioch Mosaic Pavements*, 285, pl. LXV e.

¹¹⁹ J. Balty, "Paedagogiani-pages, de Rome à Byzance," in *Rayonnement Grec, Hommages à Charles Delvoye* (Brussels 1982) 299-312.

¹²⁰ *Maisons à mosaïques*, 95.

interpretation is not entirely satisfactory, since it does not take into account the palm placed to the left of the youth, which confers an agonistic significance to the figure. She wonders whether the figure should be considered in isolation, or associated with the bull with a palm, oriented in the same direction. Blanchard-Lemée concludes that the images of this pavement evoke the pleasures of the life of a rich Cuiculitan; baths, feast possibly, and above all spectacles. In this way she accounts for the bathing theme interlaced with allusions to victory, through the inscriptions and the prevalence of the palm branch.

The mosaic of the *frigidarium* should also be interpreted in the context of a group of scenes depicting human figures at various points in the bathing ritual. More specifically, these images portray the elite at the baths, with their attendants and bathing gear. Some of these are mosaic floors in the context of villa baths. The Piazza Armerina examples mentioned above are two of the eight mosaics which depict the master or mistress at the baths or dressing with accompanying servants.¹²¹ The other example, in the villa baths at Sidi Ghrib, Tunisia, shows the *domina* in the concluding stage of her toilet (fig. 168).¹²² She is seated on a chair, flanked on either side by a female servant who assists in her preparations. Surrounding her are the various items need for the baths and dressing, of the same type as depicted on the Proiecta casket and in the wall-paintings of the Silistra tomb.¹²³ All of these scenes emphasis the status of the *dominus* or *domina* at the baths, being dressed or attended by servants and possessing the various items needed for the bathing ritual. The mosaic scenes are situated in the context of private baths, while the Proiecta casket is itself one of the items a lady would take to the baths. These scenes are all datable to the fourth or fifth centuries AD. The mosaic in the *frigidarium* of the maison de l'âne

¹²¹ Barbier has discussed these scenes in the context of the bathing ritual (Barbier, "Signification du cortège," 24). The person in exedra 4d (fig. 166) is, however, certainly male. He has short hair like the fully dressed man in exedra 4b, and he is attended by male servants, as in exedra 4b (and see Carandini et al., *Piazza Armerina*, 358). The few scenes which actually depict men or women dressing or bathing show female attendants for women, and male attendants for men.

¹²² A. Ennabli, "Les thermes du thiasse marin de Sidi Ghrib (Tunisie)," *MonPiot* 68 (1986) 42-44; amendments to the identification of the items are given by G.C. Picard, "Les thermes de Sidi Ghrib," *BSNAF* (1987) 47, with a note by N. Duval, *ibid.*, 49-50.

¹²³ A discussion of the items depicted in the Proiecta casket, the Silistra tomb and the Piazza Armerina bathing mosaics appears in Barbier, "Signification du cortège," 7-33, *passim*.

also emphasis the status of the man in medallion C VI through the accompanying figures of recognizable servile status.¹²⁴

The date of this mosaic is not known with certainty, and could be a product of the fourth to sixth centuries. The extension of the house which includes the baths occurred in the fourth century, and the mosaic has been considered fourth to early fifth century. The form of the mosaic, long rows of medallions issuing from craters placed at the short sides of the rectangle, is popular in the churches of Palestine and Jordan. Blanchard-Lemée cites a selection of these mosaics for general comparison, all of which can be attributed secure dates in the sixth century.¹²⁵ She suggests that the *frigidarium* mosaic could potentially be as late.

A very limited number of the mosaics convey information about the proprietors of the baths. The figural and pictorial mosaics show a limited selection of topics for the domestic baths. Marine and nautical figures such as the swimmers and ship prows from Cirta form the only representation of these themes which are so common among the private baths of Pompeii. Mythological scenes do not appear in the baths of the *domus*. The unheated rooms of some baths lack any mosaic decoration, which indicates that the baths may have been without decoration. A geometric decorative program is most commonly found, even when the important rooms of the house itself have figural scenes in their mosaics. Seldom do the patrons undertake a decorative program which rivals the type of luxurious decoration found in villa baths. The private baths of the city nearly all appear to be modest establishments, where function over luxury is emphasized. The only exceptions are the few privately accessible baths of elegant houses, like the maison de Sertius (C.23), and the large publicly accessible baths of the palais de Gordien (C.4).

¹²⁴ The entourage of the wealthy at the baths appears to be an aspect of late antique bathing culture. This display is, of course, best understood in a public context, where the rich could set themselves apart from the other bathers by the size and luxury of their train; see below, pp. 257-258.

¹²⁵ *Maisons à mosaïques*, 89-92.

CHAPTER FIVE

THE SOCIAL CONTEXT

This chapter examines the social role of domestic baths in Roman Africa. Although domestic baths in the *domus* are generally considered to be a privileged luxury of the wealthy, and an indication of the owner's affluence, it is apparent that the North African examples show great disparity in terms of relative luxury. The public access to some of them also suggests a different role for these baths. The majority of houses, while not outstanding in size, decoration or elegance, show variations in terms of opulence relative to each other. The available information on ownership, clientele and use of the baths is considered in the following section. Evidence of changes over time and recently proposed hypotheses which identify the private baths as a phenomenon of late antique city life are also considered.

The proprietors

The owners of the peristyle houses are generally only placed within a broader context of the urban well-to-do, of possibly diverse status.¹ The houses must belong to the families found in the epigraphic records of the cities, but they are almost never connected with specific residences. The people commemorated belong to the urban elite whose members filled the positions of the municipal *ordo*. The source of their wealth was based in agriculture, from normally extensive land holdings, and must also have included urban real

¹ The problem of identifying individuals with the houses at Cuicul has been addressed by Blanchard-Lemée (*Maisons à mosaïques*, 236-237). A few mosaic inscriptions naming individuals or families are found in a domestic context (K.M.D. Dunbabin, *Mosaics of Roman North Africa: Studies in Iconography and Patronage* [Oxford 1978] 25), but they provide no information about the social status and career of the patrons. Epigraphic finds naming owners are also rare, such as the *cos.suff.* M. Asinius Rufinus who owned a *domus* at Acholla in the reign of Commodus (G.-Ch. Picard, "Deux sénateurs romains inconnus," *Karthago* 4 [1953] 121-135; Dunbabin, *Mosaics of Roman North Africa*, 25, 40).

estate and commerce.²

A few of the owners of houses with baths are named in inscriptions. At Timgad two sets of inscriptions from statues of Asclepius and Hygieia name individuals and specify that they own private baths. At Cuicul, one individual is named in a mosaic inscription, and another mosaic seems to remind bathers of the owner's privileged status. The last example where the owner is explicitly named is at Volubilis, and here he is named in an official capacity.

The first example, the inscription on the base for a statue of Hygieia in the *maison de Sertius* (C.22), names Faustus and Valentina.³ The inscription identifies the statue as destined for the baths, providing an example where specific people are connected explicitly with their domestic baths. M. Plotius Faustus, *signo* Sertius, and his wife Cornelia Valentina Tucciana, *signo* Sertia, are known from other inscriptions at the site.⁴ Indeed, M. Plotius Faustus is among the most illustrious of citizens whom the epigraphy of the city has handed down to us. The relative wealth of inscriptions illuminating his career, status and building activity within the city have ensured him a prominent place in studies on the urban elite.⁵

The other inscriptions placed in public settings record Plotius' rank and titles. He

² R. Duncan-Jones, *The Economy of the Roman Empire: Quantitative Studies*, 2d ed. (Cambridge 1982) 63-114 passim.

³ Discussed above, pp. 112, 114, 205-206.

⁴ Three inscriptions naming them come from the *macellum* which they gave to the city; *M. Plotius Faustus eq. r. a militiis III fl. pp. sacerdos urbis, ad exornationem operis macelli quod cum Valentina coniuge patriae suae fecit sibi posuit* (BCB, Timgad, 187; CIL VIII 2399 = ILS 2753); *Corneliae Valentinae Tuccianae fl. pp. bonae memoriae feminae ad exornationem operis macelli quod patriae suae fecerunt Faustus maritus posuit* (BCB, Timgad, 186; CIL VIII 2398); *Sertii macellum et aream eius patriae suae fecerunt* (BCB, Timgad, 209; ILS 5579). Fragments of a monumental inscription were also found reused in the paving of the courtyard of the Capitolium. These were reassembled by H. Pavis d'Escurac ("Flaminat et société dans la colonie de Timgad," *AntAfr* 15 [1980] 198-199), who believes that the incomplete inscription commemorates the involvement of the Sertii in some building activity related to the *capitolium*: *[M.] Plotius [Fa]ustus sa[cer]dos Ur[bis]...et Cornelia Valen[tina] Tucciana...[uxor] eius flamines p.p. ...patriae suae fecerunt.*

⁵ Pavis d'Escurac, "Flaminat et société," 184-186, 187; Lassus, "Une opération immobilière," 1225-1231; E. Fentress, "Frontier Culture and Politics at Timgad," *BAC* n.s. 17B (1984) 401.

was an *equus romanus* who had held three different military commands.⁶ In honor of his adlection to the perpetual flamine, he and his wife built the *macellum* for the city, and adorned it with at least eight statues.⁷ He was also a *sacerdos urbis*. This official cult is attested in only two other North African cities, Carthage and Cirta, and the priesthood was evidently one of importance.⁸

Studies on the upper echelons of North African society, particularly at Timgad, are enlightening on the social background and relative position of Sertius and his family. The perpetual flamine was evidently a significant position to attain in the city's hierarchy. It was perhaps the most expensive post at Timgad, having a *summa honoraria* of 10,000 sesterces attached to it.⁹ The repetition of certain family members in the city, male and female, who held the priesthoods demonstrates that it was restricted to a small group.¹⁰ This suggests that the individual fortunes were concentrated in the hands of a few of the great families, who appear to have exercised a significant monopoly on the flamine at Timgad. This same group also supplied the magistrates of the city, and attainment of the perpetual flamine was perhaps the most illustrious office. It does not appear to be restricted to those who had served in positions of the municipal *ordo*.¹¹ While holders of the flamine do not automatically belong to the equestrian order, the priesthood could evidently assist in the advancement of a *gens*.¹²

Plotius evidently came from a well-to-do family. His father, also M. Plotius Faustus, was a *flamen perpetuus* at Timgad at the end of the second century, and so could

⁶ *CIL VIII 2394, 17904: praef. coh. III Ityraeorum, trib. coh. I Fl. Canathenorum, praef. alae I Fl. Gallorum Taurianae.*

⁷ BCB, *Timgad*, 185-187.

⁸ Although rare, the *sacerdos urbis* is attested at Carthage (*CIL VIII 24054=ILT 768*), between 190 and 230 AD, and twice at Cirta: (*ILAlg II I 479*), under Commodus; and (*ILAlg II I 682*), in the Severan period. Pavis d'Escurac says that the official cult of the City of Rome was evidently celebrated in at least these few North African cities ("Flaminat et société," 187).

⁹ *AE (1968) 647*; Pavis d'Escurac, "Flaminat et société," 189; cf. R. Duncan-Jones, "Costs and outlays from Roman Africa," *BSR 30 (1962) 67*.

¹⁰ Pavis d'Escurac, "Flaminat et société," 184-186, 187.

¹¹ *Ibid.*, 192.

¹² R. Duncan-Jones, "Equestrian rank in the cities of the African provinces under the Principate: an epigraphic survey," *BSR 35 (1967) 153*; Pavis d'Escurac, "Flaminat et société," 193-195.

afford the *summa honoraria*.¹³ Sertius, however, surpassed his father, acquiring equestrian rank and holding additional honors. Sertius' other acts of generosity to the city, the gift of the *macellum*, and possibly some work on the *capitolium*, demonstrate the existence of considerable financial resources at his disposal. It is possible that his wealth was not entirely derived from inheritance. Fentress identifies him as a nouveau riche man, who probably amassed his fortune as an urban landlord.¹⁴ He evidently benefited financially from the building program which followed the expansion of the city beyond the boundaries of the Trajanic settlement.¹⁵ This is the area where his building activity took place. The size, location, and elaboration through decoration of his house are further evidence of his ambitious advance.¹⁶

Elite standing must also include the large group of slaves, freedmen and other dependents a family such as the Plotii were likely to command. Direct evidence comes from the dedication of the statue of Asclepius by Primitivus, the *actor*.¹⁷ In addition, Pavis d'Escurac has identified a small number of inscriptions of slaves and freedmen in honor of patrons who held the flaminiate.¹⁸ Further evidence exists in the nomenclature found in later records. There is no record of any surviving children belonging to the Sertii, but the appearance of many Plotii in the epigraphic record attests to the presence of freedmen and their descendants.¹⁹

¹³ H. Marrou, in "Séances de la Commission de l'Afrique du Nord," *BAC* (1932-1933) 185, no. 29; Pavis d'Escurac, "Flaminat et société," 185.

¹⁴ Fentress, "Frontier culture," 407.

¹⁵ Lassus, "Opération immobilière," 1225, 1228-1230.

¹⁶ For discussion of the house and its identification with Sertius, see above, pp. 110-113; and on the decoration, see above, pp. 204-205, 211-212.

¹⁷ Primitivus, of servile status, must have been the estate manager of the Sertii (on *actor*, see D. P. Kehoe, *Investment, Profit, and Tenancy. The Jurists and the Roman Agrarian Economy* [Ann Arbor 1997] 173, 176-177).

¹⁸ Pavis d'Escurac, "Flaminat et société," 190-191.

¹⁹ For sources, see Pavis d'Escurac, "Flaminat et société," 191. The Sertii are also connected to the Pompeii at Timgad. M. Pompeius Pudentianus *signo* Optantius and his son M. Pompeius Quintianus *signo* Optantius were both *flamines*. The son left two inscriptions to Sertius and Sertia, identified as his *parens carissimus* and his *parens optima* (*AE* [1909] 156). For a discussion of the evidence on the Pompeii and their relationship to the Sertii, see Pavis d'Escurac, "Flaminat et société," 191; and cf. Fentress, "Frontier culture," 400, n. 6.

The other named owner of a house with baths at Timgad is Lucius Julius Januarius. Two inscriptions commemorate the gift of a statue of Hygieia and one of Asclepius from his son-in-law, Lucius Acilius Granianus.²⁰ The inscriptions give no reference to the status or career of either one, and neither Julius nor Acilius are otherwise known from the epigraphic record.²¹ The absence of information concerning the offices and standing of Julius and Acilius is not, however, evidence that they did not belong to the circle of influential families at Timgad. The statues were intended for a private setting, the domestic baths of the house. The inscription from the maison de Sertius also lacks further information about the donors, who are identified only by their *cognomina* on the inscription to Hygieia. Since these inscriptions were placed in a private and intimate setting, it is probable that further details were not necessary.²² The baths of the maison de Sertius and the maison de Januarius are both evidently accessible only from within the house, and are therefore restricted to those with appropriate admittance to the house. On the evidence of the Asclepius inscription, it appears that the slaves also had access to the house, and perhaps not simply the urban dependents.

There is, of course, a distinct difference between the house of Sertius and the house of Januarius. The former is considerably larger, taking advantage of the greater space afforded by the destruction of the wall. The house of Januarius, on the other hand, is limited by the organization of the old colony's layout.²³ The owner evidently had

²⁰ See above, pp. 105-106.

²¹ The name Julius, and especially L. Julius, is very common in Numidia.

²² The mosaic inscriptions in domestic settings are similarly silent about the careers and status of the named individuals or families (see Dunbabin, *Mosaics of Roman North Africa*, 25)

²³ The houses of the central quarter at Timgad are limited to insulae of about 21 x 21 m. Only the maison de la Piscina unites two of the îlots and the dividing street to form a sizable residence. It is still considerably smaller than the maison de Sertius and the maison de l'Hermaphrodite, which could expand over the area of the old city wall. It is evident that anyone with aspirations for a large residence had to move outside of the old city (Thébert, "Private Life," 341). Yet we find Corfidius Crementius, a fourth century *flamen perpetuus*, buying a house in the north-west part of the old city (R. Cagnat, "Rapport sur les travaux des fouilles exécutées en 1906," *BAC* [1907] 261-262). He has left posterity an inscription commemorating his purchase and restoration of a house in the heart of the old city. The remains show that the house was fairly simple, despite the assertions of Corfidius, without any decorative embellishments. It is evidently not one of the most elegant at Timgad (*Bas-Empire* II, 455-456). Perhaps men aspiring to greater pretensions inhabited the old city, and the even richer lived outside its limits?

aspirations to enlarge his house, appropriating part of the street to build the baths.

Germain attributes a third century date to a small fragment of a mosaic found in the house of Julius Januarius.²⁴ She states that there is a strong possibility that the mosaic is contemporary with the floral style mosaics at the site, also found in the maison de Sertius, and dating to the late second and early third centuries. Fentress uses this connection to suggest that the original owner of the house also belonged to the privileged group among which are reckoned the Sertii and the group who built the thermes des Filadelfes.²⁵ She believes that the coherent plans of the houses indicate that they were built or rebuilt in this period.²⁶ The baths of the maison de Januarius, and Januarius himself, remain undatable, and cannot be attributed to the same time period on the current evidence.

At Cuicul, Blanchard-Lemée tries to identify who the inhabitants of the quartier central would be, for again there is little evidence connecting individuals with the houses. The houses of this quarter were built, restored or enlarged from the beginning of the fourth century.²⁷ Although the wealthy of the second and third centuries must also have lived in this quarter, their names disappear from the epigraphic record around 225-230 AD.²⁸ New families are named in the dedications of the civil basilica (364-361 AD) and the Christian basilica at the end of the fourth century.²⁹ None of these families can be linked to the residents of the houses, and the duration of the houses is also unknown.

Some of the houses in the quartier central have commercial space, and even an

²⁴ *Mosaïques de Timgad*, 16-17. Parallels are found in the mosaics of the grande maison à l'ouest des thermes des Filadelfes (C.26), in the rooms to the north of the so-called atrium (*ibid.*, 82-83).

²⁵ Fentress, "Frontier culture," 402; for Germain's style of the Philadelfi, see *Mosaïques de Timgad*, 153-157.

²⁶ Fentress, "Frontier culture," 402.

²⁷ The stucco decoration of the maison aux stucs (C.14) is dated early in the fourth century (*Maisons à mosaïques*, 195), while the other houses of the quarter are dated to the mid-fourth century (*ibid.*, 236).

²⁸ These conclusions are based on the work of P. Corbier ("La société de Cuicul," D.E.S. d'archéologie, Paris, 1965) cited by Blanchard-Lemée (*Maisons à mosaïques*, 236). The testimony of elite residents in the quarter comes from an inscription by the doorway to the original peristyle of the maison de Castorius. Blanchard-Lemée suggests that the house belonged to the man named in the inscription, L. Claudius Brutto, who was *duovir* of the colony and augur. Another member of the *gens* attained equestrian rank, rising to governor of Numidia in 208-210.

²⁹ P.-A. Février, "Inscriptions chrétiennes de Djemila (Cuicul)," *BAA* 1 (1962-1965) 211.

artisans' installation in the maison aux petits bassins.³⁰ Blanchard-Lemée states that the boutiques of the houses could easily be used by merchants or artisans, either free or servile, and thus provide revenue for the owners. However, a large part of their fortune would come from agricultural land. She concludes: "La part de cette fortune investie dans la construction ou la décoration de la demeure familiale, sinon la fortune elle-même, s'accroît d'une manière frappante à Djemila à la fin de l'Antiquité."³¹ Her observation underlines the important position of the urban residence for those who could afford a display of wealth.³²

The mid-fourth century at Cuicul is marked by the destruction, neglect and reuse of numerous public monuments of classical form.³³ Much of this involves destruction by fire of monuments in the mid-fourth century. The proprietors of the houses in the quartier central appear to have benefited directly from the destruction of public buildings, as for example in the maison de l'âne (C.11).³⁴ At this time, the houses were embellished with entryways, porticoes, monumental peristyles, and luxurious reception rooms. This leads Blanchard-Lemée to wonder in what measure their social role replaced or equaled that of the old public monuments. Certainly, important members of the elite in this period financed the construction of the basilica vestiaria, the civil basilicas and the Christian basilicas, but the houses of the old city may have become the center of a social life based on the relationship of the *dominus* and his clientele.

Only one house at Cuicul, the maison de Castorius (C.12), preserves the name of a proprietor. Castorius announced his work on the house in the form of a mosaic inscription, placed in the east gallery of the peristyle's portico, the side on which the large reception room XVII opens.³⁵ This suggests that it is intended to be viewed by visitors, and provides

³⁰ *Maisons à mosaïques*, 237.

³¹ *Ibid.* On earlier Latin authors recounting the investment of patrimony in lavish residences, see A. Wallace-Hadrill, *Houses and Society in Pompeii and Herculaneum* (Princeton 1994) 4-5.

³² In addition to the inscription of Corfidius at Timgad (mentioned above, n. 22), the following mosaic from the maison de Castorius also commemorates the embellishment of a *domus*; see below.

³³ Allais, *Djemila*, 29; eadem, "Le quartier occidental de Djemila (Cuicul)," *AntAfr* 5 (1971) 118-119.

³⁴ See above, p. 91.

³⁵ See above, p. 92.

another example of a house owner commemorating his improvements to his residence. It tells us that, in late antiquity, the house belonged to someone called Castorius, who built, modified, or at least decorated the house.³⁶ Nothing of his career or status is given, and he is otherwise unknown. However, as we saw with the inscriptions from Timgad, this information may not have appeared necessary in a private setting. The other two mosaic inscriptions, one from room XX and the other from the north gallery of the peristyle, commemorate young members of the family, although they are not named.³⁷ Their accomplishments are fairly modest, consisting of the presence of the youths at the tribunals of *Libya*. The size of the house suggests that Castorius was well off, for at 1500 m² it is the largest house of the quartier central.³⁸ However, the traces of decoration are moderate in comparison with the other large houses.³⁹

There are two sets of baths. The smaller baths are clearly public in access. Since the large baths are also accessible from the small baths, these too must offer public access. The necessity for two baths possibly suggests different clientele using the two facilities.

The maison de l'âne (C.11), although providing no written testimony, has a figural mosaic in the *frigidarium* through which the owner seems to convey his status.⁴⁰ The *dominus* is distinguished by his dress and position in the mosaic (figs. 157, 160). Three of the other human figures are evidently his attendants. This mosaic belongs to a select group which emphasizes the privileged position of a noble through the attendants who see to his bathing gear and needs.⁴¹ There can be no doubt that the owner here wished his privileged lifestyle to be made clear to those using his baths. Since the baths are restricted in use to those who have admittance into the house, the viewers will belong to a selected group. The house itself is not very large (870 m²), but the decoration of the baths and the adjacent

³⁶ *Maisons à mosaïques*, 167.

³⁷ *Maisons à mosaïques*, 167-168.

³⁸ *Ibid*, 153.

³⁹ The assessment of Thébert about the family who placed these mosaic inscriptions in the house seems accurate. He identifies them as "middle class", striving to better their social standing (Thébert, "Private Life," 400).

⁴⁰ *Maisons à mosaïques*, 94. For a discussion of the mosaic see above, pp. 225-229.

⁴¹ For a discussion of this theme in late Roman art, see above, pp. 229-230

fountain room (XI) suggest a high level of affluence.

Roman bathing was fairly labor intensive. Not only were staff required for the technical operation of the baths, attendants were a necessity in the bathing ritual.⁴² Specialized attendants performing various duties are identified in the public baths, but the suggestion is that servants from the house would be sufficient in domestic baths.⁴³ The mosaic from the *frigidarium* of the maison de l'âne makes allusions to the status and affluence of the *dominus* through the representation of attendants at his command in the baths. It seems to be this feature of a privileged lifestyle that is conveyed by the images in other scenes of the elite bathing.

In Volubilis, the inscription from the palais de Gordien (C.4) commemorating a restoration of the house and baths under Gordian III (238-244) also identifies an individual.⁴⁴ In this example, the person is the procurator M. Ulpian Victor, and he commemorates the restoration in an official capacity. The differences displayed in the architecture of the building when compared to the other houses of the quartier nord-est have already been discussed.⁴⁵ The evidence of commercial activity on the premises, especially the oil presses and shops, is not unusual for the houses in this quarter, but here it is carried out on a far greater scale. Of interest is the building located immediately to the east of the palais, the maison à la disciplina. The last substantial building along the *decumanus*

⁴² The personnel of the baths are discussed by M. Wisseman, "Das Personal des antiken römischen Bades," *Glotta* 62 (1984) 80-89 (and see generally H. Meusel, *Die Verwaltung und Finanzierung der öffentlichen Bäder zur römischen Kaiserzeit* [Cologne 1960]; and E.W. Merten, *Bäder und Badegepflogenheiten in der Darstellung der Historia Augusta* [Bonn 1983]). Nielsen has collected together a broad corpus of epigraphic and literary evidence which give the titles and duties of the management, trained and untrained staff, and personal attendants in the public baths (*Thermae et Balnea*, 125-131). These sources span the duration of Roman public bathing, and derive from cities in the East and West. While personal attendants are known to accompany their masters and mistresses to the public baths, the obvious need for the same attendants in a private setting is neglected.

⁴³ Nielsen assumes that the household slaves would attend their master in domestic baths (*Thermae et Balnea*, 131, n. 82).

⁴⁴ Originally, the residential section was a house belonging to the family of the Pompeii. The restoration took place under Gordian III; see above, pp. 66-67.

⁴⁵ See above, pp. 66-67, 169.

maximus, it also does not conform to the plan of other houses in this quarter.⁴⁶ The building has been identified as a barracks of sort,⁴⁷ but Rebuffat correctly maintains that the overall character of the building is commercial. The discovery of two hoards of coins, with the latest date of 285, confirms use in the late third century. It is probably contemporary with the Palais de Gordien, which was restored between 238-244. Although a true connection between the two structures cannot be determined, together they show commercial activity carried out on a significant scale at this end of the city.

The baths, with a spacious heated section and numerous unheated rooms, could undoubtedly accommodate a greater number of clients than the other baths of the quarter. On the evidence of the inscription, this includes the procurator, his staff and visitors. The decoration, including marble veneer, is indicative of the desire to create an elegant and agreeable ambience.⁴⁸ The use of marble on this scale is otherwise unknown in the domestic baths. The partially symmetrical arrangement and an elegant view through to the *frigidarium* also indicate attention to the overall aesthetics of the building. Such detail is undoubtedly designed to impress the bathers. There is, however, an additional factor in the layout of these baths, namely the obviously public access.

Use of the baths and access

Three of the houses discussed above have baths which were only open to people who have access to the house.⁴⁹ The maison de l'âne has the finest example of the decoration both creating a fine setting and conveying an image of the proprietor to the bathers. The imitation of *opus sectile* in Sertius' baths and further ornamentation of the room with the statues of Asclepius and Hygieia demonstrate that the owners were

⁴⁶ R. Rebuffat, "La maison à la disciplina à Volubilis," *BAM* 9 (1973-1975) 229-345. The building consists of a large courtyard, with rooms arranged around the sides. Most of these are shops, opening to the streets on the south, east and north sides.

⁴⁷ An inscription with *disciplina* written on it led to this identification, but as Thouvenot points out, there is no resemblance to known barracks (*ibid.*).

⁴⁸ See above, pp. 206-207.

⁴⁹ The maison de l'âne (C.11) at Cuicul, and the maison de Sertius (C.23) and the maison de Januarius (C. 17) at Timgad.

attempting to create a luxurious setting for their private bathing ritual. Although the baths of the maison de Januarius are decorated with a simpler geometric mosaic, and are of smaller dimensions, the addition of statues would also enhance the appearance of the baths. All three of these baths are truly private in ownership and use. The remains support the impression that private baths are a luxury, and attention to the decoration and surroundings is important. The presence of baths in these houses is as likely to be a status symbol as a convenience. The same reasoning may be extended to five of the other baths with limited access.⁵⁰ All of them belong to houses which are well decorated, and are themselves decorated with mosaics.

The external access to the baths in the maison de Castorius and the palais de Gordien are strong indicators of public access to these baths. They must, therefore, differ in use from the normally privately accessible baths. The number of externally accessible baths exceeds the number of baths with definitely identifiable private access. At Volubilis, in fact, five out of the six domestic baths are entered from the street. Two of the four domestic baths at Cuicul and at least two out of the twelve baths at Timgad were also entered from the street. The next question is, of course, to whom they were open, beyond the members of the household. I believe the answer lies in their distribution within the cities.

The group of houses at Volubilis share certain features which characterize the quartier nord-est. Most of the houses are connected with commercial enterprises. Foremost are the *tabernae* lining the fronts of the houses, particularly along the *decumanus maximus*.⁵¹ The owners of the houses in this quarter all appear to derive an income from the rental of the rooms facing the major streets, or the activities that go on in them. The other evidence of commercial activity is the presence of oil presses. In addition to the presses in

⁵⁰ These are the maison au sud de la port de Lambèse (C.24) at Timgad, the édifice des Asclepieia (C.31) at Althiburos, the maison de la pêche (C.35) at Bulla Regia, the maison du péristyle figuré (C.43) at Pupput and the maison du grand oecus (C.38) at Utica. The latter are dated to the late second century AD, while the édifice des Asclepieia and the maison du péristyle figuré are among the latest examples, dating to the fourth to fifth century in use.

⁵¹ The *tabernae* at Volubilis have not been studied in detailed fashion. They consist of a single room, and are generally recognizable from the rectangular shape and wide entryway. A few have a second room accessible at the back, or are connected to the adjacent *taberna*. A brief summary appears in *Quartier nord-est*, 92-99.

the palais de Gordien, oil presses are found in ten of the remaining twenty-three houses.⁵² They represent industrial activity carried out on the premises. They are accessible from the exterior, and rarely connected by secondary doorways to the interior of the house. Nevertheless, they evidently belong to the house, of which they occupy a fair proportion. The same is true of the seven flour mills in the quarter.⁵³ The owners of the houses in the quartier nord-est appear to derive their wealth from agriculture, and also from processing the produce.⁵⁴

This quarter has been identified as housing the bourgeoisie of the city. These were not, perhaps, the very wealthy, but rather only the comfortably off. The size of the houses, decoration and other embellishments are limited, with only a few attempting grandeur. Of all the houses in this quarter, the maison au cortège de Vénus is the most elegantly appointed. There are seven figural mosaics, and many of the smaller rooms are decorated with simple geometric mosaics. This is also the only example without any *tabernae* or other industrial installations, indicating that the supplemental income of the shops or presses is unnecessary. The only other house with comparable mosaic decoration is the maison d'Orphée, the largest and most notable house outside of the quartier nord-est, but it is provided with an olive press and *tabernae*.⁵⁵

With the exception of the maison au cadran solaire (C.5), the domestic baths in the quartier nord-est evidently served clients entering from the streets, not just those with admittance to the house. This forms a distinctive characteristic of the domestic baths. Given the general propensity in this part of the city for commerce, it is likely that the appearance of several small baths with external access is similarly entrepreneurial. There is

⁵² The oil-presses are evidently an important enterprise, and probably connected to the proprietors' land holdings and (oleo-)arboriculture. A brief study of the oil presses is found in *Quartier nord-est*, 156-159; cf. the observations of A. Akerraz and E. Lenoir, "Les huileries de Volubilis," *BAM* 14 (1981-1982) 69-101. A recent reexamination of the oil presses is still unpublished (A. Ouahidi, "Nouvelles recherches archéologiques sur les huileries de Volubilis," *L'Africa romana X* [1994] 289-299).

⁵³ *Quartier nord-est*, 159-160.

⁵⁴ See Etienne's assessment of the economic life in *Quartier nord-est*, 160-163.

⁵⁵ The layout of this house is discussed above, pp. 57-58. It should be noted that oil presses are found in other buildings near the maison d'Orphée, but they have not yet been published.

considerable evidence for the rental of bath space to turn a profit,⁵⁶ and one might expect such an opportunity to be exploited in the mercantile quartier nord-est. These baths were evidently in operation at the same time as the public baths at the site. The maison d'Orphée also exploited the commercial potential of a private bathing establishment. This one is interestingly situated in close proximity to the public baths. The facility must have functioned as an alternative to the other establishments.

The street entrances to the baths at Volubilis, Cuicul, Timgad and Carthage identify these as baths which were open to a larger clientele than the household. Because of their attachment to a house, these baths have typically been considered "private", and limited access to the facilities has been taken for granted. The principal access from the street, however, points to a parallel public use. At the same time, one could also enter the bathing suite directly from the house. They were evidently open to the members of the *domus*. A further link in the relationship between house and bath is also apparent in the access to the stokeries of the baths. The arrangement must allow household slaves to tend the furnaces from the interior, demonstrating a strong connection between the owners and operation of the baths.

The only identification of this type of bathing establishment is by Blanchard-Lemée. She believes that the domestic baths with exterior entrance may have been reserved for guests, or even have replaced the use of public baths.⁵⁷ In the latter case, she suggests that they may be symptomatic of a great level of influence exerted on a large clientele. She evidently considers them to be primarily private, with the proprietor of the house exercising control over admission to the facility. Use of the baths, however, could potentially extend to anyone from the street. They may actually have functioned as neighborhood baths, those establishments of modest dimensions found in addition to the large public structures.

The two baths with public access at Cuicul are "double baths". Both consist of a large bathing suite and a smaller one with a reduced number of rooms. Use of the two sets

⁵⁶ For a discussion of the rental, franchising and personnel of public baths, see *Thermae et Balnea*, 122-135.

⁵⁷ *Maisons à mosaïques*, 209.

is, however, unlikely to be the same.⁵⁸ The small baths of the *maison de Castorius* (C.12) are entered directly from the street, and provide access to the large baths. In the *maison d'Europe* (C.13), on the other hand, the large baths are entered directly from the street, but the small baths are more secluded in their access, requiring entry to an interior corridor of the house before access to the baths. The reason for the double baths is likely to remain unanswered, although several explanations seem plausible.

The first, and least likely, reason for the smaller set of baths is that they served the slaves of the *domus*.⁵⁹ This suggestion ignores the fact that almost nothing is known concerning provisions for the bathing of slaves and others unrepresented by literature or material remains.⁶⁰ Would the slaves be provided with their own private baths?⁶¹ One thing seems to speak against this interpretation. The heating of the baths was a costly affair, requiring both time to reach optimal heat and maintenance of the furnace and water heaters.⁶² Even these small secondary baths would be more costly than the occasional trips to public facilities. Indeed, a simple sponge bath may have been the regular cleansing ritual for the household slaves. Slaves of different status may also have been entitled to different privileges. This is particularly true for the well-groomed slaves who attended on their master at dinner.⁶³ Since baths were so important for the maintenance of hygiene, on the other hand, it is probable that provisions for the slaves to bathe were made. It is just as

⁵⁸ The layout of the baths and room arrangements are discussed above, pp. 93-98, 195.

⁵⁹ Y. Allais, "La maison d'Europe à Djemila," *RAfr* 83 (1939) 41; *Maison à mosaïques*, 142. This identification for the second group of hypocaust rooms of the *maison de Sertius* has already been dismissed, above, p. 111.

⁶⁰ Attendants of usually unspecified status are portrayed in literature as attending to the needs of their master or mistress, not bathing themselves, but there is sufficient evidence to show that slaves could use public baths, and were even give free baths as benefactions; for a summary of the problem, see Fagan, "Three Studies," 267-273.

⁶¹ Yegül suggests that the small, unassuming bathing suites in the Pompeian houses were reserved for the slaves, being too simple for the master (*Baths and Bathing*, 50-55). He evidently did not recognize that the simple plans corresponded to the state of Roman baths in general in the second half of the first century BC. The more elaborate examples are also later, dating from the first century AD, or underwent restorations at this time (discussed in N. de Haan, "Privatbäder in Pompeji und Herkulaneum und die städtische Wasserleitung," *MInstWasser* 117 [1992] 424-445).

⁶² See above, pp. 191-192.

⁶³ This well-groomed slave is also distinguishable among the retinue who attended the master or mistress at the baths; see above, p. 229.

likely that the slaves had access to the same baths as their master, possibly at different times.

Alternatively, the smaller baths may have been reserved for women. This is unlikely for the small baths of the *maison de Castorius*, since they are so open to the street. In the *maison d'Europe*, on the other hand, they are quite secluded. However, women could use baths at different times than men. The small baths are hardly suited to the elaborate toilet of the wealthy *domina* depicted in artwork of the fourth century. The more reasonable interpretation is that the small baths functioned in addition to the large baths, perhaps when the large baths were, for some reason, not in service. This type of baths is, in any case, quite rare. The very different appearance of the two facilities precludes a common solution for their arrangement and use.

If the public access to baths was based on general admission, they may have functioned as neighborhood baths. The role of these small public baths is not well understood. The remains of baths show that a Roman city typically had a variety of bathing establishments from which the denizens could choose. The baths differ in size, types of ancillary facilities and level of ornamentation, but the factors which encouraged people to patronize one establishment over another are open to speculation. Personal preference was undoubtedly a factor in the choice. In literature, establishments of particular beauty are singled out as worth bathing in.⁶⁴ The regulation of heat and water temperature was also a consideration.⁶⁵ The preference of Romans appears to be an availability of numerous bathing facilities, of varying sizes.

Personal preference could evidently have a moral connotation, as the example of Sidonius and his friends choosing an establishment which would respect each person's modesty indicates.⁶⁶ He contrasts this establishment with some of the large imperial baths in Rome, but does not, on the other hand, specify that it is a private or domestic

⁶⁴ e.g. the baths of Claudius Etruscus, praised by Martial (*Ep.* 6.42) and Statius (*Silv.* 1.5). These baths were evidently well-known, but their status as public or private facilities is not specified.

⁶⁵ Certain baths in Rome had a poor reputation because of their water temperature, such as the baths of Nero (Mart. *Ep.* 3.25, 10.48.3), and it is evident that some baths were hotter than others (Seneca, *Ep.* 86.10).

⁶⁶ *Carm.* 23.495-499.

establishment. Sidonius elsewhere praises the simplicity of his own villa baths, precisely because of the absence of expensive decoration.⁶⁷ He commends the plain walls of the baths, which are unadorned. They are free of figural scenes showing athletes in improper poses, or expensive marble decoration. This suggests that he equates opulence of decoration with lewd and immoral behavior. By writing against the excesses of other baths, he also shows continued enjoyment of such establishments.

It is quite likely that small baths served their immediate neighborhood.⁶⁸ This seems reasonable because such a humble establishment would hardly be sought out. It is also probable that some baths catered to wealthy clients, such as perhaps the luxurious baths of Claudius Etruscus.⁶⁹ Of course, one does not know whether restricted access or higher costs were used to deter the lower classes. In general practice, baths operated as a business, and were open to anyone who could pay the entrance fee. The rich did not shun bathing with the poor, for this actually afforded them the opportunity to reinforce their status, power and privileged position.⁷⁰

Christians

Another factor which might influence which establishment a bather would frequent is morality. Since several of the domestic baths date from the fourth century and later, Christian attitudes to bathing should be considered. Christian moralists are known for denouncing the luxuries and excesses of the baths. This can be understood to continue the moralizing tradition which always condemns excesses of luxury.⁷¹ Mixed bathing and too great a display of wealth were the principal criticisms leveled against the baths by the

⁶⁷ Sidon, *Epist.* 2.2.6-7.

⁶⁸ Yegül suggests that two of the small establishments identified on the *forma urbis* may have served the commercial neighborhood to which they belong ("The Small City Bath in Classical Antiquity and a Reconstruction Study of the Lucian's 'Baths of Hippias'," *ArchCl* 31 [1979] 113).

⁶⁹ *Baths and Bathing*, 32.

⁷⁰ See below, pp. 257-258.

⁷¹ K.M.D. Dunbabin, "Baiaurum Grata Voluptas: Pleasures and Dangers of the Baths," *BSR* 57 (1989) 7; Wallace-Hadrill, *Houses and Society*, 4.

Church fathers.⁷² Bathing itself was seen as a necessity of life, for hygienic purposes, and thus baths remained an integral part of urban life in Christian circles.⁷³ While the reaction of Christian writers to public bathing demonstrates concern for morality, there are clearly no proscriptions against bathing in the Roman style. In the East, the Church is even known to undertake the construction of baths.⁷⁴

The remains of baths in connection with ecclesiastical complexes found in North Africa have not been treated in a comprehensive study, but the evidence suggests an interesting connection. There are three securely identified instances of a basilica and baptistery with an attached bathing facility. The baths of the circular baptistery in the Christian quarter at Cuicul have already been described.⁷⁵ These baths follow the layout of the domestic baths at the site, rather than that of the more spacious public baths. At Timgad, there is a set of baths associated with the baptistery of *église 7*, the so-called *monastère ouest*.⁷⁶ The baths with two heated rooms are located adjacent to the baptistery of the church. The other example is located at Tipasa, attached to the fourth century promontory basilica.⁷⁷ A set of baths is again located adjacent to the baptistery. The layout of the baths has yet to be properly described, but two or three hypocaust rooms can be discerned on the

⁷² See generally J. Zellinger, *Bad und Bäder in der altchristlichen Kirche* (Munich 1928), whose study is based on literary sources; and A. Berger, *Das Bad in der byzantinischen Zeit* (Munich 1982) 34-54.

⁷³ Berger, *Bad in der byzantinischen Zeit*, 35-45.

⁷⁴ The evidence is mostly literary. Baths were built in Jerusalem as early as fourth century AD for a nunnery (Berger, *Bad in der byzantinischen Zeit*, 33-34). The 1983-1984 excavation at Ma'ale Adummim on the Jericho-Jerusalem road revealed the first Roman bath house in a monastery. The monastery was built in the late fifth century, and the baths belong to the second phase of construction, at around the turn of the century (Y. Magen, "The Monastery of St. Martyrius at Ma'ale Adummim," in *Ancient Churches Revealed*, ed. Y. Tsafir [Jerusalem 1993] 188). The layout of these baths are not yet understood, and they are the first example found in a monastic setting. Monks could bathe in public baths (see Berger, *Bad in der byzantinischen Zeit*, 38-45, 65, who demonstrates that the main prohibition is directed against bathing with women, not public baths; and also Zellinger, *Bad und Bäder*, 34f.).

⁷⁵ See above, p. 101.

⁷⁶ The complex is connected to the so-called *maison d'Optat*, the Donatist bishop of Timgad; *Ruines de Timgad III*, 31-46; Gui et al., *Basiliques*, 274-277. The mosaic of the baptistery is dated to end of the fourth century, early fifth century by the mosaic (*Mosaïques de Timgad*, 123). Since the baths are architecturally linked to the baptistery, they are presumably contemporary.

⁷⁷ Excavated in 1929 (J. Lassus, "Autour des basiliques chrétiennes de Tipasa," *MEFR* 47 [1930] 222-227) and further discussed in Gui et al., *Basiliques chrétiennes d'Afrique du Nord I* (Paris 1992) 24.

plan, with at least one heated pool. The erosion of the promontory has destroyed part of the annex, including the *frigidarium*. In all three of these examples, the baths are entered from the baptismal complex or its courtyard, indicating a role in the initiation and baptism of the faithful, perhaps as a purifying bath. The complete facilities, including cold and hot immersion pools with intermediary heated rooms, also suggests that they functioned as a proper bathing establishment. Perhaps they served as small neighborhood baths in the Christian quarter, which one can construe from the plans. It is evident that Christians in fourth century North Africa had no opposition to bathing communally and in the Roman style. Of course, selected clientele and a modestly decorated facility may have been a preference for Christians.

Associations

The variety of bathing establishments in a Roman city has led to suggestions that some facilities may have belonged to special interest groups, or been patronized by certain associations.⁷⁸ The connection with particular groups is made primarily through the decoration, and is generally unconfirmed.⁷⁹ One group, however, appears to have a strong connection with the baths in North Africa, the *sodalitates*. The studies of Beschaouch have been important for identifying the symbols used by the *sodalitates* of North Africa,

⁷⁸ Such as C. Poinssot suggests for the thermes des Cyclopes (*Les ruines de Dougga*, 2d ed. [Tunis 1983] 51); and generally, *Baths and Bathing*, 31.

⁷⁹ These are all public baths. The wall paintings of the Hunting baths at Leptis Magna has led to the suggestion that the facilities belonged to merchants who supplied wild animals for the amphitheater (J.B. Ward-Perkins, *Roman Imperial Architecture* [reprint Harmondsworth 1983] 382). The baths of Gargilius at Carthage, famous as the meeting place of the Catholic and Donatist bishops in the council of 411, have been identified as a public meeting place for members of the blue faction (A. Lézine, *Architecture Romaine d'Afrique* [Tunis, n.d.] 45-55). This identification is based on the mosaic inscription FELIX POPULUS VENETI (L. Poinssot and R. Lantier, *BAC* [1922] lxix). The discovery of the horse mosaic in the adjacent villa pointed to a connection with the factions, but the two buildings are not demonstrably linked (J.W. Salomonson, *La Mosaique aux Chevaux de l'Antiquarium de Carthage* [The Hague 1965] 12). The identification of these baths with the baths of Gargilius is made on the basis of the location and size of the facilities.

symbols which are found in domestic contexts and public and private baths.⁸⁰ Thébert has discussed their presence in baths.⁸¹ Although some of the baths in question are small and originally considered to be domestic, only the baths of the édifice des Asclepieia are certainly urban domestic baths.⁸² Association with particular baths, on the present information, does not prove that the establishments were restricted in use, or belonged to a particular group alone. Thébert is probably correct in attributing the appearance of these symbols as a sign of affiliation by an individual with the group, rather than evidence of the meeting place for a club. The symbol of a *sodalitas* in the baths of the édifice des Asclepieia is probably to be interpreted in this way, and these baths are only accessible from within the house. There is, therefore, nothing that would identify the domestic baths with external entrances as meeting places for particular associations.

Neighborhood baths

This leads one to the area in which the baths are located. It is most likely that they functioned as a small public bathing establishment for the neighborhood. The role or function of the group of baths with an independent entrance from the street in urban life can be tentatively explained.

First of all, there is the question of their distribution. At Volubilis, in the quartier nord-est, there is an apparent predominance of this type, and the four baths are distributed throughout the quarter. The maison aux travaux d'Hercule is the first house of the quarter on the north side of the *decumanus maximus*. The palais de Gordien, the easternmost building in the same row of houses, is accessible from the *decumanus* north 1, and

⁸⁰ A. Beschaouch, "La mosaïque de chasse à l'amphithéâtre découverte à Smirat en Tunisie," *CRAI* (1966) 134-157; idem, "Nouvelles recherches sur les sodalités de l'Afrique romaine," *CRAI* (1977) 486-503; idem, "Une sodalité africaine méconnue: les Perexii," *CRAI* (1979) 410-418; idem, "Note sur la mosaïque des Amours <<venatores>> qui a donné son nom à la maison de la chasse," in *Recherches Archéologiques Franco-Tunisiennes à Bulla Regia. I Miscellanea*, ed. A. Beschaouch et al. (CEFR 28/1, Rome 1983) 49-54; idem, "Nouvelles observations sur les sodalités africaines," *CRAI* (1985) 453-475.

⁸¹ Y. Thébert, "Les sodalités dans les thermes d'Afrique du nord," *Les Thermes Romains* (CEFR 142, Rome 1991) 193-204.

⁸² The édifice des Asclepieia is not included by Thébert in his list. On the symbols of the *sodalitates* in small baths, see above, pp. 214-216.

connected by the *cardo* flanking the building to the *decumanus maximus*. On the south side of the *decumanus maximus*, the thermes de l'îlot ouest are accessible by the defunct *cardo*. On the *decumanus* south I are the last set of publicly accessible baths in the quartier nord-est, in the maison au cortège de Vénus. The maison d'Orphée occupies its unique position, located in the less affluent quarter to the south of the forum and public baths. The operation of these baths must have depended on the house, to which they are also connected, but it seems likely that they also operated as a business.

The operation of these baths as paying establishments seems a probable interpretation of the external access. Epigraphic sources indicate that small baths could be run as a business. This evidence is in the form of a lease, specifying the rental of baths to make money. The closest archaeological evidence of a small leased establishment comes from Pompeii. A *dipinto* from the exterior of a building advertises a set of baths for lease, as well as shops, balconies, and upper-storey rooms.⁸³ The baths of the building take their name from the advertisement, known as the baths of the *Praedia Juliae Felicis* (II.4). This provides the only testimony of leasing out a bath attached to a house, but independently accessible. These baths were more substantial than the domestic baths of North Africa. The unit to which they belong is formed of two insulas, half of which is given over to the baths. A large entry courtyard housed an outdoor pool, and food and wine was sold from shops in the courtyard.⁸⁴ The complex is not, therefore, identifiable as domestic baths. Nevertheless, this demonstrates the ability of a small bath to generate revenue. It is possible that the private baths of North Africa were similarly managed. The access to the house indicates that the baths themselves were not leased out, but were probably run from the house.

⁸³ *In praediis I[ul]iae Sp. f. Felicis / locantur / balneum venerium et nongentum, tabernae, pergulae, / cenacula, ex idibus Aug. primis in idus Aug. sextas, anno[s] continuo[s] quinq[ue]. / s.q.d.l.e.n.c.* (CIL 4.1136). The insula was originally excavated in 1755-1756, when fine objects were removed, and then again in 1951-52, but the excavation was not published. For an identification of the architectural elements mentioned in the inscription, see F. Pirson, "Rented accommodation at Pompeii: the *Insula Arriana Polliana*," in *Domestic Space in the Roman World: Pompeii and Beyond*, ed. R. Laurence and A. Wallace-Hadrill (JRA suppl. 22, Portsmouth 1997) 179.

⁸⁴ L. Richardson, Jr., *Pompeii: an Architectural History* (Baltimore 1988) 292-298.

While we cannot determine for certain who the clientele of these establishments at Volubilis would be, there does appear to be a readily identifiable populace who could make use of the facilities. The commercial units testify to considerable business. Etienne identifies 119 *tabernae*, occupying a total of 2846.40 m² in the quartier nord-est.⁸⁵ This shows that a large work force was active in the quarter, and to some extent dependent on the *domus*. The distribution throughout the quarter also suggests a certain division of the area being serviced by the baths. A similar situation is probable for the maison d'Orphée. Although an isolated *domus*, the surrounding unpublished structures are commercial and artisans' structures. The small baths at Volubilis could both serve the residents of the attached *domus* and cater to the other members of the populace, and probably the residents of the neighboring houses without their own baths. This would allow the baths to finance themselves, since the paying clientele could offset the costs of stoking the furnaces, maintaining the structure, and cost of water rights. In these examples, the baths seem to be more important as commercial enterprises than symbols of luxury and status for the proprietors of the houses.

The baths at Timgad, Cuicul and Carthage with external entrances are not so readily comparable to the examples at Volubilis, since they do not belong to such a clearly mercantile environment. At Cuicul, Blanchard-Lemée postulates a greater role for the *domus*, since she believes that the houses replace public buildings as the centers of urban life.⁸⁶ The fourth century and later date for the houses and the demise of public monuments at their expense leads her to these conclusions. She suggests a concentration of clients on the noble houses of this quarter, and argues that the baths are symptomatic of this situation.

⁸⁵ *Quartier nord-est*, 99. These figures can be taken to indicate the approximate space reserved for the *tabernae*, although future research will undoubtedly reveal different interpretations for the remains. Some of the rooms identified as *tabernae* are not clearly separated from the interior of the house. In addition, some were created as later additions, or were later absorbed into the architecture of the house, as demonstrated in the recent studies of some houses by M. Makdoun, "Encore sur la chronologie du quartier nord-est de Volubilis," in *L'Africa romana* 10 [1994] 267-274).

⁸⁶ *Maisons à mosaïques*, 237.

The late date of domestic baths in North Africa

Thébert identifies the domestic baths of North Africa as a phenomenon of late Imperial times, when he suggests that they appear to become commonplace.⁸⁷ He cites the four excavated houses with baths at Bulla Regia as evidence. In fact, most of these baths were out of service in the later use of the houses. The difficulty lies in the fact that only one of the baths is dated, that of the maison de la chasse (C.34). These baths were installed in the mid-fourth century,⁸⁸ and defunct by the mid-sixth century when the area was divided into smaller living units.⁸⁹ The baths of maison 8 (C.36) were also transformed into a living area at an undetermined time, and the wall-paintings show that the new rooms were well-appointed. This suggests that the disuse of the baths did not mark the end of this *domus*. Thébert identifies the domestic baths as evidence of changing values and practices among the North African wealthy.⁹⁰ On the evidence of Sidonius Apollinaris, Thébert suggests a change in attitude towards public bathing. The incident involves a trip with friends to baths which respect their modesty, after gathering at a private home.⁹¹ The incident, according to Thébert, reflects the desire of the aristocrats to stand apart from the crowds, and also growing modesty towards nudity. In addition, he suggests that the new private baths may reflect a desire of the wealthy to make themselves more independent of communal life, and an increasing formalization of the social hierarchy. He asks "Could the man who in the morning sat enthroned in his private apse to receive dependents in the afternoon join those same dependents in the public swimming pool, without clothes to indicate his rank?"⁹²

Analysis of the individual features he identifies, however, suggests that the social

⁸⁷ Y. Thébert, "Private Life and Domestic Architecture in Roman Africa," in ed. P. Veyne, *A History of Private Life I: From Pagan Rome to Byzantium* (Cambridge 1987) 380. Baths "seem to have become more common in the late imperial period", being "frequently added to existing structures or enlarged from smaller facilities".

⁸⁸ *Ibid.*, 344.

⁸⁹ Y. Thébert, "L'évolution urbaine dan les provinces orientales de l'Afrique romaine tardive," *Opus 2* (1983) 114.

⁹⁰ Thébert, "Private Life," 380.

⁹¹ Sidon. *Carm.* 23, 495-499.

⁹² *Ibid.*

role of domestic baths is more complex. The role of public baths is an important consideration. Did they continue to function in the fourth and fifth centuries, or were they replaced by smaller establishments? The maintenance of the public baths also raised the question of evergetism, for it is their financing by wealthy individuals which ensures the benefits of public bathing for all. Finally, the question of bathing in public by the wealthy must be considered.

There is evidence to show that the infrastructure of the North African cities continued to be maintained beyond the third century, and even evidence of great prosperity in the fourth century.⁹³ Lepelley collects abundant evidence to show the maintenance of traditions in the Roman cities of North Africa in the Later Empire. While restorations and new constructions were controlled by the legislation under the directive of the Emperor, the writings of Later Roman authors such as Augustine also show the activities of the upper classes which benefited their cities.⁹⁴ Lepelley considers Augustine's description of the man who assisted his family with the costs of an education at Carthage to be an accurate picture of evergetism in North Africa during the Later Empire.⁹⁵ The acts of evergetism by Romanianus, a wealthy land owner at Thagaste, resemble similar acts of the preceding period.⁹⁶ He gave shows in the theater and hunts in the amphitheater, as well as daily free food. This munificence enabled him to attain various municipal and provincial honors, patron of Thagaste and neighboring cities, and *sacerdos provinciae*. He acquired a reputation of benevolence, generosity, honor and wealth among the people and his clients. Statues were set up in his honor to proclaim his public recognition.⁹⁷

The careful administration of his household enabled Romanianus to live in suitable

⁹³ *Bas-Empire I*, 295-298.

⁹⁴ Lepelley identifies a maintenance of traditions among the nobles, especially their classical education and acts of evergetism (*ibid.*, 293-294). Ample testimony of continued evergetism by nobles in North Africa during the Later Empire are collected together by Lepelley (*ibid.*, 298-318).

⁹⁵ Aug. *Contra Academicos* I.2 (ed. Jolivet, B.A. 14, p. 16-19), written 386 AD (*Bas-Empire I*, 298).

⁹⁶ His gifts to the people are of the same type seen in the second and third centuries. See for example the various gifts offered by nobles to their cities as *summae honorariae* in Duncan-Jones, "Costs, outlays and *summae honorariae*," 47-115; and on factors determining size of gifts, *idem*, "Wealth and munificence in Roman Africa," *BSR* 31 (1963) 161-162.

⁹⁷ *Bas-Empire I*, 298-299; further discussion of text in *Bas-Empire II*, 178-181.

luxury.⁹⁸ Baths are included among the benefits of his privileged lifestyle. Lepelley takes *balnea* to designate private baths (les bains privés magnifiques). This identification seems appropriate, since the buildings previously mentioned are evidently his residences.⁹⁹ However, there is little archaeological evidence of opulence in the domestic baths. The *aedificia* are not necessarily urban residences, and quite likely the term encompasses both urban and rural buildings. The baths could belong to luxury villas in the countryside, the elegance of which has been recently exposed in the excavation of the villa baths at Sidi Ghrib.¹⁰⁰ It is interesting that baths are listed as a major benefit of wealth, whether they are public or private.

Inscriptions recording the restoration of the public buildings show the concern of the local councils and individuals, either in an official or private capacity, to maintain the physical necessities, advantages and luxuries of urban life. The evidence of the builders and maintainers of the public baths in the Roman provinces derives almost exclusively from the epigraphic record. These inscriptions enable one to identify who they were, their official or social status, and sometimes the motivation for the restoration. The restoration of public baths was largely undertaken by local authorities, either local councils, magistrates, or officials, and in three known instances, *patroni*.¹⁰¹

This demonstrates the concerns of the elite to maintain the social fabric of their cities, and in particular the public baths. When compared with the public baths, we see that the domestic baths offer considerably fewer facilities, and with the exception of the villa baths, these are fairly modest establishments. The private baths could not offer a comparable bathing experience, even if they contained the appropriate facilities. The social

⁹⁸ *resque ipsa familiaris diligenter a tuis fideliterque administrata, idoneam se tantis sumptibus paratamque praeberet; tu interea viveres in aedificiorum exquisitissimis molibus, in nitore balnearum, in tesseris quas honestas non respuit, in venatibus, in conviviis...*(*Contra Academicos* I.2).

⁹⁹ While both *balnea* and *thermae* are used to designate public baths in the Imperial period, *thermae* is more commonly employed in the restoration inscriptions of the Late Imperial period (G. Fagan, "Three Studies in Roman Public Bathing: Origins, Growth, and Social Aspects," Ph. D. diss. [McMaster University, Hamilton 1993] 9, tables 1-6). The epigraphic material collected in tables 1-6 show almost exclusive use of *thermae* in restoration inscriptions of the fourth century.

¹⁰⁰ A. Ennabli, "Les thermes du thiasse marin de Sidi Ghrib (Tunisie)" *MonPiot* 68 (1986) 1-59.

¹⁰¹ Fagan, "Three Studies," 219-224.

aspect of public bathing is not replaced by the private baths.

Public baths vs. domestic baths

Did the domestic baths replace public baths in popularity? We have seen that rather than deter the construction of private baths, public baths actually encouraged their construction, perhaps as a result of an easily accessible water supply.¹⁰² The length of time for which public baths were in operation is another area where there is scant archaeological material to demonstrate whether or not domestic baths replaced public baths in popularity, for economic or social reasons.¹⁰³ The great period of public bath construction in North Africa is from the Antonine period to the Severan period, with evidence supplied by inscriptions.¹⁰⁴ The baths were constructed under the financial directives of the city council, or as gifts by individuals. Later financing of the buildings included offering free baths to the poor, or providing for the fuel of the baths. These baths also required regular repairs to maintain them. This restoration could be undertaken by the officials of the city, or by a wealthy individual as an act of evergetism.

Epigraphic evidence suggest that the large public baths continued in operation in the fourth and even fifth centuries. Firstly, inscriptions provide evidence of the continued restoration and financing of the baths to the end of the fourth century.¹⁰⁵ This epigraphic information is missing for the following period. The Vandals, however, appreciated the

¹⁰² This relationship is evident at Volubilis, where the construction of the aqueduct, the thermes du nord and the addition of baths to houses in the quartier nord-est have been demonstrated to belong to a continuing, co-dependent development (see above, pp. 75-78)

¹⁰³ E. Fentress, "Setif, les thermes du Ve siècle," *L'Africa romana* 6 (1989) 335-337.

¹⁰⁴ See *Thermae et Balnea*, 85, n. 9, and dating of cataloged examples, C206- C251.

¹⁰⁵ *Bas-Empire* I, 295ff. Lepelley identifies 41 inscriptions mentioning work on baths in the Later Empire, twice as many for any of the other public buildings of this period. Many of the inscriptions are concentrated around the mid-fourth century, and the latest is early fifth century. The majority refer to construction carried out by individuals in an official role, rather than as private contributions. The evidence is distributed throughout the African provinces, with the exception of Mauretania Tingitana. A selection of these inscriptions is discussed in G. Fagan, *Bathing in Public in the Roman World* (Michigan 1999) 233-299 passim.

benefits of the baths, even undertaking the construction of their own baths.¹⁰⁶

Archaeological evidence of the restoration and continued use of the large public baths cannot be determined due to the date at which the baths were excavated; but restorations can be attributed to a few baths. The Antonine baths at Carthage suffered a collapse of the *frigidarium* roof in the period before the Vandals, but continued to function. A smaller set of baths were eventually built in the remains during the sixth century, and remained in operation into the seventh century.¹⁰⁷ Thébert suggests that this example is unique, as the baths belong to the capital. The earlier collapse of the *frigidarium* vault leaves the ability of the city to maintain this large structure in question.¹⁰⁸ The situation in smaller cities is also unclear.¹⁰⁹ The thermes du forum at Henchir el-Faouar operated until the end of the fifth century or early sixth century.¹¹⁰

The thermes Memmiens at Bulla Regia provide evidence of the duration of operation, rather than date of the reuse of the baths for another purpose. The furnace of the *destrictarium* was repaired five times, progressively raising the working surface. A coin of Valens (364-378) was found in the level of the second surface, illustrating a long period of use for the furnace. Thébert suggests that the furnace was in operation well into the fifth century.¹¹¹ Thébert concludes that the evidence supports the operation of the baths, for the entire bathing circuit, into the late fifth century, if not the sixth.¹¹²

¹⁰⁶ Procopius (*Bell. vandal.* 2.6.6) states that once they settled in North Africa, the Vandals adopted Roman customs, including the daily bath. And see M. Chalon et al., "Memorable factum. Une célébration de l'évergétisme des rois vandales dans l'anthologie latine," *AntAfr* 21 (1985) 215-219; 226ff, on the thermes d'Alanus and the evergetism of the Vandal king Thrasamund.

¹⁰⁷ A. Lézine, *Carthage-Utique* (Paris 1968) 67-73.

¹⁰⁸ Y. Thébert, "L'évolution urbaine dans les provinces orientales de l'Afrique romaine tardive," *Opus* 2 (1983) 112.

¹⁰⁹ The fifth century baths at Setif are built on the ruins of much larger third century baths (Fentress, "Sétif, les thermes," 321-322).

¹¹⁰ Thébert, "Évolution urbaine," 112; A. Mahjoubi, *Recherches d'histoire et d'archéologie à Henchir el-Faouar (Tunisie)*, (Tunis 1978) 209. The evidence demonstrates that the baths no longer functioned in the Byzantine period.

¹¹¹ Thébert, "Évolution urbaine," 113.

¹¹² Thébert states that the Vandal period did not create a break in the bathing tradition, but perhaps the city found itself less and less able to maintain the large structure ("Évolution urbaine," 113).

The elite and public baths

Thébert wonders whether the man who received clients in the setting of his elegant house would later wish to bathe with the same people, wearing no clothes to indicate his rank or standing. In fact, a visit to the public baths allowed the noble to demonstrate his social standing to a great degree. Instead of clothes, it is the size of the retinue which accompanied the noble that demonstrated his standing. This is abundantly seen in literature, where slaves and attendants accompanied the master to the baths to assist in the various activities of bathing.¹¹³ The entourage to the baths replaces the distinction of clothes, and evidently cleared the way for their illustrious master.¹¹⁴ Ammianus Marcellinus comments on the custom of the fourth-century Roman nobility of going to the baths with a throng of fifty slaves.¹¹⁵ While Ammianus treats this as a gross excess, the excess appears to be in the number, rather than habit, of going to the baths with slaves. The large public baths would be the only ones capable of accommodating this number.

The imagery of artwork in the Late Empire supports the custom of status reinforced by attendants.¹¹⁶ The Projecta casket bears the only representation of a woman going to baths that are evidently public with a retinue of attendants.¹¹⁷ Another illustration of this type is the Silistra tomb fresco, which has similar imagery.¹¹⁸ Finally, several scenes from the baths in villas follow this tradition. In Tunisia, the baths of Sidi Ghrib have one panel representing the *domina* at the baths, with attendants and appropriate paraphernalia.¹¹⁹ The baths of the villa at Piazza Armerina in Sicily are also decorated with several scenes of

¹¹³ Fagan, "Three Studies," 267-268; *Thermae et Balnea*, 131.

¹¹⁴ A slave of the ex-praetor Larcus Macedo accidentally offends an *eques* as he clears the way for his master (Pliny, *Ep.* 3.14.7-8).

¹¹⁵ Amm. Marc. 28.4.9.

¹¹⁶ Discussed above, pp. 229-230.

¹¹⁷ E. Barbier, "La signification du cortège représenté sur le couvercle du coffret de Projecta," *CahArch* 12 (1962) 30. The scene appears on the rear panel of the casket's lid. The body also carries a series of panels showing attendants looking after their mistresses, which could be set in either a public or private setting.

¹¹⁸ D. Dimitrov, "Le système décoratif et la date des peintures murales du tombeau antique de Silistra," *CahArch* 12 (1962) 35-52. The panels of the hypogeum are arranged as if to show a procession, with cloths and toiletries carried by attendants.

¹¹⁹ Ennabli, "Thermes du thiasse marin," 42-44.

people at the baths.¹²⁰ The attendants figure prominently again and are shown carrying the various toiletries and clothes of their master or mistress, assisting in dressing and also in bathing. These images replace the representations of status given by the architectural setting of the *domus* and the dress of the *dominus*. Instead, these images reinforce the status of the individual at the baths, and a multiplication of the elements is indicative of greater status. It is the forum of the public baths which permits this imagery, and it is also transferred to the more intimate setting of the private villa baths. Given the rather small size of the domestic baths in Roman Africa, they hardly seem suitable for this type of display. Thus the suggestion of Thébert must be rejected, for the imagery in fact shows the opposite is true. As late as the fourth century, public baths continued to be maintained and patronized by the elite.

The evidence suggests that a variety of reasons are likely to have encouraged a proprietor to install baths in his house. On the one hand, they can be a status symbol. The logistics of water supply, heating and staffing are all factors which identify private baths as a luxury. Decoration of the facilities can also advance the image which a proprietor wished to present to his guests. On the other hand, it is apparent that domestic baths are not restricted to the houses of the very wealthy. The comfortably-off members of society may also have their own baths. In this case, there is considerable evidence to suggest that these baths could be a source of income, perhaps operating as a paying establishment to off-set the costs of maintenance. Finally, although more private baths can be dated to the fourth and fifth century than the early period, we have insufficient evidence to identify them as a phenomenon of late antique city life. Some of the datable examples do cluster later, notably at Bulla Regia and Cuicul. Elsewhere, the examples are undatable, or belong to an earlier period. In these examples, they are often single finds. Regional factors could be attributed to the examples which cluster later. The baths at Cuicul belong to houses which were essentially built and decorated in the fourth century. This suggests that urban development,

¹²⁰ Carandini et al., *Piazza Armerina*, 343-362.

in addition to social preferences, may have been responsible for the new baths. At Bulla Regia, in contrast, only the baths of the maison de la chasse have been dated. It is a notable feature that most of the baths at this site were not in service during the later or final occupation of the building. This is another important indicator. Baths could be installed at any time in a house, and could also be decommissioned. The logistics of maintenance may have influenced whether or not an establishment was a sustainable addition to the house. At all times, there were public baths to satisfy the bathing needs of a city's inhabitants, and the domestic baths functioned as a supplement to these. The variety of baths, both public and private, large and small, is characteristic of the North African cities.

CONCLUSIONS

This study has examined the urban domestic baths of a geographical area in detail. At the outset, it was hoped that, through a reevaluation of the publications from the perspective of recent advances in our understanding of Roman bathing culture, clarification of the form, function and social role of domestic baths could be made. The conclusions which can be drawn from the evidence suggest that domestic baths were an integral part of daily urban life. Implications of this research concern the position of the domestic baths in the broader field of bath studies, within their urban context, and as they relate to daily life in a Roman province.

The baths are found in houses of varying size and ostentation. The majority are peristyle houses, such as at Volubilis, Caesarea, Cuicul, Bulla Regia and Puppit. A few are among the largest houses in North Africa, and include additional courtyards or secondary peristyles.¹ Again, their distribution is quite wide, found at Volubilis, Timgad, and Althiburos. Other houses with baths are particularly small, with rooms arranged around a small central courtyard, as at Timgad. In this city, the larger houses, and the larger domestic baths, are located outside of the original center, where more room was available for grand houses. In other examples, the houses form part of a recognizable quarter with common chronological links, such as at Volubilis or Cuicul.

Some of the baths in well appointed large houses, or in small but elegantly decorated houses, are themselves nicely decorated, but they are seldom luxurious in appearance. One

¹ Among the more completely excavated examples, the largest houses are the palais de Gordien (C.4) at Volubilis; the maison de Sertius (C.23), the grande maison à l'ouest des thermes des Filadelfes (C.26), and the grande maison au nord du capitol (C.27) at Timgad; and the édifice des Asclepieia (C.32) at Althiburos.

exception is the very large baths attached to a house, but accessible from the exterior.² These baths approach the size and decoration of the mid-sized public baths. They contain a greater number of immersion pools, or simply larger ones, to accommodate a greater number of bathers than any of the smaller domestic baths. This suggests that they may have been in competition with some of the public baths to attract clientele. Among the baths with interior access a few are also well decorated.³ At the other end of the scale, some of the smallest baths are modest constructions, with minimal facilities for bathing, and are mostly accessible from within the house.⁴ The examples with entry restricted to the household, on the other hand, suggest that the owner wanted a private facility, although he may have had limited resources at his disposal for the undertaking. At the same time, the implied cost of supplying the baths from the urban water supply suggests some wealth and, by association, status. The baths, of course, are also restricted in size by the urban setting. They are generally additions to an existing house, inserted into the available space. Occasionally, the owners were able to encroach on the street frontage of their house to secure more space for the baths. The factors which encouraged the construction of baths were evidently multiple.

It is very difficult to identify chronological evolution or changes in the baths. This is due to the uneven temporal and geographical distribution of the examples, and the generally undated and fragmentary state of the remains. Only one example, at Cirta, can be distinguished as having a form distinctive of an early period.⁵ The reduced facilities and shape of the *caldarium* is typical of Late Republican and Early Imperial baths. It is also an

² These are the palais de Gordien (C.4) at Volubilis, and the grande maison à l'ouest des thermes des Filadelfes (C.26) and the grande maison au nord du capitole (C.27) at Timgad.

³ This includes baths from two of the largest houses; the maison de Sertius (C.23) at Timgad and the édifice des Asclepieia (C.32) at Althiburos. It also includes baths from considerably smaller houses; the maison de l'âne (C.11) at Cuicul and the maison du péristyle figuré (C.43) at Puppūt.

⁴ Many of the incompletely excavated examples appear to belong to this category. Of the completely excavated examples, the only truly private example in terms of access at Volubilis, the maison au cadran solaire (C.5), is also the simplest and smallest in the heated section. The small baths of the maison de Castorius (externally accessible) and of the maison d'Europe (C.13) (internally accessible) are similarly basic in their facilities.

⁵ This is the incompletely excavated maison à Sidi M'Cid (C.28).

example of the early importation of Roman baths to North Africa, some time in the first century AD, and perhaps quite early in the century. The example is thus important evidence for the introduction of Roman baths and bathing practice to North Africa. While such information has been quite scant in the archaeological and epigraphic record,⁶ it is apparent that the bathing culture in these Roman provinces is adopted directly from the Roman model, and that it shows a demonstrable break from the earlier Punic bathing tradition.

The second century is similarly represented by a single securely dated example, at Utica,⁷ which like the example from Cirta was subsequently transformed into living space. The baths at Utica were quite simple, with an unusual heating arrangement. The house to which they belong is particularly elegant in decoration, but the decoration associated with the baths is limited in preservation.

It is unlikely that domestic baths were as uncommon as these earlier examples suggest. The transformation of baths into living space could obscure the existence of an earlier structure. However, their solid construction tends to leave sufficient evidence of their existence, as the various other decommissioned examples that have been identified demonstrate. The baths at Utica functioned until some time in the third century. In this period a growing number of public baths were built, an activity that continued throughout the third century. A similar pattern emerges from the domestic baths. On the other hand, the examples that can be dated either cluster in one city, or are isolated finds. The group of baths at Volubilis, in the quartier nord-est, and at Cuicul, in the quartier central, are dated by the urban development of these two cities. In the quartier nord-est at Volubilis, the urban development suggests that some of the baths may have been constructed as early as the late first century or early second century, and they were evidently all in use for some time, as attested by repairs. One was certainly in use in the mid-third century. The baths at Cuicul, on the other hand, are dated to the fourth century at the earliest. A few of the domestic baths

⁶ The other early baths are found at Lixus in Morocco, and the earliest evidence for Roman bathing architecture comes in the form of an inscription from Carpis in Tunisia (see above, pp. 9, 226 n. 108). The Carpis inscription also shows the active participation of a Roman, namely the propaetor, in the introduction of Roman baths to North Africa.

⁷ This example, from the maison du grand oecus (C.38) at Utica, is only partially preserved.

at Tingad are dated to the early third century by their mosaic decoration, but the majority are undated. Another group of baths cluster in the fourth century, with some still in use into the fifth century. Again, these baths are primarily dated by their mosaic decoration. One each at Bulla Regia, Carthage, Althiburos and Pupput can also be dated to the fourth century. The examples are probably spread out in time, some undergoing renovations, and some also continuing into the fifth century in use. Others, however, were transformed for other uses.

This distribution in time, from the first to the fifth century AD, suggests that attributing the domestic baths to changing attitudes among the elites in the later empire simplifies the evidence. The clustering of baths at Volubilis and Cuicul may imply that constructing a set of baths may have been influenced by what a neighbor had, in terms of keeping up appearances among ones peers. The clearly eternal entry to nearly all of these baths, on the other hand, indicates that other explanations are necessary. The elite can also be shown to maintain the public bathing tradition of the cities.⁸ This aspect is attested to by inscriptional evidence in the form of restorations of public baths. Finally, some depictions of the elite at the baths or dressing convey the importance of the individual through the accompanying attendants and bathing and dressing paraphernalia, designed to make an ostentations display. While these representations are confined to the private sphere, appearing either in villa baths, on a silver casket, and in tomb, they are best understood in a public context. Only in public baths could the excessive number of attendants, such as Ammianus Marcellinus (28.4.9) describes, convey the desired effect.⁹

A surprising aspect of the domestic baths is how common it is for them to be equipped with a full complement of bathing rooms, beginning in the second century. With few exceptions, there is a hot immersion pool in a directly heated room, and a cold immersion pool in an unheated room, with one or more intermediary warm or hot rooms. There may be multiple immersion pools, facilitating a greater number of bathers at one time,

⁸ See above, p. 252ff.

⁹ See above, p. 256.

or perhaps even offering bathing water at different temperatures. The last aspect, of course, is difficult to ascertain on the current information. Nevertheless, these baths cater to the bathing clientele by permitting a complete bathing ritual to take place. The type of facilities and arrangements identified in Latin literature are found in most of the baths. The few exceptions are either small secondary baths in a house with larger baths or dictated by alterations and spatial constraints. The implication is that the domestic bathing ritual in North Africa is consistent with general Roman bathing practices.

Another aspect of domestic baths in North Africa is that a number of the baths have entrances that make them accessible from the street. These examples are certainly evident at Volubilis, Cuicul and Tingad, and probably one at Carthage, suggesting a wide distribution of these facilities.¹⁰ They are in most cases closely linked to the houses, from which they can be entered, and the service rooms for the furnaces are tended from within the house. Close parallels for this arrangement are not found outside of Roman Africa. The reasons for this arrangement could be varied. They may cater to specific clientele, being partially restricted in use. The examples at Volubilis suggest that they may have served various elements of society, possibly as a money making enterprise. In this case, they appear to be yet another aspect of the varied bathing options open to a city's inhabitants. The variety of the baths, both public and private, is typical of the North African cities. The variations in the baths and in their status are a product of a society which placed a great deal of emphasis on the social importance of bathing.

The complex role of urban domestic baths clearly emerges from the preserved remains in Roman North Africa. The forty-three examples that have been identified display a wide range of differences in layout, size, and ornamentation. The evidence suggests that more than one explanation is necessary to identify the nature of domestic bathing. They are neither the prerogative of the very rich, nor a requirement of the most lavish houses. They

¹⁰ The baths with external entrances are in the maison d'Orphée (C.1), the maison aux travaux d'Hercule (C.2), the maison au cortège de Vénus (C.3), the palais de Gordien (C.4) and the thermes de l'îlot ouest (C.6) at Volubilis; the maison de Castorius (C.12) and the maison d'Europe (C.13) at Cuicul; the grande maison à l'ouest des thermes des Filadelfes (C.26) and the grande maison au nord de la capitole (C.27) at Tingad; and the maison des bains (C.40) at Carthage.

need not even be obviously private in use. Certain logistical and economic factors were undoubtedly important, particularly a water supply, and both financial means and location could provide the impetus to build baths in a house. Since these installations are usually of restricted size, they must have catered to a smaller group of bathers than public baths, yet they also provide the basic facilities needed for the Roman bathing ritual.

CATALOG

This catalog comprises the published examples of baths built within the context of domestic architecture in North Africa. The sites are divided into three sections by the modern territorial divisions of Morocco, Algeria and Tunisia. A brief bibliography of where the baths are published is included with a description of the individual rooms. Measurements are those cited in the published reports. Where no dimensions are given, approximate measurements are taken from plans with a scale.

Volubilis

Maison d'Orphée (C.1) figs. 9 (plan), 10-21.

Thouvenot, "La maison d'Orphée à Volubilis," *PSAM* 6 (1941) 51-61.

Large peristyle house (1700 m²), with area for industrial and commercial activities in the W part. Formed from the joining of perhaps four separate houses, NW part of the house lower than SE following natural slope. The baths, located on the NE side of the house, are entered from the street and from within the house.

A: Two doors from the street lead into the room which is divided E-W by four pillars. Floor on W side paved with blue limestone, on E side and at S end with a coarse *opus signinum*; gap in flooring along the E wall may indicate the location of a bench.

B: *frigidarium*. Large cold pool P1 (5.25 m x 2 m) with three high steps (second step 0.44 m high and 0.25 m wide). The lower two steps are in stone, the top one in concrete. The water mark indicates a depth of 1.17 m. Water entered from the S side, and exited in the corner to the smaller pool. Room is paved with large limestone blocks; N walls and W walls laid on top of paving; large drain running E-W under paving.

C: Threshold from B has carved socket for door. Contains second cold pool P2 (1.00 m x 2.00 m), connected to pool P1 by a drainage hole in the partition wall, with three steps.

D (ca. 5.00 m x 2.80 m) has a door on the S to C. N door to room C2 is suggested by a regular break in the wall between the rooms. Floor paved with a white mosaic with black orthogonal pattern; adjacent crosses of four outlined chevrons, forming squares, create appearance of grid of filets. A red saltire of tassels is placed within the resulting squares and at the intersections. W end is covered by a layer of mortar with flat fragments of marble, forming the bedding of a later *opus sectile* floor.

e: staircase in the west corner joins the baths to W part of the house, reached from the corridor around room 2. The solid wall indicated on the plan at the top of the stairs to room C is not visible in their current state; the upper stairs and floor in this area are completely destroyed.

T (ca. 6.80 m x 3.60 m) *tepidarium*. Entered from B; hypocaust extends under the N half of the room, which still preserves a polychrome mosaic of orthogonal circular medallions in a divided square formed by a two strand guilloche and filled with a stylised floral or rosette pattern. Repaired in antiquity with large white *tesserae*. A door situated over a brick arch which admits hot air to the hypocaust of T leads to L. Two rows of ceramic tubes embedded in the E wall, and two more opposite in the W wall, are open at the bottom to the hypocaust.

L (ca. 4.40 m x 3.00 m) *sudatorium*. Hypocaust floor (1.04 m high); small section of the *suspensura* (0.20 m thick) is still preserved in the N corner, showing white mosaic with a black meander border. Two small brick arches in the W wall admit heat from the furnace of C2, and two larger ones from the furnace of C1. *Tubuli* are still *in situ* in the W wall above

the arches to C2. Door situated over the two arches to room C1.

C1 (ca. 5.80 m x 2.50 m) *caldarium*. Heated directly by furnace f1. *Tubuli* are still preserved in the thick N wall. Floor of hypocaust paved with bricks (0.53 x 0.41 m); vault of *praefurnium* 0.80 m wide, 1.00 m high; and *pilae* in room spaced against the wall at a distance of 0.38 m apart. Pool (*solium*) occupying the W end (2.40 m x 1.25 m) is supported by two courses of masonry above the *praefurnium*. The central part has collapsed with the hypocaust; drain with lead plug preserved. Doorway to C2 in S wall with mortared threshold.

C2 (ca. 5.80 m x 2.40 m) *caldarium*. Hypocaust room with a heated immersion pool (ca. 2.00 m x 1.00 m) over *praefurnium* f2 at the W end. The basin is partly restored. Vault of the *praefurnium* measures 0.48 m wide, and 0.66 high. A small tunnel penetrates the platform on which rooms D and C are raised up, exiting at staircase e (opening 0.40 m in the S wall of C2; exit 0.30 m wide, hidden under staircase e). Break in S wall above tunnel suggest doorway to D.

S: stokery for furnaces f1 and f2 is located on the lower level directly W of C1 and C2. Accessible from the street and from the corridor flanking room 2. The room was divided N-S by a wall projecting between the two furnaces.

No date; second/third century AD?

Maison aux Travaux d'Hercule (C.2) figs. 22 (plan), 23-26.

Quartier nord-est, 33; pl. IV. Thouvenot, "La Maison aux Travaux d'Hercule," *PSAM* 8 (1948) 80-87.

Large peristyle house (2000 m²) with boutiques on the *decumanus maximus*. Principal entrance to house is on *cardo* north II, through vestibule 1. The baths are a later addition to W part of the house, bordered by *cardo* north II and *decumanus* north I. Doorway from *cardo* 2 to baths; access from interior probable.

26 (ca. 7.25 m x 6.12 m) has paving stones preserved along the perimeter; entrance from *cardo* 2 and door in E wall of 26 from corridor 16 in the house. Steps (apparently a modern restoration) in the NE corner of 26 lead up to rooms 34 and 27.

27 (ca. 7.00 m x 5.25 m) *frigidarium*. Large apsed cold pool (ca. 6.00 m x 4.00 m) projecting beyond the NW facade of the house, built above ground, and buttressed with six spur walls. Drains to *cardo*. The heated rooms with hypocaust are reached from a door in the E wall of 27.

34 (ca. 3.00m x 3.80 m) is raised up to the same level as the rooms with hypocaust, reached by stairs in the NE corner of room 26. The proximity to furnace f2 suggests that it benefited from the heat of the adjacent hypocaust rooms 32/31; there is a stone forming a threshold in E wall to room 35 (c. 0.90 m above floor of 35).

32 (ca. 5.00m x 3.10 m) *tepidarium*. Hypocaust (slightly more than 1.00 m high) with brick apse built against the interior of the N wall. Two openings of chimneys in corners.

The lower floor is paved with bricks and large stones. *Pilae* of brick or stone blocks, and brick arches along the walls supported the *suspensura*. The mosaic floor, destroyed, was white with a design of polychrome bands and dentils (not illustrated).

31 (ca. 5.00 m x 5 m) *sudatorium*. Hypocaust room with furnace f2 in the S wall. The *suspensura* and most traces of the *pilae* are destroyed.

30 (ca. 5.00 m x 3.10 m) *caldarium*. Hypocaust room with an apse (c. 2.20 m x 1.80 m) in S wall plastered with white mortar marking the height of the pool. Large piers marked on the plan indicate W edge of second pool (1.40 max. width) in front of f1. *Praefurnium* f1 (at least 2.50 m long) was covered by a brick arch, and situated between two flanking masses of brick and masonry work.

29 is the service room for furnace f1. Four steps lead up to a door to the *decumanus* 1 N. Corridor 15 of the house is reached after climbing two steps from a small corridor separating room 29 and room 35. A drain covered by large stone slabs runs along the east side of the room.

Room 35 is the service room for furnace f2, reached from the small corridor. The exterior of the pool in room 30 extends into this room, from where the pool's drainage channel, covered with irregular stone slabs, joins the principal sewer of the house.

Note: Thouvenot suggests there was a latrine at the N corner of corridor 16, where a hole over the drain running under the corridor was found. He also suggests that the corridor may have been closed off from the peristyle at the line AB on the plan, and open to the sky. This is, however, the only access to room 35. No indication of this hole. There is a hole (?) marked at the N corner of corridor 15. Is this the one to which Thouvenot is referring?

No date; second/third century AD? Baths are a later addition to the house. There is evidence of a courtyard in 26/27 before the construction of the baths. The construction of the baths is less careful than of the house and other buildings in this quarter.

Maison au Cortège de Vénus (C.3) figs 27, 28 (plans), 29-33

Quartier nord-est, 79; Thouvenot, "Maisons de Volubilis," *PSAM* 12 (1958) 57-59.

Peristyle house (1200 m²) on *decumanus* south I, most of the rooms paved with well-preserved mosaic floors. No commercial dependencies. Baths located in the W corner of the house with external entrance from *cardo* south VI to 19, possible interior entrance from 8.

19 (ca. 14.75 m x 3.80 m) *apodyterium*. A bench (0.46 wide, 0.47 m high) extended around N and E walls. Mosaic floor shows a grid-pattern of tangent circles and poised concave squares on a white background. The squares, rendered in black, have a white crosslet at the centre; the yellow circles, outlined with white and blue, bear a crosslet of white alternating with dark tesserae at the centre. Repairs were carried out in large black tesserae, and part of the floor appears to be recovered with *opus sectile*. Entrance from room 8 is obscured by modern restoration; exterior entrance is well constructed doorway from *cardo* south VI.

20 (ca. 2.60 m x 2.80 m) *frigidarium*. Entered by a wide door from room 19; pool (3.40 m x 2.80 m x 0.80 m) reached by three steps (0.27 wide, 0.43 high). The third step forms a raised balustrade to the room.

21 (2.85 m x 1.88 m) *tepidarium*. Reached by descending one step from room 20. Only the six *pilae* of the hypocaust are preserved. Hypocaust opens to 23 to the S, and 22 to the W. Doorway located above second opening to 22.

22 (ca. 8.20 m x 2.90 m) *sudatorium/caldarium*. Long room, possibly divided into two rooms N and S. Brick lining of interior hypocaust badly decayed. A support wall in the hypocaust was added for a pool in front of furnace f1. Location of door to 23 preserved on N side of pier which supported wall between 22 and 23.

23 (ca. 5.00 m x 2.70 m) *caldarium*. Hypocaust room with an apsidal pool (c. 1.80 x 1.00 m) located over the large furnace f2. *Suspensura* is preserved to the E of the pool, where the *pilae* were replaced by a concrete wall. Only bedding for mosaic floor and loose *tesserae* remain.

23a is raised up to the same level as the hypocaust floors on a solid platform. It is entered from 23 only, threshold preserved. A U-shaped channel circulated heat from the hypocaust of 23 below the floor.

26 (1.50 x 2.35 , and c. 1.50 m deep) is a water reservoir. There is a door sill preserved from 23a to 26. Walls retain plaster, and a hole visible in the NE corner at the base of the wall between rooms 26 and 25 may be a water outlet.

25 is also a water reservoir but is slightly smaller (1.50 m x 2.00 m). No doorway from 23a preserved.

18 is the service room from which furnaces f1 and f2 were stoked. A doorway to *cardo* south VI restored with little guidance from the original plan. The S wall, badly preserved and now rebuilt, may have had another door to room 24, identified as a court, and reached by a corridor from the peristyle.

No date; second/third century AD. Room 19 is clearly a later addition to the house plan; possible that the baths are later; not discussed. Their construction is quite well done.

Palais de Gordien (C.4) Figs. 34 (plan), 35-46.

Thouvenot, "Maisons de Volubilis," *PSAM* 12 (1958) 26-32.

Large building (4900 m²) with spaces identified as official, commercial, and domestic. Four inscriptions were found, three referring to the Pompeii, who at some time appear to have owned part of the building. The fourth inscription refers to a restoration carried out by the procurator M. Ulpus Victor under Gordian III (238-244) to the house and baths (*domum cum balineo*). The baths occupy the NE corner, entered externally from the *decumanus* north I, or from the interior through 47.

35 (ca. 4.80 m x 4.20 m) entered from the *decumanus* north I, lined with benches (0.47 m wide, ca. 0.40 m high).

32 (ca. 17.00 m x 5.00 m) was paved with well-cut large grey limestone slabs, mostly robbed, and has a bench at the N end. There is also an entrance from the interior of the building at the SW corner of 32. The E wall has doorways to rooms 36, 43, and 33.

36 (ca. 5.00 m x 4.95 m) is a room with a bench, not preserved. The floor is mortar, with an aggregate of irregular chips of coloured stones. Originally opened to room 39.

38 (ca. 4.50 m x 4.20 m) is a room lined with benches on three sides. How this room opened on to room 32 is not preserved. The floor is mortar with predominantly ceramic inclusions.

33 (ca. 5.20 m x 4.50 m) is a room lined along the W, N and E walls with benches built from large irregular stones and covered with a sandy mortar. One door opens from 32, and the other connects the room with the *frigidarium* 39. The floor has a hard, very fine mortar floor with fine ceramic and pebble inclusions.

43 (ca. 5.20 m x 5.00 m) is open on the W to room 32 and on the E to room 39, with a central base which supported a pillar or column in each doorway. There are benches along the N and S walls. The floor is mortared.

39 (ca. 11.00 m x 5.70 m) *frigidarium*. Entered from 43, 33 and probably 36, this room has two pools. P1 (5.83 m x 2.56 m not counting the four steps, and 0.90 m deep) is framed by piers of brick and worked stone. The walls had a revetment of white stone, and marble slabs veined with dark grey and rose. Dark and light red painted plaster was also found. The pool is paved with grey limestone slabs, and drains from the NE corner. P2 (3.10 m x 1.70 m, 1.23 m deep) is reached by climbing a balustrade 0.60 m high, and descending two steps. The lower step is interrupted on the NE end, where two smaller steps lead to the bottom. The back wall of the pool has a domed niche.

44 (diameter ca. 2.20 m) is reached from 39 and provides access to 45. No access to 33. Floor and walls lined with grey and pink marble.

45 (width ca. 6.00 m) *tepidarium*. Reached from 44 and 39. Hypocaust floor destroyed, double row of brick preserved ca. 1.00 m above hypocaust floor marks level of *suspensura*. A chimney was identified in the room. The niches in the N and E walls carry a thick layer of mortar in which flat pieces of marble are embedded, the bedding for marble revetment.

30 (ca. 7.80 m x 6.10 m) is a heated room with hypocaust. Furnace f2 is located in the apsed E side. Brick tiles paved the hypocaust floor. No provisions for water are recorded.

29 (ca. 7.80 m x 4.50 m without the *solium*) *caldarium*. Hypocaust destroyed; small limestone *pilae* (1.02 m high) found in debris along with semi-circular bricks forming round *pilae* of bricks. *Solium* 29a (ca. 5.80 m x 2.00 m) destroyed, fragments of the brick and mortar pool were found in the debris. Heated by furnace f1 (2.85m long, 0.55 m wide and 0.90 m high), built from rubble and large blocks of marl stone, with stairs on the W side to water heating tanks.

25/28 is the stokery for furnaces f1 and f2, reached from courtyard 16. A drain runs through the room.

These baths have the unusual feature of a peristyle in the NE corner, 40 and 42, connected to *frigidarium* 39 by a corridor to the S of P1. The floor of 42 is mortar with irregular chips of marble forming a rough surface. Small basin in 40 lined with limestone slabs.

41 and 26 are water reservoirs. Their bottoms were 1.60 and 1.20 m respectively above the floor level of the surrounding rooms.

Date of inscription in reign of Gordian III (238-244) indicates that the baths were in use during the mid-third century, but no stratigraphic material or ceramic dating. The inscription refers to restorations; baths may be earlier.

Maison au cadran solaire (C.5) figs 47 (plan), 48.
Quartier nord-est, 100-102.

Peristyle (1300m² with additions) with boutiques along *decumanus maximus*. The baths, built in a former *cardo* (width 5.70 m), are accessible from the interior by corridor a.

2 bis (5.70 m x 6 m) is a room accessible only from 3.

3/4 (5.70 m x 13.70 m) *frigidarium*. Room is paved with bricks and slabs of limestone which extend into threshold to a. Pool 5 (4.00 m x 2.00 m x 1.00 m) is reached by three steps in the E corner (0.95 m wide), and water drained from the NW end.

6 (*tepidarium*), 7 (*sudatorium*) were two separate rooms; combined dimensions (4.20 m x 3.00 m). Hypocaust destroyed. Entered from 3/4, provide access to 8.

8 (3.20 m x 2.60 m) *caldarium*. Hypocaust destroyed, heated by furnace F2 and F1. *Solium* 9 (c. 2.20 m x 1.50 m) built over furnace F2 in brick.

11 and 10 are service rooms for furnaces F1 and F2.

The latrines C in the S corner of the house were found in a very poor state of preservation with no point of entry identified.

No date; second/ third century AD? The baths are clearly built after the house.

Thermes de l'îlot ouest (C.6) fig. 49 (plan).
Quartier nord-est, 102-103; Thouvenot, "Le quartier nord-est," PSAM 8 (1948) 129-131.

These baths are built against the rear wall of the maison des Néréïdes, covering 33 m in their length, but only 4.60 m in width. They are inserted into the space between the aqueduct and the house on the *decumanus* south I, but are accessible only from the *cardo* off the *decumanus maximus* to the E of the house. Space in front of the entrance is paved with

limestone slabs.

1 is the entrance to the baths, with benches (0.57 m wide, 0.50 m high) along the walls. The floor is mortar with lots of pebble inclusions. The benches are also covered with mortar.

2 is a room with benches and flooring like 1. A door at the W end leads to 3.

3 is the *frigidarium*. The pool measures 3.80 m x 1.40, 1.70 m deep (balustrade 0.40 m high creates excessive depth). The heated rooms are entered from the door at the W end.

4a/b/c is the heated section with hypocaust. The *suspensura* and internal spatial divisions are gone, but there appear to be three rooms. The *tepidarium* (4a) and *sudatorium* (4b) have no distinctive features. The *caldarium* (4c) has an apse in the S wall, rectangular *solium* was located at the W end. Heated walls with *tubuli* are identified, but not preserved. The furnace is located at the W end.

5 is the stokery for the furnace. The entrance to this room is from the narrow space left alongside the aqueduct.

No date; second/third century AD?

Cherchel Algeria

Mauretania Caesariensis

Maison des Julii (Maison des Graces) (C.7) fig. 52 (plan).

Leveau, "Les maisons nobles de Caesarea de Maurétanie," *AntAfr* 18 (1982) 12; Waille "Nouveau rapport sur les fouilles de Cherchel en 1903-1904," *RevAfr* 48 [1904] 68, pl. 8).

Excavated 1882, then from 1886 by Waille. Large House, only partially excavated; Leveau estimates more than 2800 m². Waille identified baths in the NW part, where the mosaic of the three Graces was found. He records two semi-circular pools where lead pipes discharge and a cistern.

No date.

Maison de la Propriété Marcadal (C.8) fig. 53 (plan).

Leveau, "Maisons nobles," 130-132;

Excavated by Waille, no commentary given for plan. Only 900 m² was exposed, not the total area of the house. Part of a bath is identified on the E corner of the exposed area. One hypocaust room (A) and a larger room (B, ca. 9.00 x 6.00 m) with a cold pool at the SE end are identified.

No date.

Maison de la propriété Kaïd-Youssef (C.9) fig. 54 (plan).
Leveau, "Maisons nobles," 136.

This is the only peristyle house from Caesarea which is fully excavated and accompanied by a complete plan. Total area of the house is larger than 2330 m², one of the largest known from this site. The rooms are organised around a peristyle. The baths occupy the NE corner of the house. The access to the baths is not preserved, but Leveau identifies a doorway on the N side of the peristyle which leads to the baths. The baths are not described.

No date.

Maison de la mosaïque de Minerve (C.10)

Leveau, "Maisons Nobles," 144.
Plan: Leveau, "Maisons Nobles," fig. 31.

Several rooms of a house were uncovered with baths located to the N, no description of the architecture. The baths are irregular, and consist of three spaces. E and D are not distinctive; C is the *caldarium* with a rectangular *solium* over the furnace at the SE end, and an apse, probably for a pool, on the NE side.

Numidia

Cuicul

Maison de l'Ane (C.11) figs. 59 (plan), 60-62; 156-161.
Ballu, "Rapport sur les fouilles exécutées en 1910 par le service des monuments historiques d'Algérie," *BAC* (1911) 33; *Maisons à mosaïques*, 29-32.

Peristyle house, 870m². Baths and apsidal fountain room were built against the cella of a temple in the area of the precinct flanking the temple acquired for this purpose. The baths are entered from vestibule I of the house.

XIV (10.50 m x 4.00 m) *frigidarium*. The floor of this room is paved with the large *asinus nica* mosaic. An apsidal pool P1 at the E end projects onto the portico of the *grand cardo* (interior width at opening 2.15 m, radius 1.80 m, depth 1.00 m). The pool has two brick steps, and a raised stone sill separating it from the room. A second cold pool P2 at the W end of the room projects behind the temple (2.75 m x 1.60 m x 0.70 m). This pool is also apsed, with two niches in the S wall. The floor of the pool is paved with large white *tesserae*.

XV is a small enclosed space between P2 and fountain fl in room XI. There is a doorsill in the S wall to vestibule XIII, but the floor in XV is lower. The presence of plaster on the wall, its location between the fountain and the pool, and the depth of the room indicate that it was a water reservoir.

XVI (3.45 m x 1.90 m) is the first in the row of heated rooms. The small *asinus nica*

mosaic was removed from here. Ballu records that it was from the hypocaust. Blanchard-Lemée states there is no communication with hypocaust room XVII, and the solid wall between them could be a restoration by Ballu. She does not identify this as a heated room. The present floor levels of these rooms are not recorded to indicate whether they are at the same level as the *frigidarium*. The mosaic is a polychrome orthogonal pattern of quasi-tangent quadrilobes of peltae tangent to a central square, with bi-concave squares formed at the interspaces bearing an inscribed quadrifoil. A panel depicts a donkey, with the inscription *asinus nica*.

XVII (3.45 m x 2.20 m) is a heated room. Very little remains of the hypocaust. Plaster preserved in the SW corner and a collapsed part of the wall covered with a coarse mosaic appear to belong to a pool which was located over the well-preserved *praefurnium* f1 at the S end of the W wall.

XVIII (3.30 m x 1.80 m) is a heated room with a rounded SW corner and a furnace f2 at the W end. None of the hypocaust is preserved. *Solium* at W end separated from room by a small raised wall 0.30 m high.

XIX is the service room from which the two furnaces were tended. There is a door to the street on the S side of the W wall.

No date. There are several phases to the house. Construction of the baths dependent on when the temple was destroyed, possibly mid-fourth century.

Maison de Castorius (C.12) figs. 63 (plan), 64-67.

Ballu, "Rapport sur les fouilles exécutées en 1911 par le service des monuments historiques d'Algérie," *BAC* (1912) 484; *Maisons à mosaïques*, 161-165.

Peristyle house (1500 m²) built against old city wall. Baths are poorly preserved and heavily restored. No doorways or connecting arches for the hypocaust rooms are preserved. Small baths built after large baths on a lower level, connected by a stairway.

Large baths:

XXVIII is the *frigidarium* with apsidal cold pool XXVII. The pool is paved with white *tesserae* and reached by two steps in brick. Very little of room XXVIII remains, and part of it was destroyed along the embankment to the E. No traces of the latrines mentioned by Ballu are preserved. Entrance unknown.

XXIX is a paved space reached by eleven steps from the lower baths

XXIV (ca. 5.90 m x 4.00 m) *tepidarium*. Identified by its location between the cold room and the heated rooms, but no distinctive features.

XXVI is a triangular space (length of walls ca. 6.00 m, 4.30 m and 4.00 m) between XXIV and XXV. Perhaps a warm room like XXIV.

XXV (ca. 7.20 m x 5.20 m) is a heated room with furnace f1.

XXIII (ca. 3.00 m x 2.90 m) is a heated room with furnace f2 (ca. 3.00 m x 2.00 m). Probably the *caldarium*, with a pool over the furnace. The interior walls of the room still have their revetment in bricks.

XXII is the stoking room for furnaces f1 and f2. Blanchard-Lemée suggests that it had an entrance from the corridor extending off the W side of the peristyle.

Lower baths:

Entered from the *cardo maximus* into a paved vestibule/ *frigidarium*. XXXII is square cold pool, paved with large black tesserae. XXXI is a small apsed cold pool (1.20 m x 2.10 m) with two plastered steps. This pool is in the basement of room XIX of the house above.

XXX (ca. 6.80 m x 1.80 m) is a hypocaust room. Rectangular pool (ca. 1.80 m x 0.80 m) at the S end of XXX, above the *praefurnium* preserved in the SW wall. Paved with black tesserae.

XXXIII is the service room, with a door to the *Cardo Maximus*.

No date. Modest "atrium" house rebuilt after demolition of the ramparts under Caracalla, after 211 AD; later construction of peristyle, large baths; decoration of peristyle by Castorius; lower baths built sometime after. Third-fourth century for the large baths?

Maison d' Europe (C.13) fig. 68 (plan).

Allais, "La maison d'Europe à Djemila," *RAfr* (1939) 35; *Maisons à mosaïques*, 140-143, 151; Février, *Djemila* (Algiers 1968) 49.

Peristyle house (1250m²) with boutiques. Large baths and latrine and small baths occupy the S end of the building. The baths are accessible from the *cardines* to either side (*grand cardo*, rue des thermes du capitole), and from the interior.

29 (8.80 m x 5.40 m), latrines, entered from the *grand cardo*. A central slab in the floor may have supported a basin or table. Along the N wall is the three seated latrine. A door in the SE corner of the E wall leads to room 30, and so provides access from the W to the baths.

31 (5.30 m x 2.20 m) is a small vestibule with an entrance from the *cardo* to the E. Three steps lead down to room 30.

30 (9.00 m x 5.30 m) is a large area, identified as a second vestibule; more probably the change room. A triple bay entrance leads to *frigidarium* 32.

32 (6.00 m x 6.00 m) *frigidarium*. Pool on the W side (2.00 m x 2.00 m; radius of apse 0.80 m) with raised balustrade and two steps into pool. Mosaic floor destroyed, no trace of marble wall revetment recorded by Allais. A small door to the N of the pool in the W wall leads to landing 5 of the house, the interior access to the baths. Column bases in four corners supported a vaulted roof.

33 (5.70 m x 2.80 m) *tepidarium*. This room is currently entered at the same level as room

32, since the *suspensura* is gone. Markings on the wall show that the floor was raised up higher by the hypocaust.

34 (5.00 m x 2.80 m) *sudatorium*. Hypocaust with furnace f1. The brick arch of the *prae-furnium* shows the circular imprint of the long-gone water heating tank.

35 (3.30 m x 1.90 m) *caldarium*. Hypocaust room entered from 34; the *suspensura* is destroyed, but the doorsill is still preserved in the wall at a height of 0.70 m above the current floor level. Large masonry support in front of f2, indicates that there was a hot pool occupying the N end of the room; again, circular cavity of water heating tank.

36 is a passage leading from room 32 to room 37.

37 is the service room. Stairs lead up to the narrow door to room 36. Another door leads through area 38 to the E side of the house, and a third door leads to the *cardo* on the E side. The furnaces f1 and f2 are tended from here. The third furnace f3 in the NW corner of the room heats the small baths.

Small baths:

41 (ca. 3.20 x 1.00 m) *frigidarium*. Pool occupies 0.80 m of the W end.

42 (ca. 1.50 m x .50 m) *tepidarium*, heated indirectly by furnace f3.

43 (ca. 1.20 m x 2.40 m) *caldarium*. Apsidal S end, where the furnace is located, probably location of heated pool.

No date; house possibly fourth century.

Maison aux stucs (C. 14) fig. 69 (plan).

Allais, "Le quartier occidental de Djemila," *AntAfr* 5 (1971) 108; *Maisons à mosaïques*, 186-188

House 509m²; well preserved walls to height of 3.5 m, second floor. The baths went out of use and were built over, but some of the walls are preserved to a considerable height below the later house.

r is the reservoir which was partially destroyed with the baths; fed directly from urban water supply.

N is the location of a semi-circular room, with a radius of 2.00 m, entered from the court by a preserved door 1.55 m high, 1.00 m wide, and with a second door on the W, 1.80 m high, 1.00 m wide. Interior space is reveted in brick. Opening 0.30 m wide below level of reservoir R for arrival of water. Identified as the cold pool of the baths. Transformed into a small room open to the court L with the floor raised 0.60 m.

O (3.40 m x 1.90 m) has the brick arch of the furnace in the W wall. The hypocaust is not preserved. A fragment of plaster found in the debris, 0.15 m thick with a rounded corner,

attests the presence of a hot pool. This area was enlarged and transformed into a *triclinium*. The service room for the furnace was transformed into a stairwell leading from court L.

No date. Only these two rooms are identified from the baths. There is no evidence for how they communicated.

Maison de Bacchus (C.15) fig. 71 (plan).

Blanchard-Lemée, "Maison de Bacchus à Djemila." *BAC* n.s. 17B (1984) 131-142.

A set of baths was destroyed in the construction of the 7-apsed room. Some of the hypocaust and mosaics from earlier levels were revealed in a sounding. The structure is unpublished.

No date.

Timgad

Ilot 17 (C.16) fig. 75 (plan).

Ruines de Timgad III, 79-80.

House with colonnaded court. Baths occupy NE part of house. Entrance probably from within house.

Three hypocaust rooms for which the details are unknown. A has semi-circular W end and furnace, so possibly the *caldarium*. B encroaches on street to N, as does C.

D is the *frigidarium* with a small pool, later converted into a baptistery for the Byzantine basilica built on ruins of the house.

No date. No plan or detailed account of individual rooms.

Ilot 36-37, Maison de Januarius (C.17) fig. 76 (plan).

Ruines de Timgad II, 30-32; Ballu, *Guide Illustré de Timgad* (n.d) 118-119; *Mosaïques de Timgad*, 16-17.

Ilot 37 is called the house of L. Julius Januarius, named by two inscriptions recording the gifts of two statues for the baths; a church was later built in SW part, extending into Ilot 36. The courtyard of the house has eight rooms arranged around it; space annexed from the street; house was not completely excavated. Reused material from house in construction of basilica, and courtyard used for burials. Elegant baths in NW end of house. Appear to be accessible only from within. Hot rooms of baths project slightly beyond W facade of house into the street.

A is the *frigidarium* of the baths, with preserved mosaic of lozenges, entered from room E. Cold pool with three steps preserves traces of paint.

B has a hypocaust and apsidal end, no mention of pool.

C has a hypocaust and thick walls, with a furnace indicated on the plan; communicates with B.

D has a hypocaust and thick walls, also accessible from *caldarium* .

Inscriptions from dedication of two statues to Asclepius and Hygieia in the baths. Found in the area of the basilica. One inscription was visible before excavation of the house: *Hygiam Lucius Acilius Granianus Lucio Julio Januario socero suo ad exornationem balinei dono dedit*. Second inscription found during excavation, worded same way, for a statue of Asclepius.

No date; fragment of mosaic from house (*Mosaïques de Timgad*, p. 17, no. 14) in floral style, third century AD.

Ilot 61 (C.19).

Ruines de Timgad III, 83-84; *Mosaïques de Timgad*, 25-29.

House with colonnaded courtyard and porticoes to *decumanus maximus* and *cardo maximus* and boutiques. Baths occupy NW corner of house. Baths of house have no entrance from the street. Description of baths incomplete.

One *caldarium* and one heated basin (*solium*) are mentioned, and a service corridor for two furnaces.

No date.

Ilot 64 (C.20)

Ruines de Timgad II, 54; *Ruines de Timgad* III, 86.

House with colonnaded courtyard, five boutiques on *decumanus maximus*. Stairs to street on E side. Baths in the NW corner of the house. Part of house had stable installed in Byzantine period

No date.

Ilot 67-75 Maison de la Piscina (C.21) fig. 77 (plan).

Ruines de Timgad I, 228-230; II, 102; III, 179; BCB, *Timgad*, 333-334, fig. 166; *Mosaïques de Timgad*, 42-44.

Two blocks were united to form this house with peristyle. Rooms in this plan do not appear to be baths, but Germain and Ballu identify them as such. A single room has a hypocaust indicated on the plan, adjacent to the peristyle.

No date; joining of two insulae in the early third century? Mosaic from large reception room of the building (*Mosaïques de Timgad*, pp. 43-44, no. 44).

Ilot 69 (C.22) fig. 78 (plan).

BCB, *Timgad*, 334-335; *Ruines de Timgad II*, 101.

House has interior courtyard accessible from exterior on four sides. Two hypocaust rooms of baths in SE corner, entered from vestibule to W. No other rooms associated with the baths are evident on plan.

Maison de Sertius (C.23) figs. 79 (plan), 80-81.

Ruines de Timgad II, 81-89; BCB, *Timgad*, 326-333; *Mosaïques de Timgad*, 59-64.

Large house with peristyle and courtyard. Errors in the three plans according to Germain. Ballu and Germain identify two sets of baths, one on the E side and the other at the N corner. Only N rooms are baths. One must enter the house to reach baths.

8 (5.45 m x 3.30 m) *frigidarium*. Lower parts of two statue bases found *in situ*. The inscription of the first base is dedicated to Asclepius: *Aesculapio Aug(usto), at exornationem balinei, Primitiv(us) actor*. The second one is to Hygieia: *Hygiae Aug(ustae) Faustus et Valentina*. The names identify M. Plotius Faustus (Sertius), and Cornelia Valentina Tucciana (Sertia), who built the market by the arch of Trajan. The mosaic (*Mosaïques de Timgad*, pp. 59-60, no. 68) imitates the decoration of marble paving slabs. There is an apsidal pool at the northern end.

6 appears to be a transitional space between the heated rooms and the *frigidarium* 8, reached from vestibule 1 by a long corridor.

7 is the *tepidarium*. The hypocaust room has a doorway from 8 and 6, and must have provided access to room 5.

5 is a *caldarium* with a furnace f1 on the W side. The shape of the W end indicates that it was occupied by a heated pool. This room provided access to 4.

4 is a *caldarium* like 5, with furnace f2 at W end. It also appears to have had a pool in front of the furnace. It is possible that a doorway opened to 6.

3 appears to be the stoking room, with access to the street and to room 2, a long room with an entrance from the courtyard and vestibule 1 of the house.

House dated to early third century when Sertius and Sertia are known to have lived. The dedication of the statues indicates that the baths were in use then; various mosaics in the house done at different times.

Maison au Sud de la Porte de Lambèse (C.24) fig. 82 (plan).

Ruines de Timgad III, 49-53; Christofle, "Rapport sur les travaux de fouilles et de consolidation effectués en 1927-1928-1929 par le Service des Monuments Historiques de l'Algérie," *BAC* (1930-1931) 316-317; *Mosaïques de Timgad*, 88-90.

House with offices, warehouses and baths; incomplete publication. The baths are located at the S end. Rooms A and B have no distinctive features, and provide access to C. C has two furnaces and a basin (D). The stokeries for the furnaces are E and F.

No date; richly decorated building with mosaic and marble floors, but none of them are dated.

Maison près du marché aux vêtements (C.25)

Ruines de Timgad III, 97-98, Ballu, "Rapport sur les fouilles exécutées en 1909 par le service des monuments historiques d'Algérie," *BAC* (1910) 115-116; idem, "Rapport sur les fouilles exécutées en 1915 par le service des monuments historiques d'Algérie," *BAC* (1916) 238-239; *Mosaïques de Timgad*, 96.

House with baths, no plan. Vestibule 1 on N side, NE corner, gives access of W to a series of rooms, one with large opening to the street; to S is entrance to *frigidarium*.

Vestibule, paved with stone, open to street to the N and E (3 m x 6.55 m), with a well. Small room (3.30 m x 2.30 m) to W of vestibule called *vestiaire* by Ballu.

Frigidarium 2 paved in stone (4.50 x 3.30 m) and mosaic 132 (2.00 m x 2.40 m), communicates with vestibule and *vestiaire*, and has a rectangular pool at the east end. Later report says small ante chamber in right corner (W) paved with slabs, and leading to stoking room 3. Mosaic is three figures-of-eight of guilloche interlaced with a guilloche circle, to form a central curvilinear hexagon. In the central space a black circle has an inscription in white tesserae: *B(onis) B(ene) | qui dixit | ridet qui | negabat | victus | est*. In the intermediary spaces formed by the guilloche towards the outside of the circle is written *molant |---| baline []| avat |invid []|---*. Inscriptions to ward off the "invidus".

4 (1.90 x 1.70 m) is a warm room next to pool and projecting onto street with hypocaust.

5 (1.55 x 1.80 m) is a room with hypocaust and furnace, to west of 4 with which the hypocaust communicates.

6 (3.30 x 1.85 m) is a room with hypocaust and furnace to the south of other hot rooms, possibly the *caldarium*.

3 is the stokery for the two furnaces, W of rooms with hypocausts.

A destroyed mosaic 133 of lozenges and squares (2.00m x 2.00 m) was recorded by Ballu from a hypocaust room.

No date.

Grande maison à l'ouest des thermes des Filadelfes (C.26) fig. 83 (plan).

Mosaïques de Timgad, 81-85.

Large house (2500 m²) arranged around two porticoed courts. Small baths in NE corner of

house are accessible from the house and street, mosaics preserved. Description depends on Germain's study of the mosaics; numbers designate mosaics in her catalogue.

105 (4.25 m x 2.45 m) is identified as the *exedra* of the baths, connected to peristyle 101 of the house by a small intermediary room, and to 106 through a triple bay door. Mosaic of circles alternating with squares, not illustrated.

106 (4.00 m x 4.25 m) is the room from which the *frigidarium* is entered, separated by a double bay door from the long corridor leading to the street to the S, and from 105 by a triple bay door. Mosaic of intersecting circles, with stars of four points at the intersections, not illustrated.

107 (3.00m x 3.00m) is the *frigidarium*, with an apsed *exedra* on the W and N sides, of which one is identified as a pool. The floor is decorated with a polychrome mosaic. A diagonally poised foliate spade extends from a vase in each of the four corners with a foliate heart at the four median points of the sides of the square, arranged around a central bi-concave octagon bearing an eight-petalled flower. 108 is the semicircular pool in the W side of the *frigidarium*. Plain black mosaic. 109 is the semi-circular niche to the N of the *frigidarium* paved with a mosaic showing a polychrome checkerboard of radiating triangles arranged around a central half flower.

Two rooms (A and B) in a row to the E of 107 are warm rooms. The second room gives access on the N to a long room C partially divided at the N end. The thick wall illustrated on the plan identify a furnace and hot pool at the N end. D has a furnace, and is accessible from C.

Service rooms must be to the N, not described.

No date. The house was used for a considerable time, and there is no indication of whether or not the baths are a later addition. The floral style, such as mosaic no. 107, is dated by Germain to the third century.

Grande maison au nord du capitole (C.27) fig. 84 (plan).

Ballu, "Rapport sur les fouilles exécutés en 1915 par le service des monuments historiques d'Algérie." *BAC* (1916) 239-242; idem, "Rapport sur les fouilles exécutés en 1916 par le service des monuments historiques d'Algérie." *BAC* (1917) 292-300; *Mosaïques de Timgad*, 106-118;

House distributed around three courts, most rooms communicate with neighbours, long gallery running length on W side, baths on NW side, most rooms have mosaics. The baths are connected to the house by J and I. Nine mosaics from rooms and pools, Germain's numbering.

170 (14.60 m x 7.20 m) is a courtyard. The floor was paved with large cubes of terra cotta. Exedra 2.00 m deep, 2.40 m wide, in the SW corner.

171 (diameter 7.20 m, side 2.95 m.) *frigidarium*. The mosaic is a checkerboard of polychrome diagonally-placed squares shaded concentrically. This room is reached on the

E side from 170, and in the SW corner K. 172 is the paving of the N and S pools of the *frigidarium*, both in terra cotta cubes. 173 and 174 are semi-circular niches in the corners of the *frigidarium*. They are decorated with a polychrome mosaic of radiating lines forming a seashell pattern.

175 is the mosaic decorating the doorsill between the *frigidarium* and the *tepidarium*. Two pairs of sandals point in opposite directions. Inscription *bene lava* below one pair, other restored as [*salvu (m) lav*]isse.

176 (3.05 m x 3.00 m) *tepidarium*. Room with hypocaust and mosaic floor. Polychrome pattern of alternately coloured rhomboids arranged in opposed zig-zag bands forming lozenges which are quartered with opposing shading to imitate perspective. A door leads 177, to L.

L (3.20 x 3.20 m) is a hot room with furnace at the W end.

178 is a *caldarium*. There is a furnace in the W end with an apsed *solium*. A second rectangular pool is located on the S side, also with a furnace. The mosaic is a running-pelta pattern of confronting pairs.

177 also a *caldarium*. Semi-circular *solium* is decorated with a mosaic of white *tesserae*. No indication of furnace in this room.

No indication of the service room to the W of the hot rooms on Germain's plans, and J south of the cold rooms does not appear to be service quarters, but rather entrance. Ballu identifies a service area to the E of these rooms.

Date uncertain, third-fourth century suggested for mosaics.

Cirta/Constantine

Maison à Sidi M'Cid (C.28) fig. 85 (plan).

Berthier, "Une mosaïque solaire à Constantine," in *Mélanges Carcopino* (Paris 1966) 113-124; idem "La mosaïque de Sidi M'Cid (Constantine)," *Actes du 104e Congrès national des sociétés savantes, Bordeaux 1979* (1982) 87-97; Picard, "Le palais de Sittius à Cirta (Constantine)," *BAC* n.s. 18B (1988) 191-192; idem "Une mosaïque pompéienne à Constantine et l'installation des Sittii à Cirta," *RA* (1980) 185-187.

The southwest corner of the peristyle house is the only excavated section.

A (8.40 m in total length). The doorway from room B is located in the west all of the room. Mosaic floor covers the central section, suspended by the hypocaust. An opening in the hypocaust to corridor J was filled in with stones. This space in the hypocaust is also separated from the rest of the room by a wall, and this space filled in with rubble to the level of the floor. On the west side, room A is flanked by two rooms (B,C) which provide a retrograde route of access to room A from corridor E.

B (5.50 x 3.00 m) is entered on the south from room C, and provides access to room A through a doorway in the east wall. The black and white geometric mosaic of this room is badly damaged. The doorsill between rooms B and C preserves a mosaic of small white and black triangles enclosed in a white band and a black band (not illustrated).

C (3.50 x 3.0 m) is entered on the west side from corridor E, and provides access to room B to the north. The mosaic floor of this room is destroyed.

D extends around the south and west sides of a cistern (E). Cistern E (6.20 m x 3.50 m - exterior dimensions) is bound on the south and west sides by corridor E. To the north is another narrow corridor (J). The roof of the cistern formed a terrace. A square stone with a circular opening and stopper for drawing water is preserved. The cistern is 4.0 m deep, and the sides rise another meter above the ground level. The interior is plastered, and there is a depression in the center for settling sediment. Punic cistern.

Room F (10.50 m x 5.0 m) extends to the west of the baths, which are reached from corridor M. To the west, a doorway leads to G, and a second group of heated rooms with hypocaust.

Room H (4.50 m x 4.30 m) is entered from G. It gives access to the hypocaust room I.

Room I (4.0 m x 4.0 m) has a hypocaust. The *pilae* rest on a plastered floor. The furnace is covered with a brick arch, located at the southern end of the east wall. The furnace would have been stoked from room F.

The mosaics and plan of room A have parallels among the late first century BC private baths at Pompeii. They should be no later than the mid first century AD, when bathing architecture had altered.

Africa Proconsularis

Hippo Regius

Maison à étage à Hippone, la villa dite du procureur (C.29) figs. 86 (plan), 87.

Marec, "Maison à étage à Hippone, la villa dite du procureur," *AntAfr* 3 (1969) 160-161.

House was built with at least two floors, lower floor preserved on two levels of natural slope. Poorly preserved, but evidently once luxurious. Baths not completely excavated, relationship of rooms not clear.

A is a room with hypocaust. Marec identifies the small apse in the S wall as the place for the furnace, but there is no place from which it could be stoked. Northern wall is apsidal, with a space in the wall marking either an entrance, furnace, or missing section of wall.

B is entered from the E side of A. The hypocaust is not preserved. To the S of B, b marks area of stairs, lower marble steps found.

C is separated from A by a wall with a drain of 0.20 m which continues between b and C, although there does not appear to be a wall between C and the stairs. C had a mosaic, badly

destroyed. A room of the baths?

D, also with the fragmentary remains of a mosaic, is connected to the baths by room 1 to the west of room A, but function is uncertain. Room 1 is open to room 2. Function and exact relationship to baths is unknown.

Under room I is a cistern, well preserved.

No date.

Quartier des villas, seaside villa with baths (C.30) fig. 88 (plan).

Marec, *Hippone, antique Hippo Regius* (Algiers 1950) 36; *Hippone la Royale, antique Hippo Regius* (Algiers, 1956) 45, 125-126

So-called villa of the fourth period. Preceded by earlier house. Rebuilding in this area makes the remains confusing. No full description, and the relationship of the rooms from the baths to each other is not clear on the plan. The baths are located along the W and S sides of area 7.

10 is identified as the *frigidarium*. There is a cold pool at the NE end.

9 bis designates two rooms of the baths with hypocaust floors.

11 designates two heated pools.

9 is a furnace.

8 indicates reservoirs.

No date for baths. Dating of six identified phases of the buildings is based on the styles of the mosaic floors, ranging from I-V century.

Maison privée in the quartier chrétien (C.31) fig. 89 (plan).

Marec, *Monuments chrétiens d'Hippone* (Paris 1958) 105-106.

Originally two-three houses along the E part of the block into which the basilica was inserted. The southern most house had a set of baths, although it may not have been independent of the house to the N, maison de Julianus. All that remains is the hypocaust of one of the rooms, and possibly the corridor. The house was joined to the basilica, and converted into the baptistery.

No date for houses.

Tunisia

Africa Proconsularis

Althiburos

L'Edifice des Asclepieia (C.32) figs. 91 (plan), 92-96.
Althiburos, 89-92.

Peristyle house (> 2300m²) with axial symmetry changed and monumentalised. Private baths are located in the SE corner of the building. Access to baths from within the building via courtyard 40. Rooms 10 and 9 join 40 to main vestibule. Exterior entrance to baths on SE side for service room, door blocked to 48. The baths and rooms to the N form part of an addition on the E side of the central building.

40 large space (c. 11 x 6 m) reached by corridor 10. The pavement is not preserved.

46 has a door to the exterior, 2.50 m wide, with the sill marked by wheel ruts. Outside the door, paving stones extend for two meters. The room is paved with slabs. A door on the SW side led to 48, and gave access to the service corridor, but was blocked up.

47 is not excavated. Room to SE of hot rooms.

48 is a corridor (6.90 x 2.60 m) paved with large stones which rest on small walls, raising the floor up to 0.72 m to the same level as the rest to the baths. The paving stones are charred. At the foot of the NE wall, and by the door to 40, a stone trough was found. Opening of 1.10 m from 48 to 49.

49 (6.00 x 2.55 m) *apodyterium*. At intervals of 0.90 m at a height of 0.40 m projecting stones form the support for benches on the E and W walls. Rectangular niche (1.18 x 0.30 m) in N wall for statue replaced doorway to 40, at the same time as the steps were placed against it in 40. Traces of plaster continue under wall, explaining this renovation. Paved with geometric mosaic, restored in antiquity. The floor preserves traces of terra cotta tubes, horizontally embedded in the floor, indicating a partition between 49 and 54.

50 (4.40 x 4.40 m) *frigidarium*. The threshold from 49 carries a mosaic. Pool 53 (3.00 m x 4.65 m) is rectangular pool with apsidal end, 1.45 m diameter, 1.10 m deep, reached by two steps and rounded sill on W side had walls decorated with veined white marble. To the N is a large bay 2.58 m wide to rectangular room.

51 (2.60 x 2.40 m) is a rectangular room opening onto the *frigidarium* through the large bay. The floor is paved with a geometric mosaic. The walls were decorated with reddish travertine, 0.017 thick. The skirting board, 0.24 m high, covered a plaster of red, hard lime, containing pottery fragments. Imprints on the plaster of the SE wall indicate the placement of revetement in bands of 0.20 m high, divided in squares of 0.27 m long. In one of these panels a geometric form is visible, perhaps a hexagon.

52 is reached from a door in the W wall of 51 by a step, and a door sill decorated with a mosaic of prophylactic symbols. Designation of 52 unclear. Later divided by NE-SW wall, over mosaic. Traces of earlier mosaic. Older pavement about the same level as floor of *frigidarium* 51. The lower floor of the hypocaust in this room shared the same red plaster,

but raised 0.25 m, as 11 and 12. *Pilae* of limestone. Small wall dividing the room left space for the heat to circulate. The area below the *suspensura* was filled in later with stones. A new mosaic was laid down, and later the small dividing wall, set above the *suspensura*.

54 is the space to the S of the *apodyterium*, separated by a small wall of horizontally placed ceramic pipes. The door from 50 is 0.90 m, door sill has mosaic. Stone at base of right door post has hollow from door. Geometric mosaic on floor. A small semi-circular basin projects into the E wall 1.70 m, width at opening 1.20 m. The sill is 0.30 m above the floor level, one step down into pool. Paved with mosaic except for its NE wall, which has a stone, 1.10 m long, and slightly convex.

55 (2.00 x 2.50 m) is entered through a door, 0.92 m wide from 54, and is separated from the heated rooms by a small wall of vertically set ceramic pipes. The door sill to 54 has a mosaic, as does the floor of the room. This room appears to be the transitional space to the hot rooms, but no hypocaust is mentioned.

56 (2.60 x 4.20 m without the apsidal basin) *caldarium*. A mosaic threshold marks the entrance, since the walls are destroyed almost to the foundations in the rooms. The shape of the apsidal pool at the E end can be seen in the foundations, which still preserve the *prae-furnium*. The pool was 2.00 m wide with a radius of 2.00 m.

57 (1.80 x 1.40 m) is a small space north of the *caldarium*. The room is described as above a heating channel covered by an arch. The floor is slightly inclined towards the opening which spread the hot air to the *caldarium*. The *suspensura* rested on *pilae* of stone, about 0.70 m high.

58 (2.40 x 1.60 m) is part of the service corridor 59. 59 is 0.78 m wide, and a drainage channel runs along it.

Baths added to the house around 280-290 AD, second period, phase one, and modified in phase two, and again in the third period, 355-360 AD. Phases are dated by mosaic decoration and numismatic evidence from the building.

Bulla Regia

Edifice de Diana (C.33) fig. 98 (plan).

Beschaouch et al., *Les Ruines de Bulla Regia* (CEFR 28, Rome 1977) 32-33; Broise and Thébert, *Recherches Archéologiques Franco-Tunisiennes à Bulla Regia. II. Les Architectures. 1 - Les Thermes Memmiens* (CEFR 28/II,1, Rome 1993) 368-372. Carton, "Découvertes faites en 1914 dans les fouilles de Bulla Regia" *BAC* (1915) 184-203

House with underground domed room. Baths are located S of this. Room 13 and 15 have furnace arch, too poorly preserved to determine relationships.

Maison de la Chasse (C.34) figs. 100 (plan), 101-105.

Beschaouch et al, *Ruines de Bulla Regia*, 55, 63; Thébert, "L'architecture domestique romaine à Bulla Regia," diplôme d'études supérieures, dactylographié (Paris 1966),

missing page numbers from microfiche.

Peristyle house 1700m² with subterranean rooms. Small baths went out of service, and remodelling obscures the plan. Circular room 42 with four apses is the heated. Originally led to *caldarium* 42 a/b/c, with furnace at S end. Room d was stokery. Latrines 35 and cold basin 34 may have belonged to baths.

Date of the baths is fourth century, awaiting publication.

Maison de la Pêche (C.35) figs. 106 (plan), 107-114.

Beschaouch et al., *Ruines de Bulla Regia*, 71. Thébert, "Architecture domestique," 57-81.

Peristyle house with subterranean rooms. Baths are located in the NW corner of the house. Entered through 7, 10 and 11.

12 is hexagonal *frigidarium* with two semi-circular pools. Three rooms with hypocaust. 13 has heated pool 15; 14 is a heated corridor leading to 13 and 17. 17 and 18 are heated rooms, each with furnace and hot pool. 16 and 19 are service spaces for the furnaces.

No date. Appear to be only baths with fully preserved and unaltered plan in final phase.

Maison no. 8 (C.36) figs. 115 (plan), 116-121.

Beschaouch et al., *Ruines de Bulla Regia*, 80; Thébert, "Architecture domestique," 139-145, pl. 47-49.

Peristyle house with baths on the NE side of the house. The baths went out of service, but the plan of the heated section is preserved. There were three heated rooms, 18 (*tepidarium*), 19 (*sudatorium*) and 20a (*caldarium*), with service rooms (20b and 21). The unheated section lay to the E, where a cistern still remains intact, but is unexcavated.

No date.

Maison d'Amphitrité (C.37) fig. 122 (plan).

Thébert, "Architecture domestique," 82-97, pl. 29-35.

Peristyle house with subterranean rooms. The baths are located to the N of the peristyle, but are unpublished. Entry not preserved. A is the *frigidarium*, geometric mosaic on floor, with pool P at the N end. The heated section lies to the E. Only room B of the heated section still stands.

No date.

Utica

Maison du grand oecus (C.38) figs. 123, 124 (plans).

C. Dulière et al., *CMT* 1.2. *Utique* (Tunis 1974) 2-4.

Large peristyle house with mosaics. Baths were added to the W side, directly N of the peristyle, but went out of use. Entry from room VIII.

V (ca. 6.16 m x 1.20 m) *frigidarium*. Apsed cold pool VI at the S end of the E side ca. 2.50 m across the opening to the room, radius ca. 2.50 including two steps.

III is the area of the *tepidarium*, entered from V. Hypocaust not preserved, W wall destroyed.

II is the *caldarium*. W wall destroyed. The *praefurnium* is identified to the E of the baths, at the end of the old court VII. The heating channel passed under the area identified as the *frigidarium* V.

A date for the baths is given by three stamped *bipedales* which covered the heating channel. They date to the reigns of Lucius Verus and Marcus Aurelius (161-169). During the third century the baths went out of use, and a new pavement was laid over the areas IV and V, dated by examples of pottery sealed under the floor.

Carthage

Maison de la volière (C.39) figs. 125 (plan), 126-127

Ennabli and Ben Osman, "La maison de la volière à Carthage: l'architecture," *Hommages Stern* (Paris 1983) 136.

The house is arranged in two sections, the first around peristyle 1, and the second built on a raised terrace at the same height as the first. Richly decorated with mosaic pavements.

The baths are in the NW part of the house, beside a large system of cisterns. This part of the house is mostly destroyed. The only distinguishable features of the baths are the furnace (f1) and a drainage channel. a, b, and c are unidentifiable spaces.

No date.

Maison des bains (C.40) figs. 128 (plan), 129-132.

Sander, "Mission archéologique suédoise 1979-1980. La maison des bains. Les balneae," *CahEtAnc* 19 (1986): 69-78. Styrenius and Sander, "Byrsa: la villa aux bains" *Pour Sauver Carthage* (UNESCO 1992), 153-154; Blennow, Olson, Peterson and Sander, "First Monthly Report, April 23-May 23 1979," *CEDAC* 2 (1979) 18-20; Blennow and Sander, "Spring Campaign Find Report and 1979 Autumn Campaign," *CEDAC* 3 (1980) 16-17; Sandar, "The Third and Last Campaign of the Swedish mission, March 3rd - May 1st, 1980," *CEDAC* 4 (1981) 25-26. C.-G. Styrenius et al., "The Swedish Carthage Excavations. Preliminary Report of the Third Campaign, March-June 1980," *MedMusB* 16 (1981) 76-78.

Partially excavated building around a large courtyard. The excavator identifies area AA with

a central *impluvium* as the grand entry for the baths. This room was sumptuously decorated with a pavement of marble and painted walls. AA entered from AB and from the *decumanus* I N (exterior entry to baths?).

AF is the *frigidarium* with two small pools of cold water AE.

AK is the *sudatorium* with a hypocaust floor; two holes pierced in the exterior wall of this room, perhaps for later furnace according to the excavators.

AM is the *caldarium* with hypocaust and two small basins of hot water at the SW end, AN and AR.

The house has seven cisterns and a well, and perhaps two reservoirs on the second floor. One of the cisterns is under AS, to the NW of the heated rooms, and the well is SW of AI. Cistern C2 is in the NW end of room AA.

Traces of walls and pavements under court BC are dated prior to an earthquake in the mid-fourth century. Two mosaics found *in situ* are dated to the late IV and early V century. Coins from the excavation are Roman (IV century), Vandal and Byzantine, indicating a long period of use for the house with baths.

Maison des corbeilles (Park of the Antonine Baths I) (C.41) figs. 133 (plan), 134-136.
L. Poinot and R. Lantier, "Ruines romaines d'Ard-et-Touibi." *BAC* (1927) 437-465.

Elegantly decorated peristyle house. Baths are poorly preserved. Octagonal space (2) has two pools (1,3), exact relationship not preserved. 4 is heated room, hypocaust destroyed, with two pools (6, 8), badly damaged.

No date.

Park of the Antonine baths II (C.42) fig. 137.

Adjacent to C.41, and unpublished. Identified by M. Alexander, who was studying the mosaics in the park for CMT. Hypocaust room with *pilae* preserved.

No date.

Byzacena

Pupput

Maison du Péristyle figuré (C.43) figs. 18 (plan), 139-141.
Ben Abed Ben Khader, "Les mosaïques de la Maison du 'Péristyle figuré' et de ses thermes à Pupput (Hammamet)," in *Fifth International Colloquium on Ancient Mosaics held at Bath, England, on September 5-12, 1987*, Part I, ed. P. Johnson, R. Ling, and D.J. Smith (Ann Arbor 1994) 180-185

Peristyle house (c. 770 m²). The baths can be entered from the peristyle through room

XXII, into room A.

B is the *frigidarium* with two pools on the N side, one apsidal and one rectangular, paved with a plain mosaic. Remains of two levels of geometric mosaics are preserved on the floor of the *frigidarium*. Until the later floor was put in there was no door communicating between space A and the *frigidarium*; there was a door in the E wall of the *frigidarium* leading to an unknown space, blocked when the new floor was put in.

C is threshold with mosaic leading from A to D.

D is the *tepidarium* with a hypocaust floor.

E is a hypocaust room, entered from the S side of D. A small furnace F is located at the S end, separated from the rest of the room by a small wall. There is a blocked opening in the southern wall of F shared with room XVI.

G is a heated room with hypocaust entered from the N side of D. This room has double walls for the circulation of heat and apsidal pool H at the N end. The pool is located over the *prae-furnium*. While rooms D, E and F have greyish plaster, the plaster of this room is rose-coloured. Fragments of the mosaic floor are preserved.

The development of these baths within the context of the house was traced during the excavation. In phase 1, rooms E, F, G were associated with the rooms to their west. The baths were built in phase 2, when rooms E, F, D were joined to rooms A, B, C. They communicated with an unexplored area to the east. The wall separating E and F was constructed then. A small doorway in the E wall of F gave access to the furnace through A, which led to the exterior of the baths by a door near the NE corner. The house was built in the third phase, and the baths joined to it. In addition, heated room G with its pool, and the two pools of the *frigidarium* were added.

Only relative dates for the phases are known from the mosaics. Phase 1 is undated, phase 2 is dated to the fourth century, and phase 3 to the fifth century.

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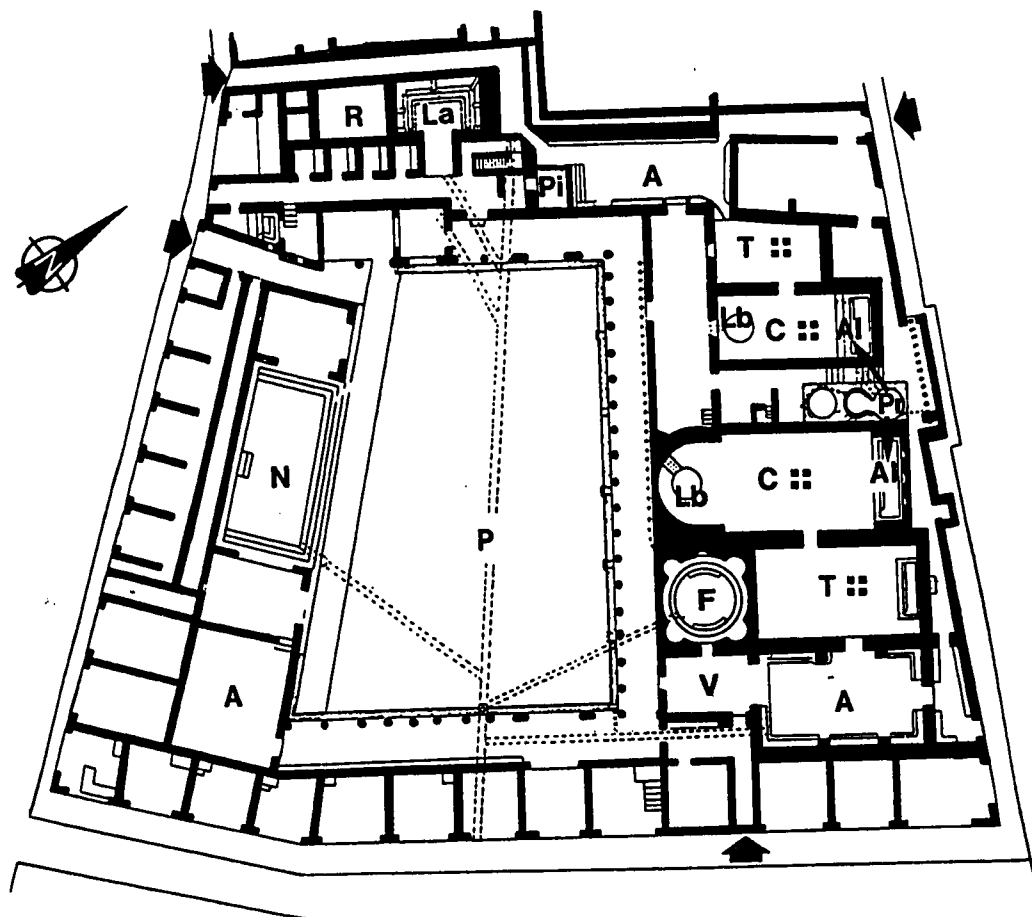


Figure 2. Pompeii, Stabian baths. V - vestibule; A - apodyterium; F - frigidarium; T - tepidarium; C - caldarium; Lb - labrum; Al - alveus; Pr - praefurnium; Pi - piscina; La - latrine; N; natatio; P - palaestra.

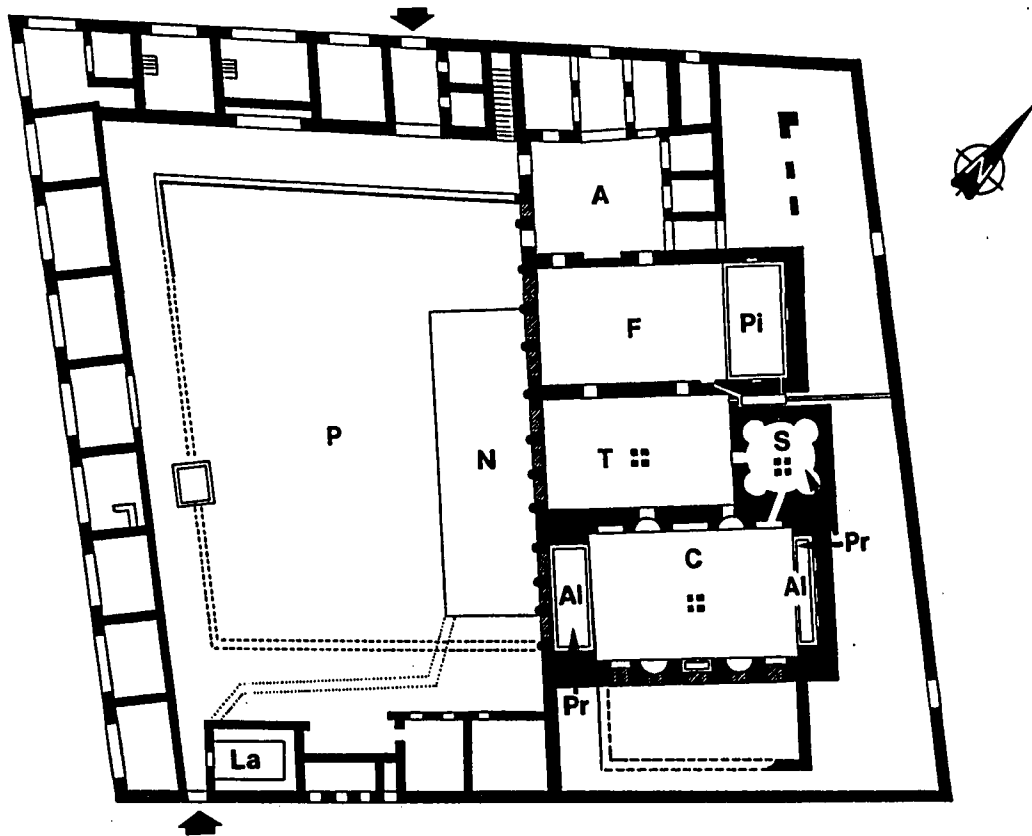


Figure 3. Pompeii, Central baths. A - *apodyterium*; F - *frigidarium*; Pi - *piscina*; T - *tepidarium*; S - *sudatorium*; C - *caldarium*; Al - *alveus*; Pr - *praefurnium*; N - *natatio*; P - *palaestra*; La - *latrine*.

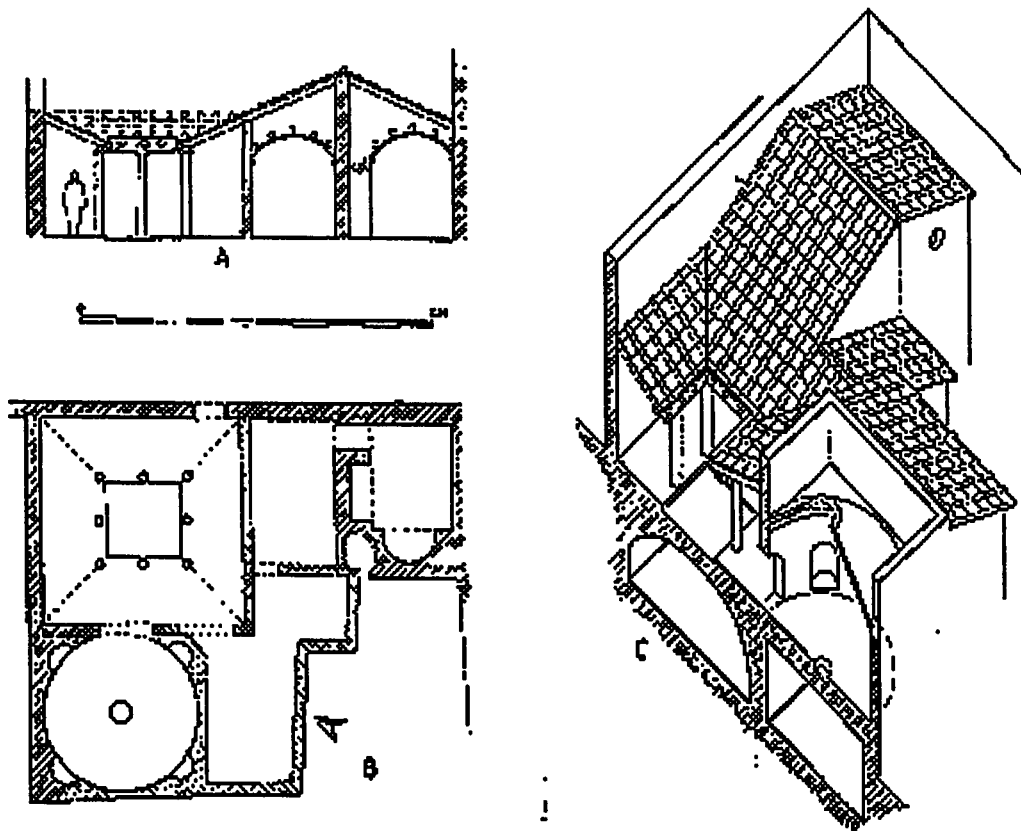


Figure 4. Pompeii, casa del Menandro (I 10,4), baths. A - north-south section; B - plan; C - axonometric, looking SE.

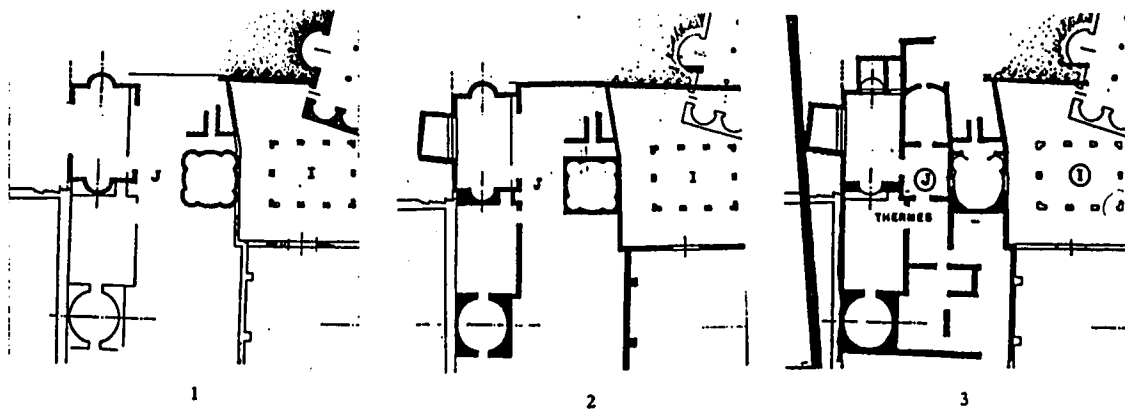


Figure 5. Lixus, thermes J. Plan of evolution. 1 - time of Juba II; 2 - Roman period; 3 - late Roman period.

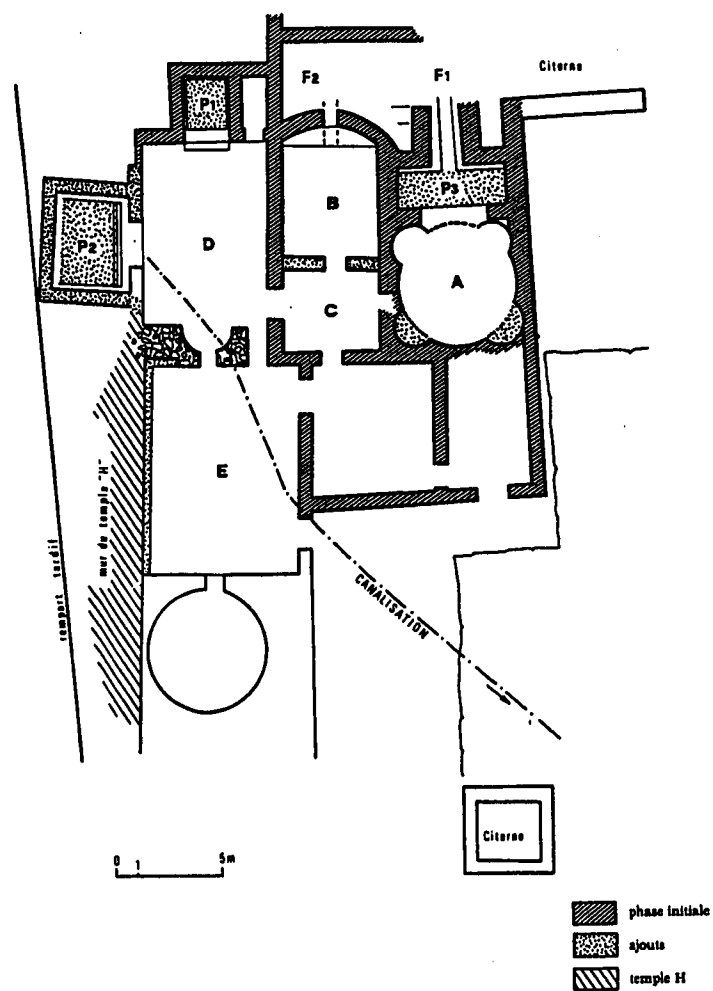


Figure 6. Lixus, thermes J. Plan.



Figure 7. Volubilis. Site plan. Houses with baths: 1 - Maison d'Orphée (C.1); 2 - Maison aux travaux d'Hercule (C.2); 3 - Maison au cortège de Vénus (C.3); 4 - Palais de Gordien (C.4); 5 - Maison au cadran solaire (C.5); 6 - Maison aux Néréïdes and thermes de l'îlot ouest (C.6). Public baths: A - Thermes de la maison à la citerne; B - Thermes du nord; C - Thermes du capitole; D - Thermes de Gallien.

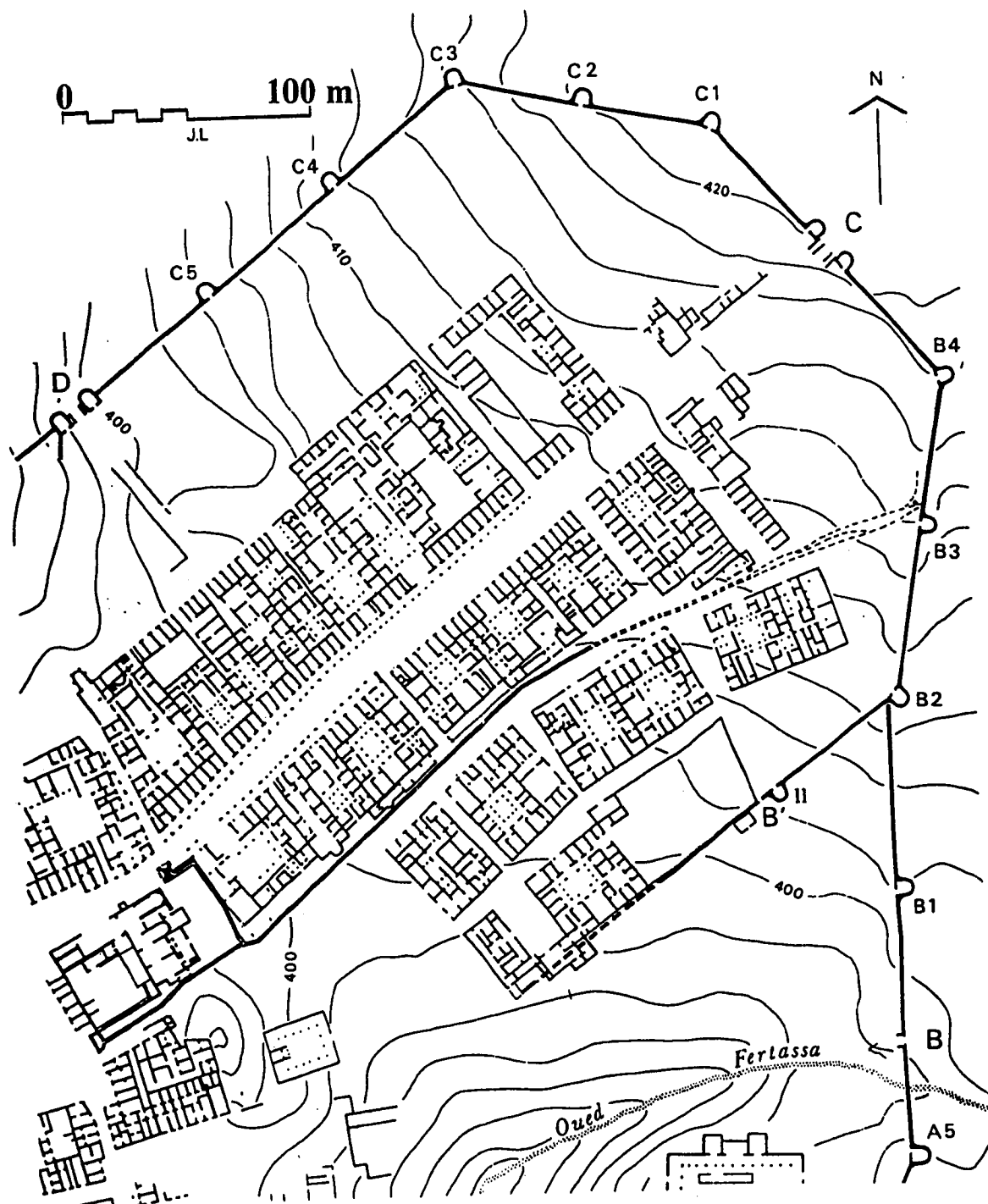


Figure 8. Volubilis, plan of quartier nord-est. 1 - maison aux travaux d'Hercule (C.2) ; 2 - maison au cortège de Vénus (C.3) ; 3 - palais de Gordien (C.4) ; 4 - maison au cadran solaire (C.5) ; 5 - maison des néréïdes ; 6 - thermes de l'îlot ouest (C.6) ; 7 - thermes du nord ; 8 - aqueduc.

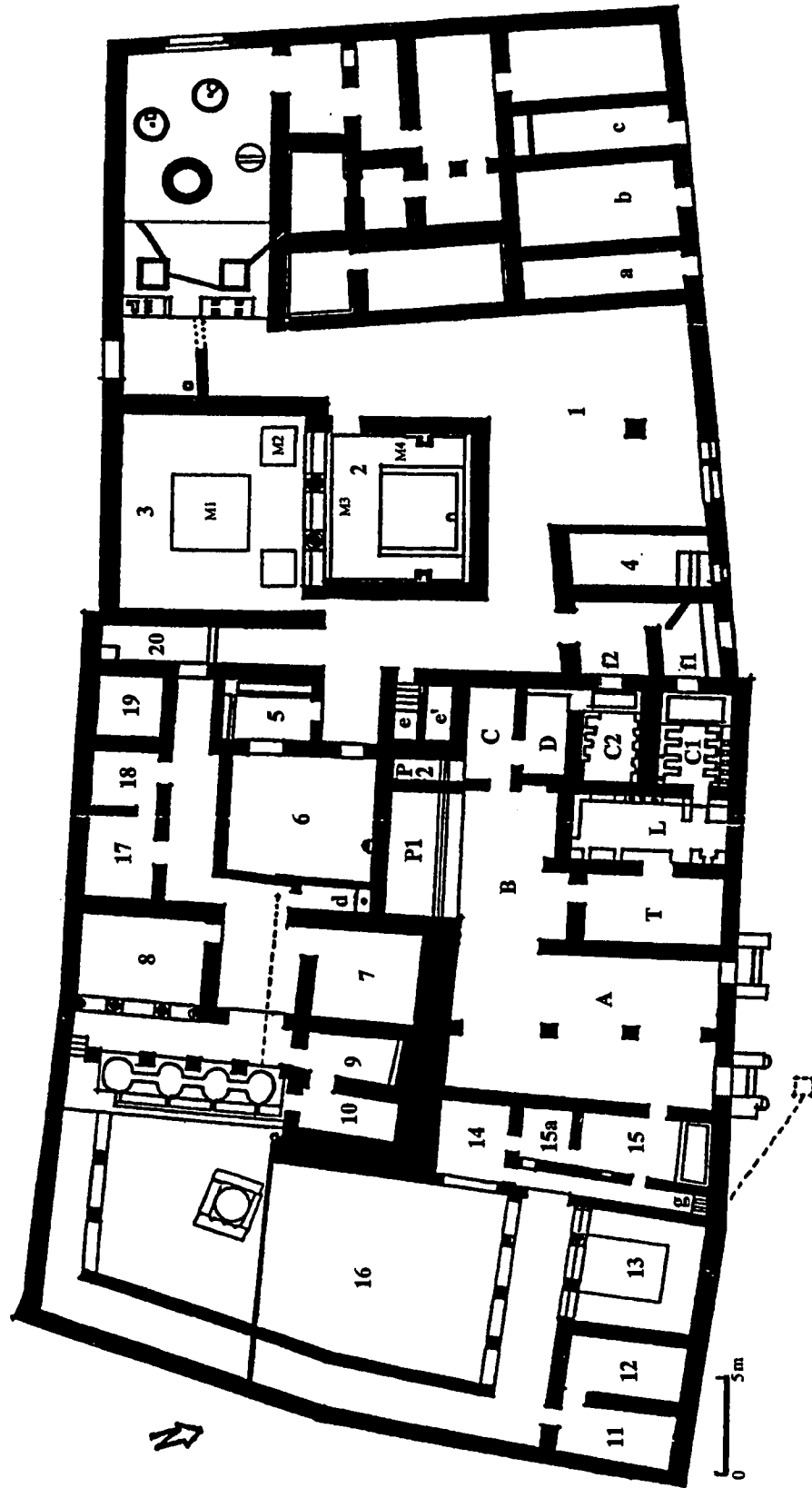


Figure 9. Volubilis, maison d'Orphée (C.1). Plan. Baths are rooms A, B, C, D, T, L, C1, C2.



Figure 10. Volubilis, maison d'Orphée (C.1). Two entrances to room A, looking south. Two columns of left porch are restored.



Figure 11. Volubilis, maison d'Orphée (C.1). Central pillars of room A, looking south. Stone paving to right of pillars; coarse mortar floor to the left and unpaved strip along east wall perhaps marking location of a bench.



Figure 12. Volubilis, maison d'Orphée (C.1). Room B looking west, entrance to room C in background, balustrade of P1 to left.



Figure 13. Volubilis, maison d'Orphée (C.1). Room C looking east to room B. Door jambs rest on original paving of room.

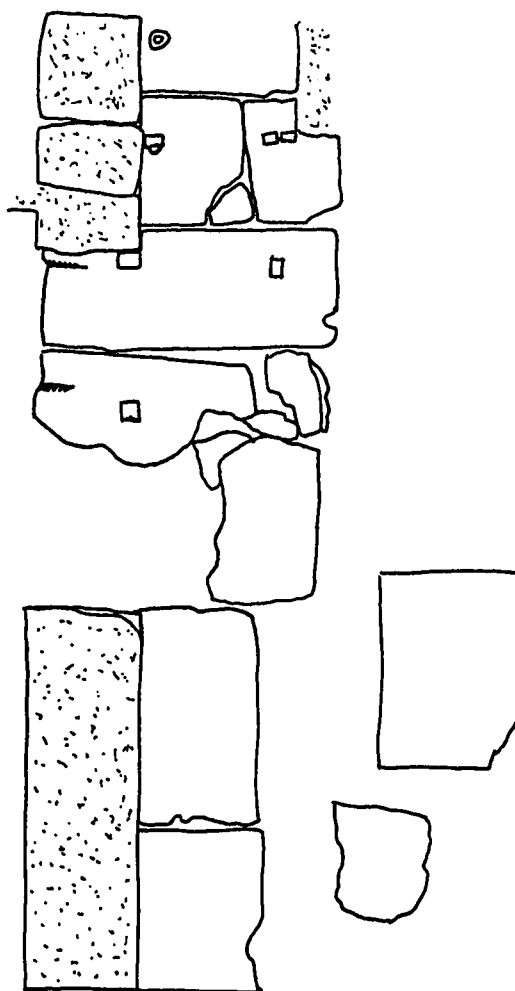


Figure 14. Volubilis, Maison d'Orphée (C.1). Paving in room C, with cuttings

for door sockets.  - wall


 - paving



Figure 15. Volubilis, maison d'Orphée (C.1).
Room D, looking north at opening to room C2.

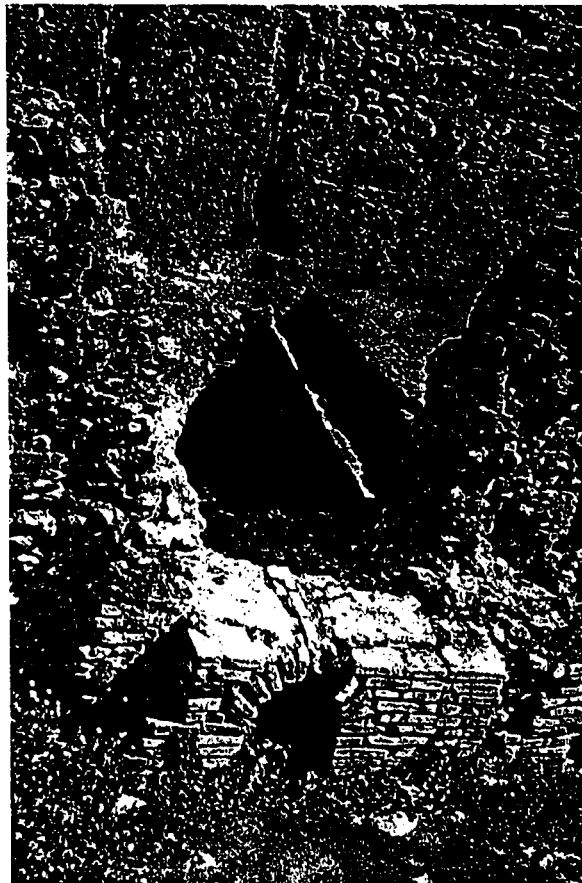


Figure 16. Volubilis, maison d' Orphée
(C.1). Looking east from room L at room T.
Brick arch in hypocaust in foreground and
two vertical rows of pipes exposed in east
wall of room T.



Figure 17. Volubilis, maison d'Orphée (C.1). Looking west from room L at opening in hypocaust to room C1. Recess in wall to left for *tubuli*.

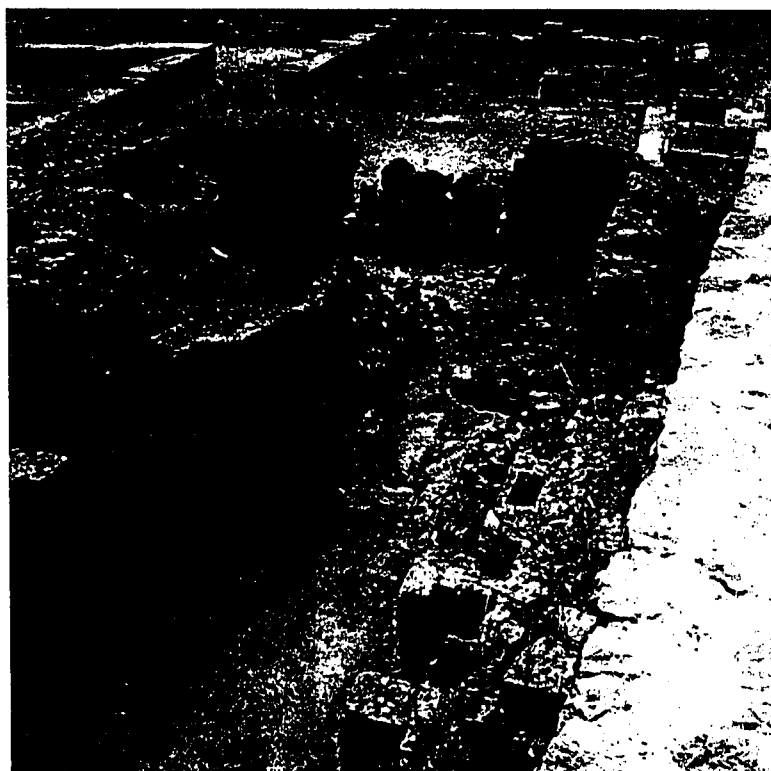


Figure 18. Volubilis, maison d'Orphée (C.1). Room C1 looking west at collapsed pool.

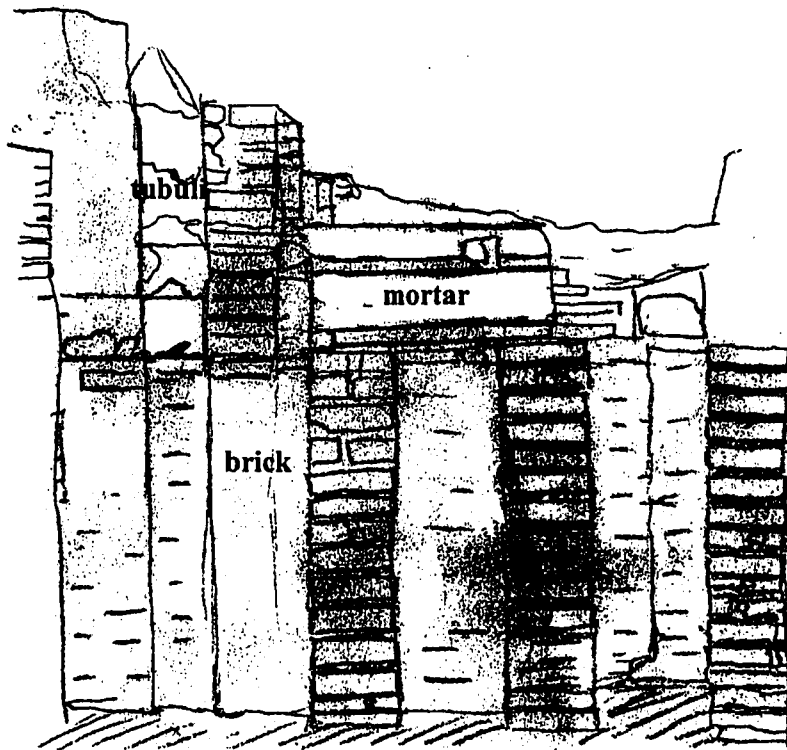


Figure 19. Volubilis, maison d'Orphée (C.1). Doorway from room C1 to room C2, threshold of mortar preserved.



Figure 20: Volubilis, maison d'Orphée (C.1). Doorway from room C1 to room C2 after cleaning. *Tubuli* exposed in wall to left of doorway.



Figure 21: Volubilis, maison d'Orphée (C.1). Looking south from room C1 at room C2; room D in background. Doorway between room C1 and room C2 visible during cleaning; opening to room D above heat conduit in south wall of C2.

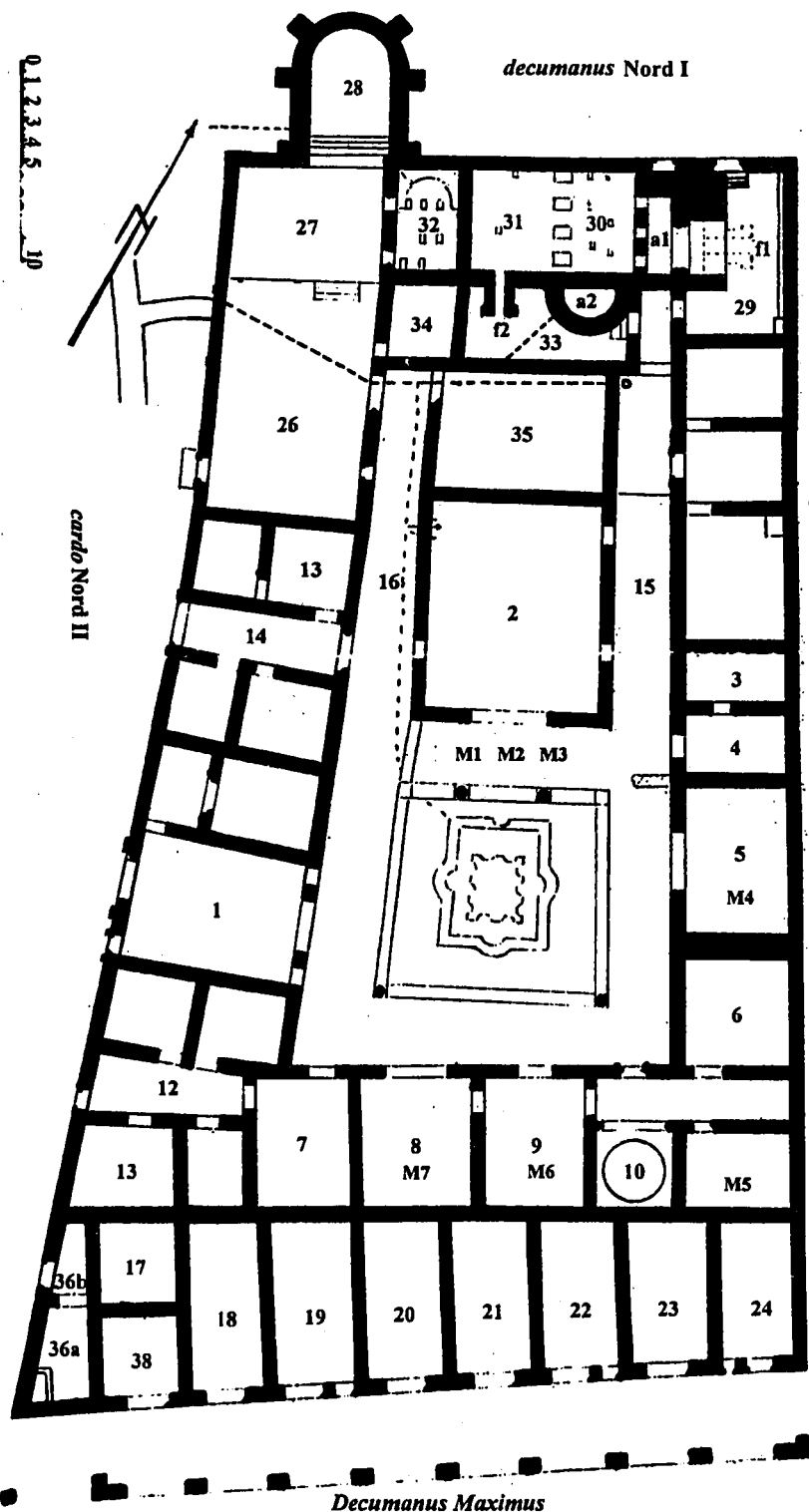


Figure 22: Volubilis, maison aux travaux d'Hercule (C.2).
Plan. Baths are rooms 26-34.

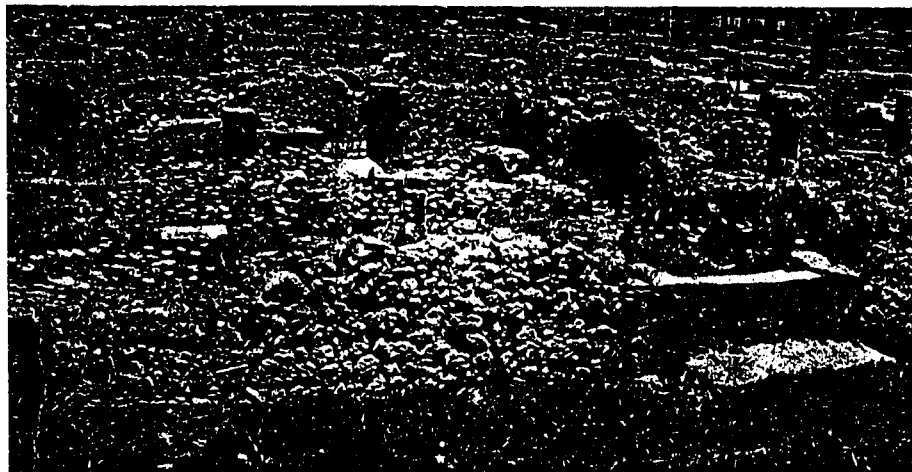


Figure 23. Volubilis, maison aux travaux d'Hercule (C.2). Entrance to room 26 from *cardo* Nord II in right foreground, looking east.



Figure 24. Volubilis, maison aux travaux d'Hercule (C.2). Reconstructed doorway from corridor 16 into room 26.



Figure 25: Volubilis, maison aux Travaux d'Hercule (C.2). Apse of room 30 (a2) with plaster preserved on upper part of wall. Drain hole below.



Figure 26. Volubilis, maison aux travaux d'Hercule (C.2). Steps in northeast corner of room 26 leading up to room 27.

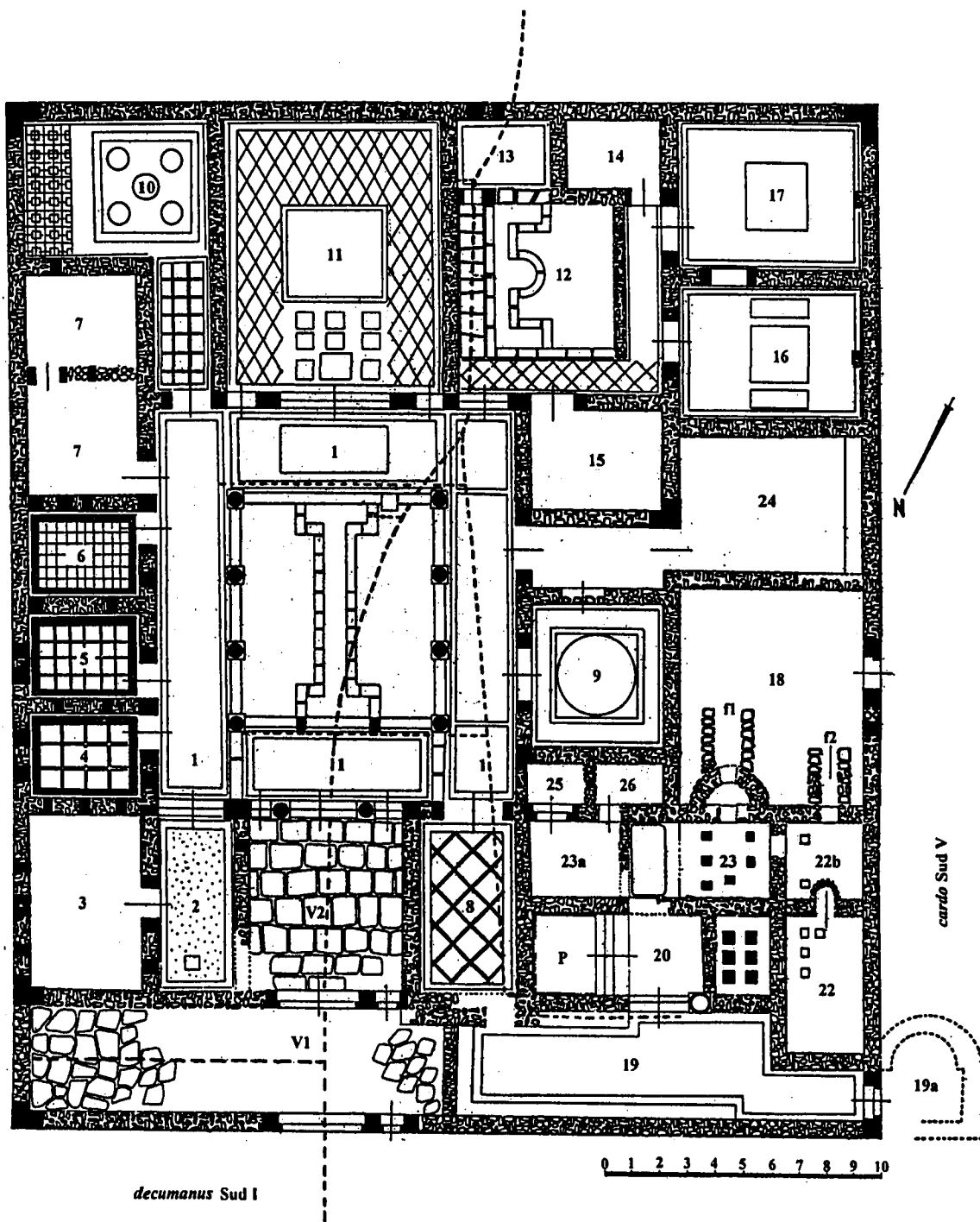


Figure 27. Volubilis, maison au cortège de Vénus (C.3). Plan. Baths are rooms 18-26.

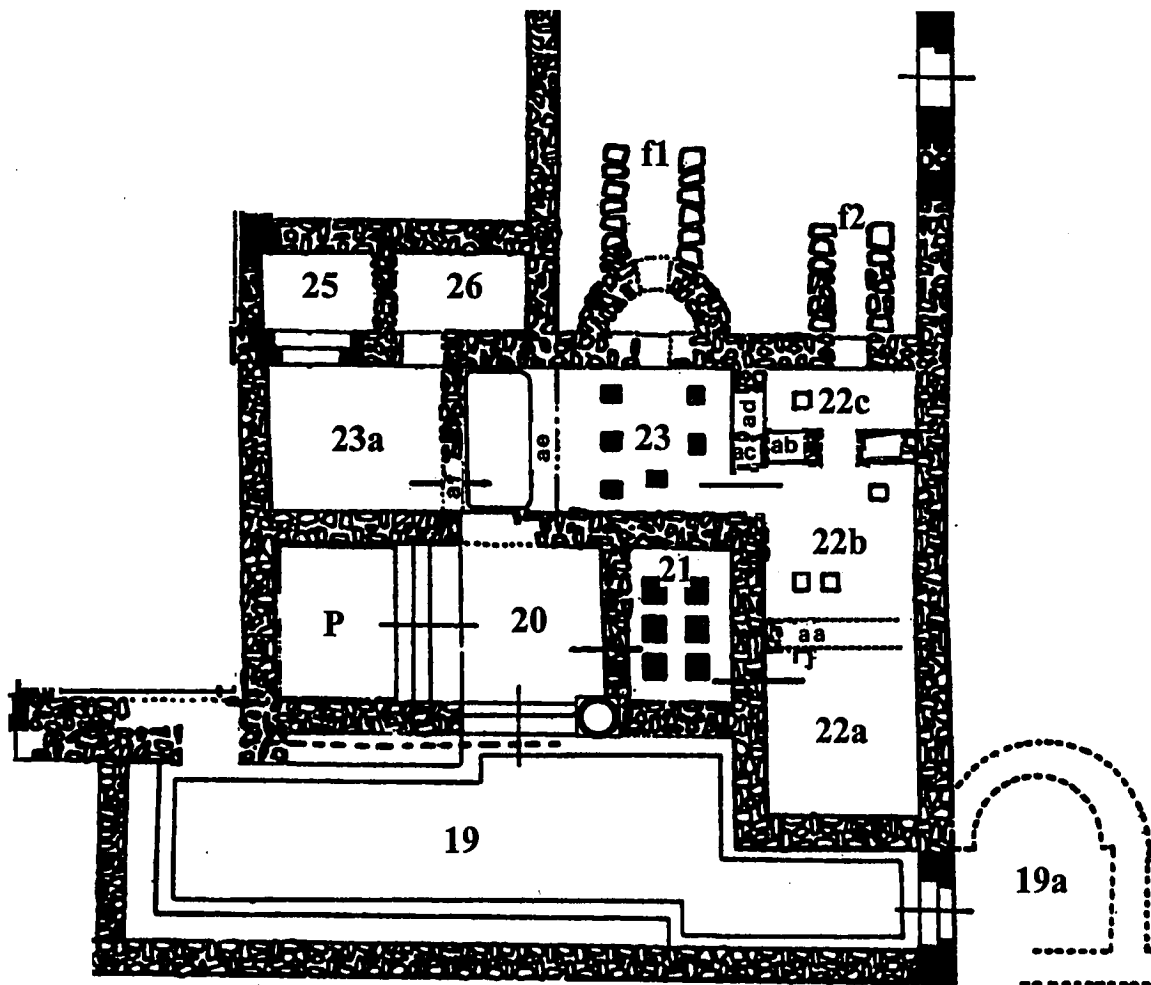


Figure 28. Volubilis, maison au cortège de Vénus (C.3). Redrawn plan of baths.



Figure 29. Volubilis, maison au cortège de Vénus (C.3). Entrance to room 19 from *cardo* Sud V, room 19a in foreground.



Figure 30. Volubilis, maison au cortège de Vénus (C.3). Room 19 looking east, rubble benches along north and east walls.



Figure 31. Volubilis, maison au cortège de Vénus (C.3).
Opening in hypocaust between rooms 22 and 23 and wall
ac with preserved brick lining of lower part of south
doorjamb between the two rooms.



Figure 32. Volubilis, maison au cortège de Vénus (C.3). Room 23a looking west at doorway and step to room 23.



Figure 33. Volubilis, maison au cortège de Vénus (C.3). Looking south from room 23a at doorway of cistern 26.

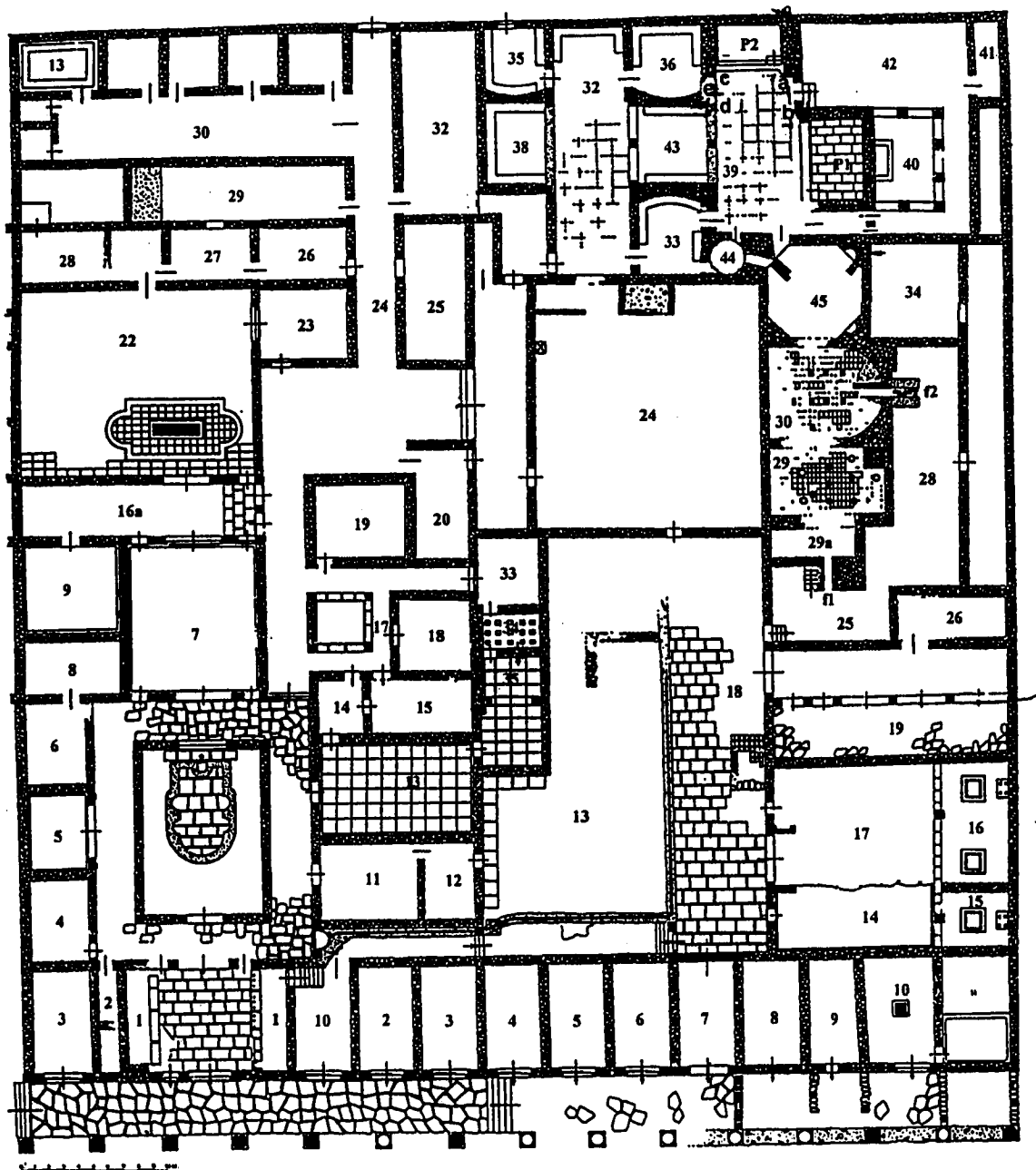


Figure 34. Volubilis, palais de Gordien (C.4). Plan. Numbering of west and east halves independent. Baths are rooms 29-45 in northeast quarter of the building.



Figure 35. Volubilis, palais de Gordien (C.4). Looking east from room 38 through room 43 at P1 in room 39.

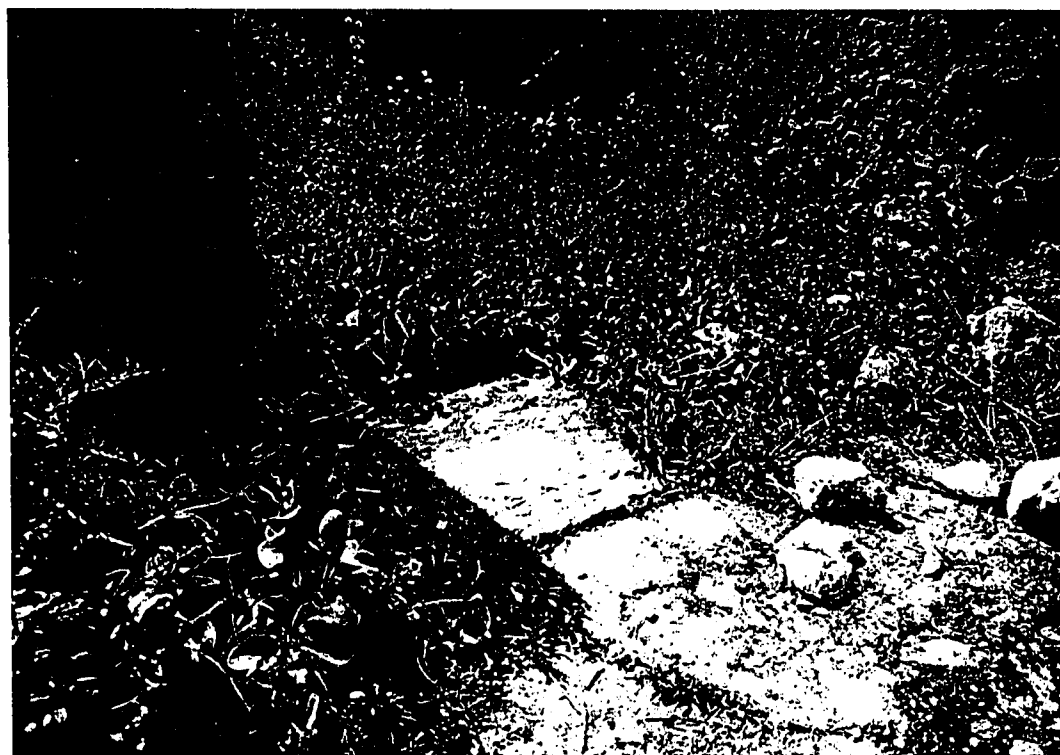


Figure 36. Volubilis, palais de Gordien (C.4). Looking west from room 39 at opening in wall to room 36. Threshold block (?) after cleaning in middle ground, location of doorway between rooms.



Figure 37. Volubilis, palais de Gordien (C.4). Room 33 looking east to room 39. Doorway to room 39 is on the left; break in wall between rooms 33 and 44 on the right, with bench preserved between them.

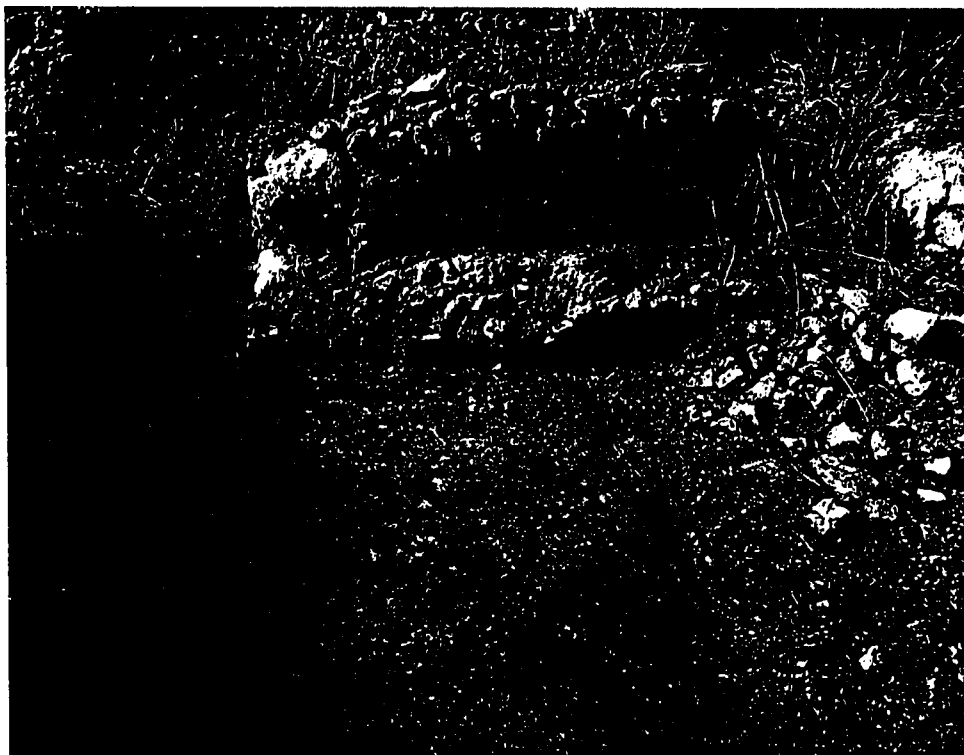


Figure 38. Volubilis, palais de Gordien (C.4). Room 33 looking west at benches. Doorway to room 32 in upper left corner.

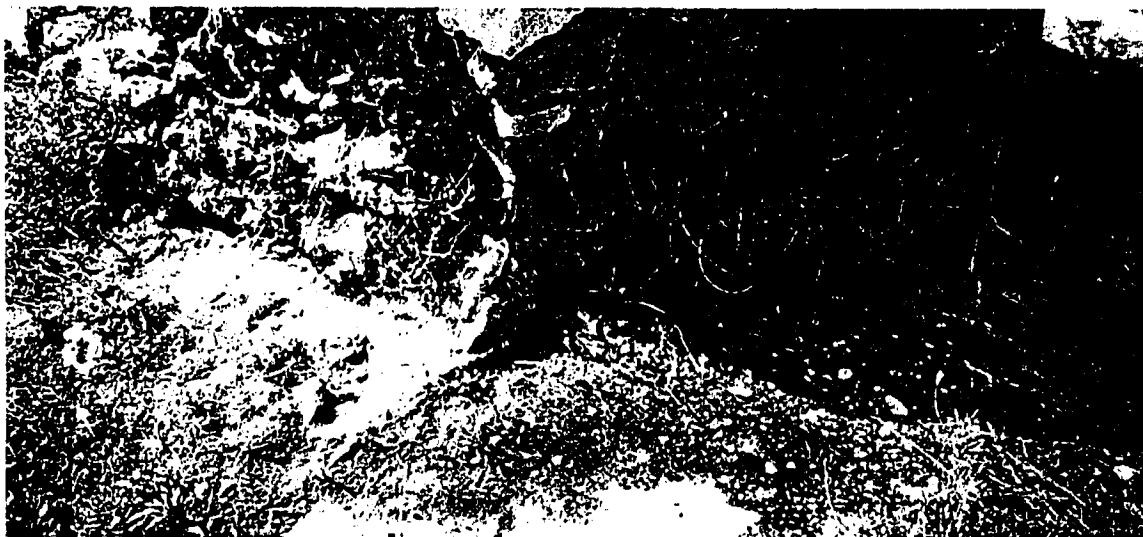


Figure 39. Volubilis, palais de Gordien (C.4). Northwest side of room 44 showing doorway to room 39 to right, and foundation of destroyed wall between rooms 44 and 33 to left.



Figure 40. Volubilis, palais de Gordien (C.4). Room 44 looking east at doorway to room 45. Marble revetment and paving preserved at base of wall.



Figure 41. Volubilis, palais de Gordien (C.4). Northwest apse of room 45. Bedding for marble revetment in apse upper center; horizontal brick course marking level of hypocaust floor middle right.



Figure 42. Volubilis, palais de Gordien (C.4). Furnace f1 looking north to room 29.



Figure 43. Volubilis, palais de Gordien (C.4). Debris from heated pool (29a) of room 29.



Figure 44. Volubilis, palais de Gordien (C.4). Pilae in the shape of columns from the hypocaust of room 29.

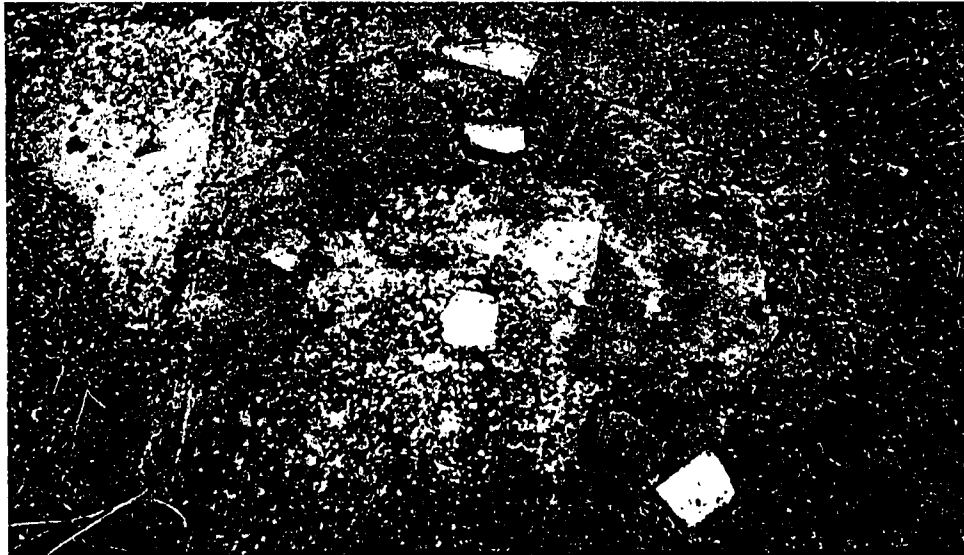


Figure 45. Volubilis, palais de Gordien (C.4). Floor of room 39 showing bedding for a pavement of marble tiles.



Figure 46. Volubilis, palais de Gordien (C.4). Room 39, looking N at pool P2.

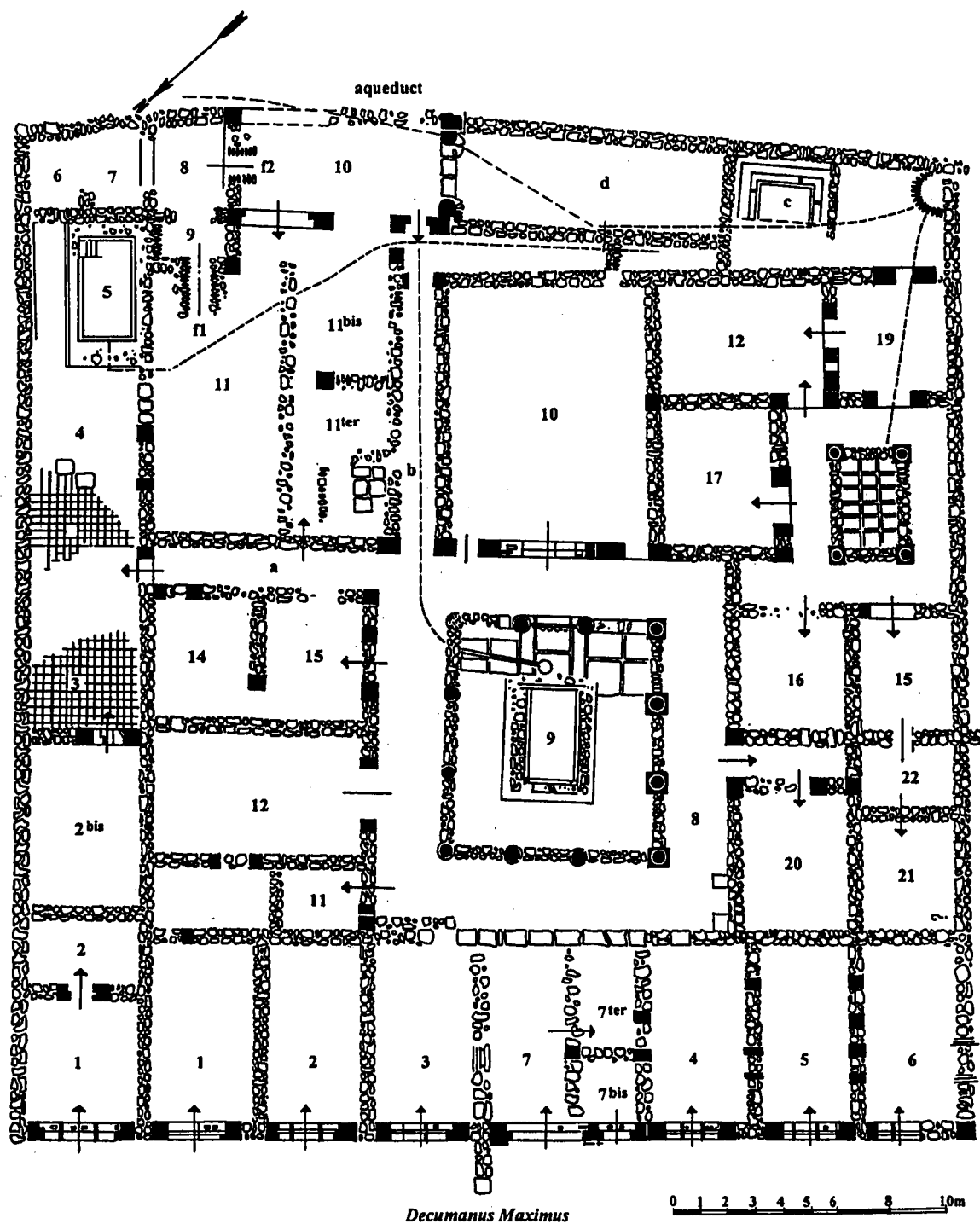


Figure 47. Volubilis, maison au cadran solaire (C.5). Plan. The rooms along the east side of the building occupy a former *cardo*. They are numbered independently of the house, and include 10-11ter in the southeast corner. The baths are rooms 3-9 in this group.



Figure 48. Volubilis, maison au cadran solaire (C.5). Remains of furnace f2, center, looking east at room 8 and rooms 7/6 beyond. The standing pillar to the left is east doorpost of entrance to room 11 bis. On the right is lowest block from east doorpost of entrance from the *decumanus* south I.

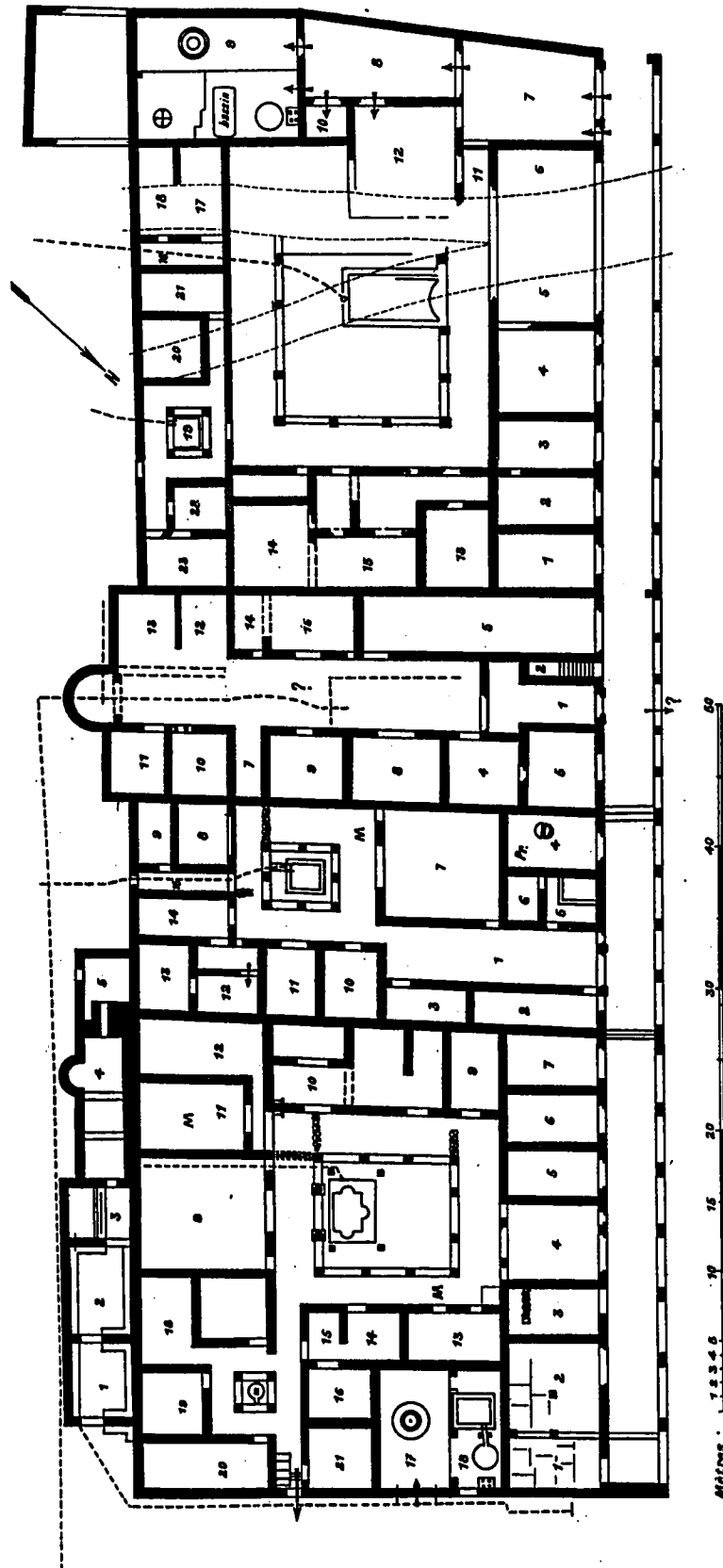


Figure 49: Volubilis, îlot ouest. Plan. The maison des néréïdes is the eastern peristyle house of the block. The thermes de l'îlot ouest (C.6, rooms 1-5) are attached to the south side of the house.



Figure 50. Volubilis. Entrance from *decumanus maximus* to defunct *cardo* between the maison au néréïdes (right) and the maison aux deux pressoirs (left), looking south.

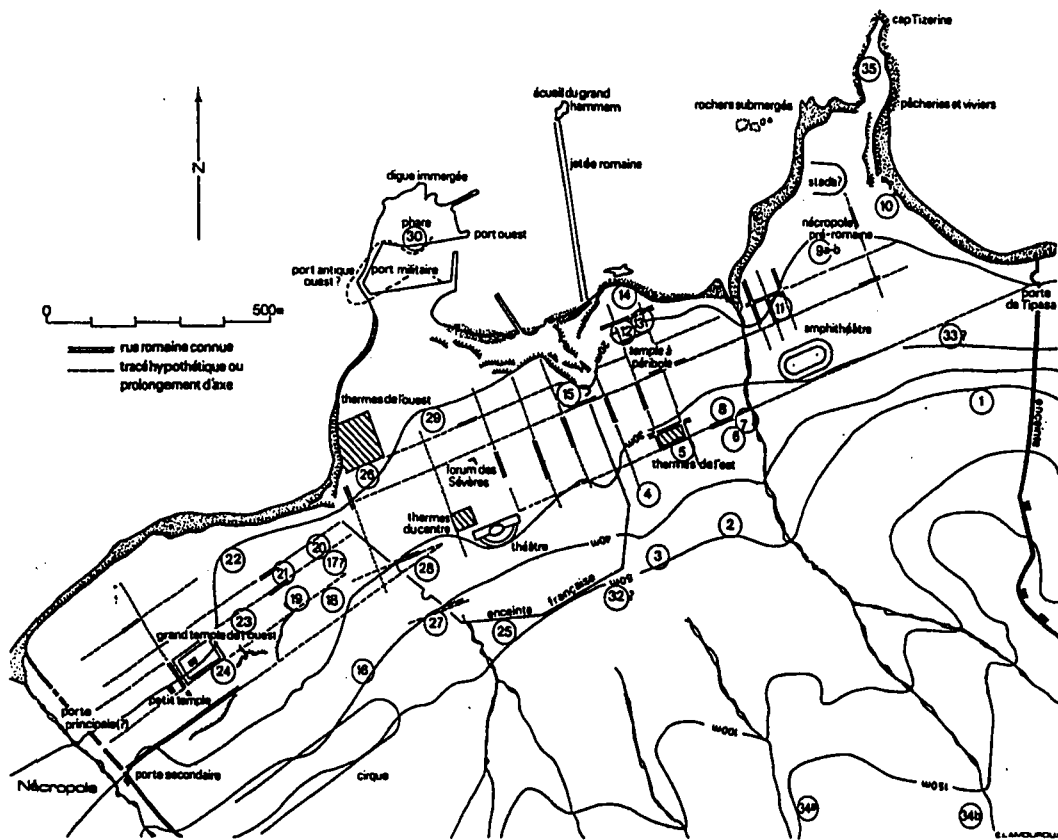


Figure 51. Caesarea. Site Plan. Houses with baths are: 2 - Maison des Julii (C.7); 16 - Maison de la propriété Marcadal (C.8); 24 - Maison de la propriété Kaïd-Youssef (C.9); 30 - Maison de la mosaïque de Minerve (C.10).

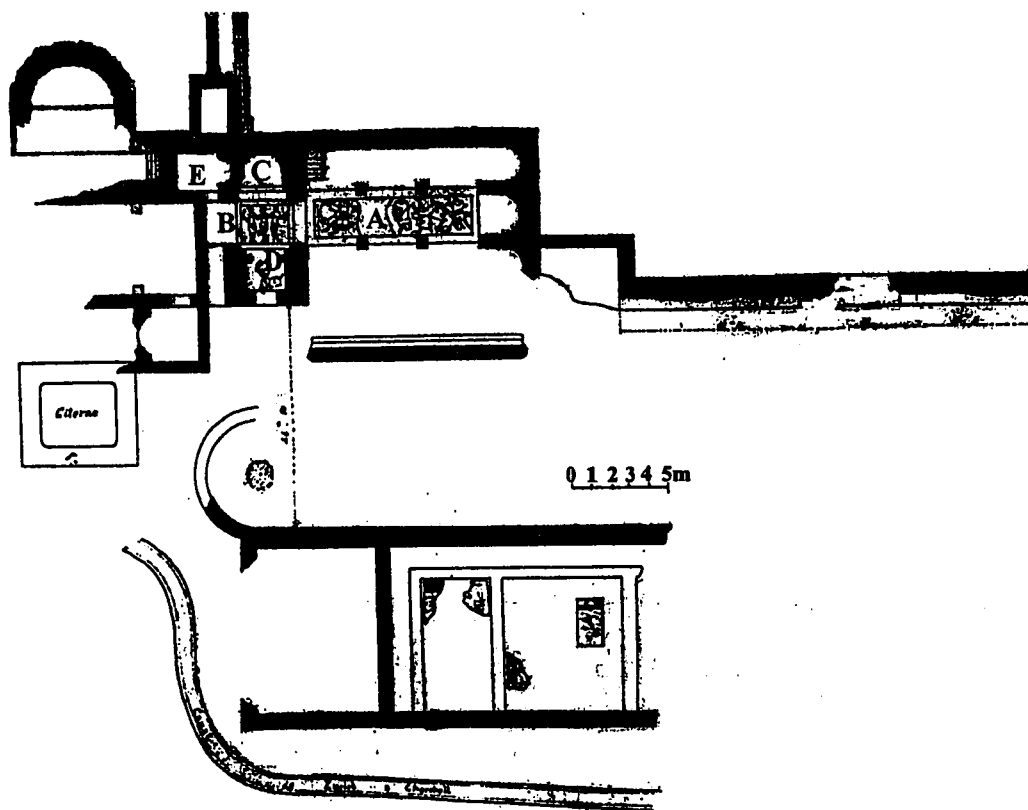


Figure 52. Caesarea, maison des Julii (C.7). Plan. Baths are rooms B-D.

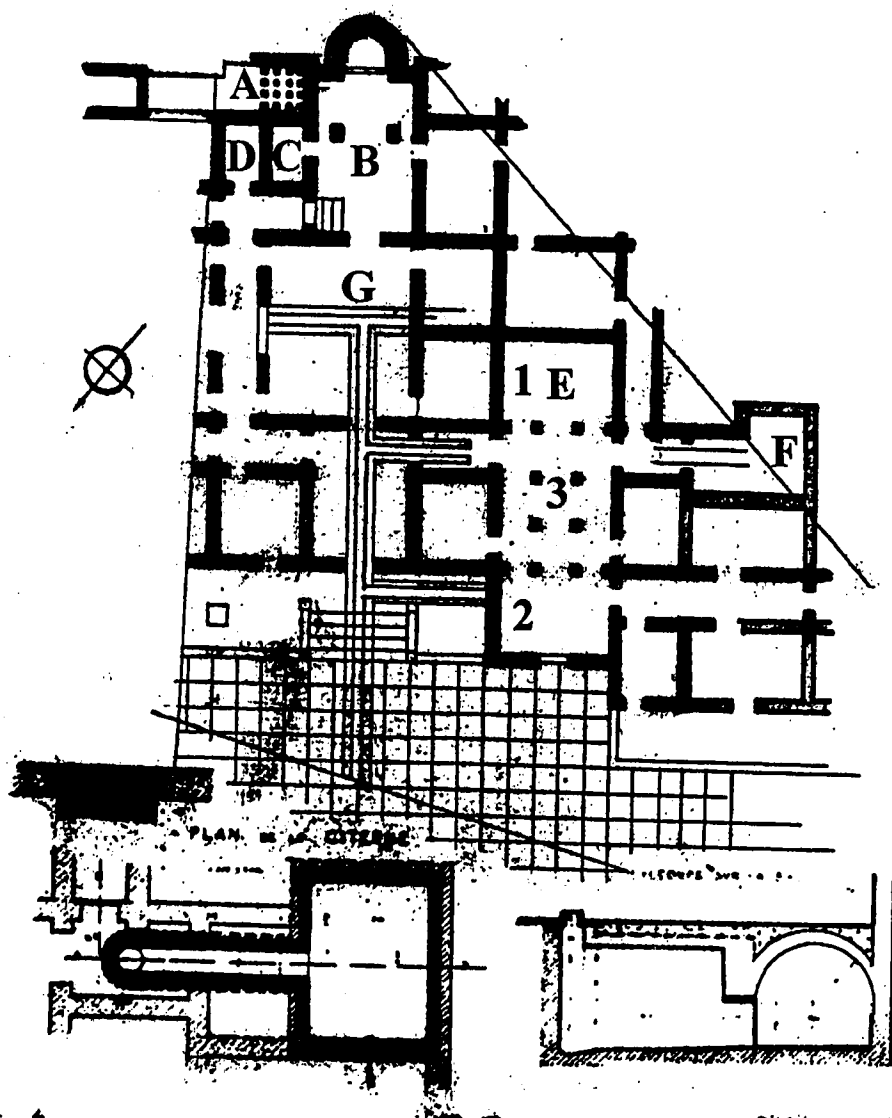


Figure 53. Caesarea, maison de la propriété Marcadal (C.8). Plan. Baths are rooms A-D.

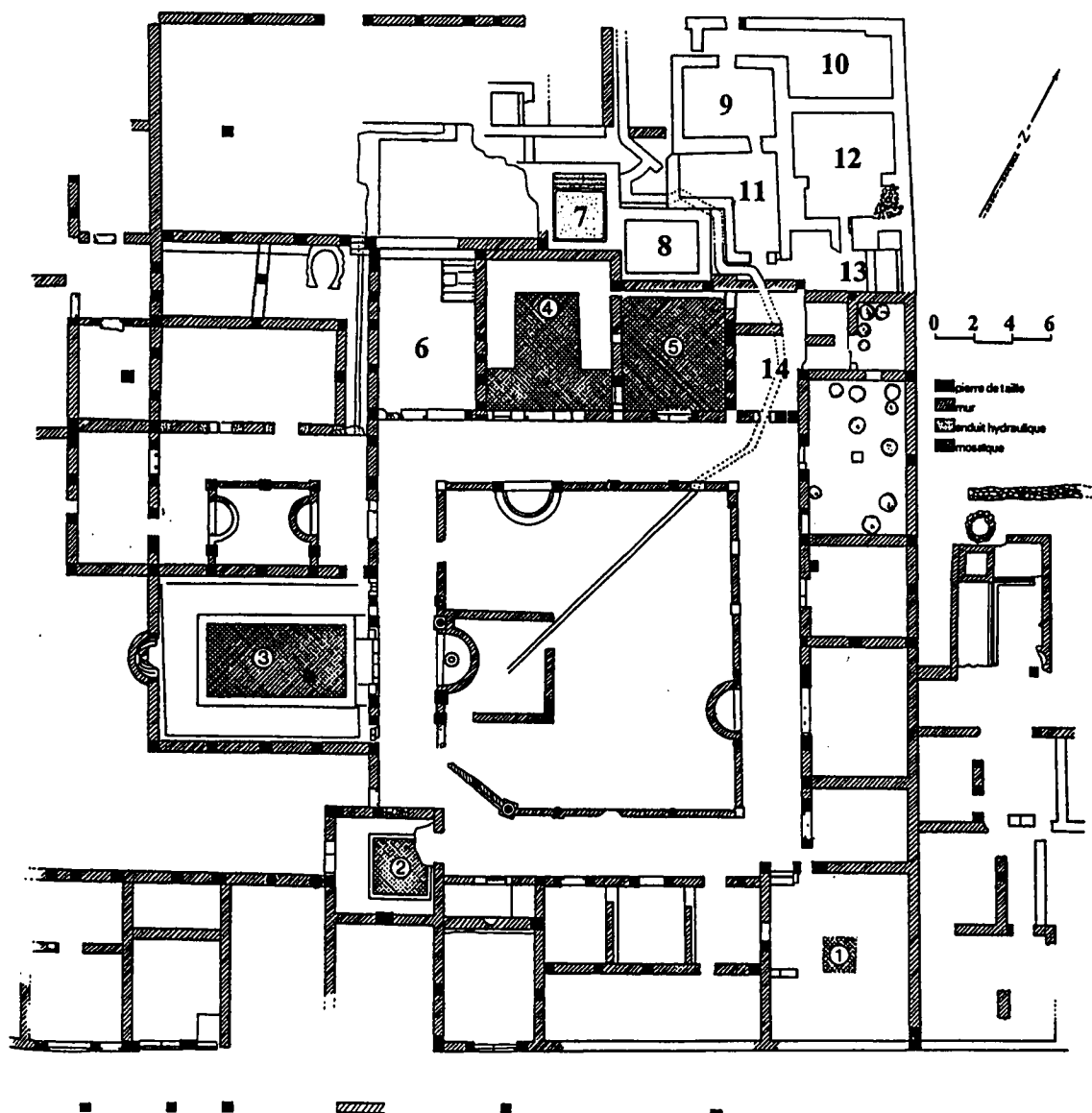


Figure 54. Caesarea, maison de la propriété Kaïd-Youssef (C.9). Plan. Baths are rooms 7-13.

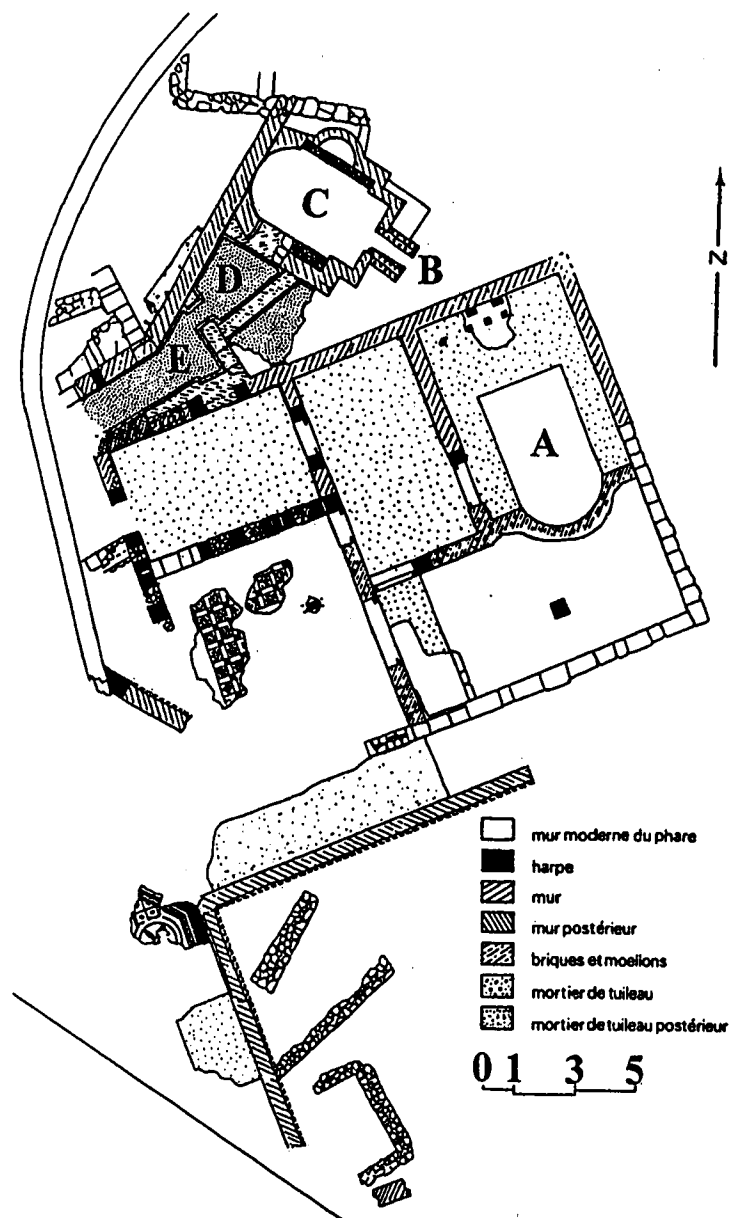


Figure 55. Caesarea, maison de la mosaïque de Minerve (C.10). Plan. Baths are rooms B-E.

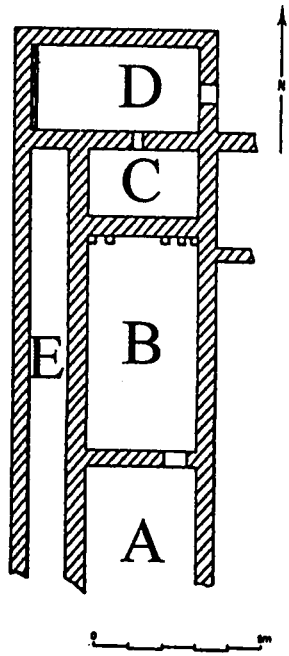


Figure 56. Caesarea, propriété Blasco. Plan.

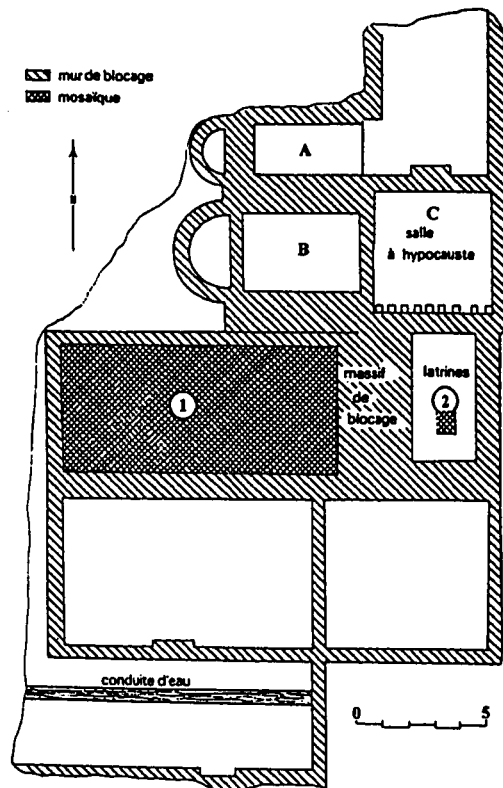


Figure 57. Caesarea, thermes de la propriété Volto. Plan.

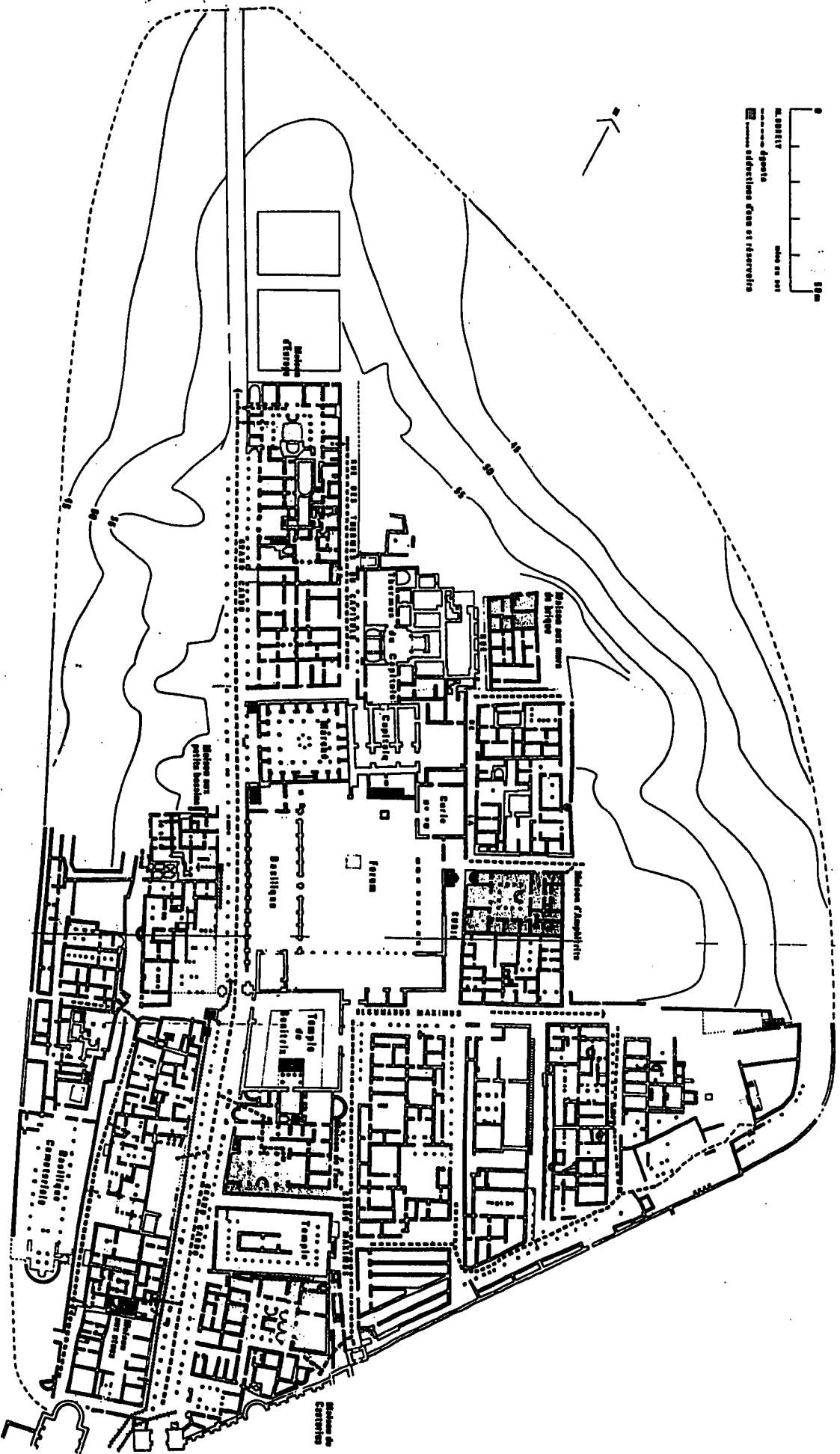


Figure 58. Cuicul. Plan of the Quarters Central.

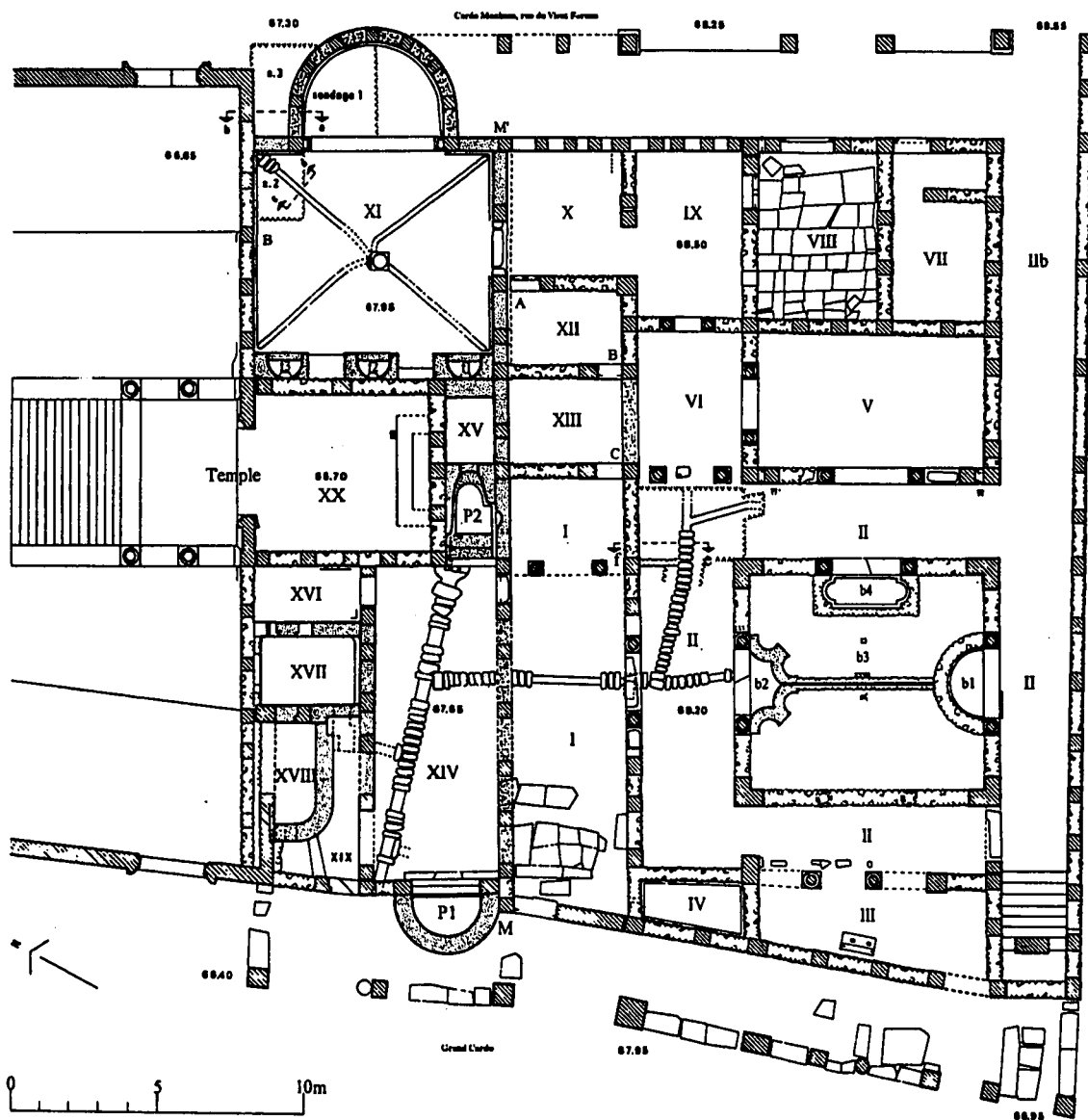


Figure 59. Cuicul, maison de l'âne (C.11). Plan. Baths are rooms XIV-XIX.



Figure 60. Cuicul, maison de l'âne (C.11). View from west, 1914, of facade on *grand cardo* before restoration. Pool P2 in center foreground, furnace f1 visible to the left.



Figure 61. Cuicul, maison de l'âne (C.11). View from west, actual state after restoration

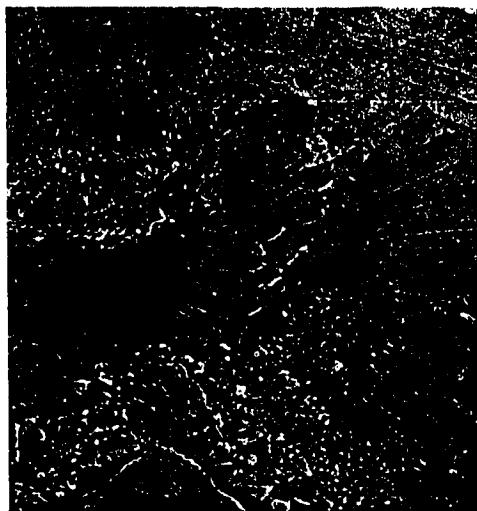


Figure 62. Cuicul, maison de l'âne (C.11). Furnace vault, room XVII, with southwest angle of heated pool preserved.

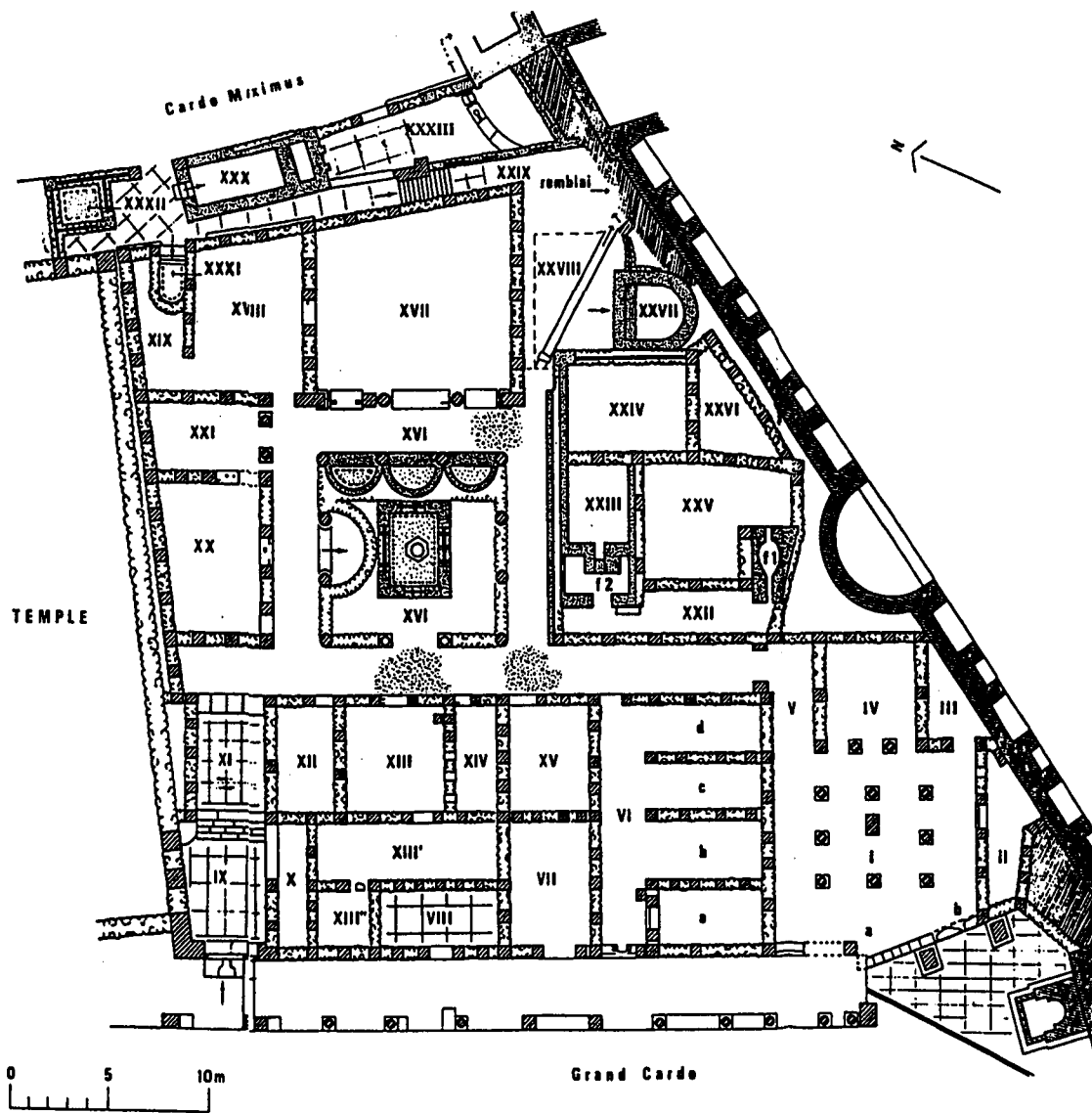


Figure 63. Cuicul, maison de Castorius (C.12). Plan. Large baths are rooms XXII-XXVIII, small baths are rooms XXX-XXXIII.



Figure 64. Cuicul, maison de Castorius (C.12). *Cardo maximus* center foreground, maison de Castorius to right. Small baths along *cardo maximus*, and stairs leading up to large baths. Severan forum above right.



Figure 65. Cuicul, maison de Castorius (C.12). Pool XXVII, room XXVIII. Looking west at rooms XXIV, XXIII and XXV of heated section.



Figure 66. Cuicul, maison de Castorius (C.12). Facade of small baths along *cardo maximus*, looking south. Steps XXIX to large baths in middle ground.



Figure 67. Cuicul, maison de Castorius (C.12). Service room XXXIII, looking north. Stoke hole of furnace and room XXX to north.

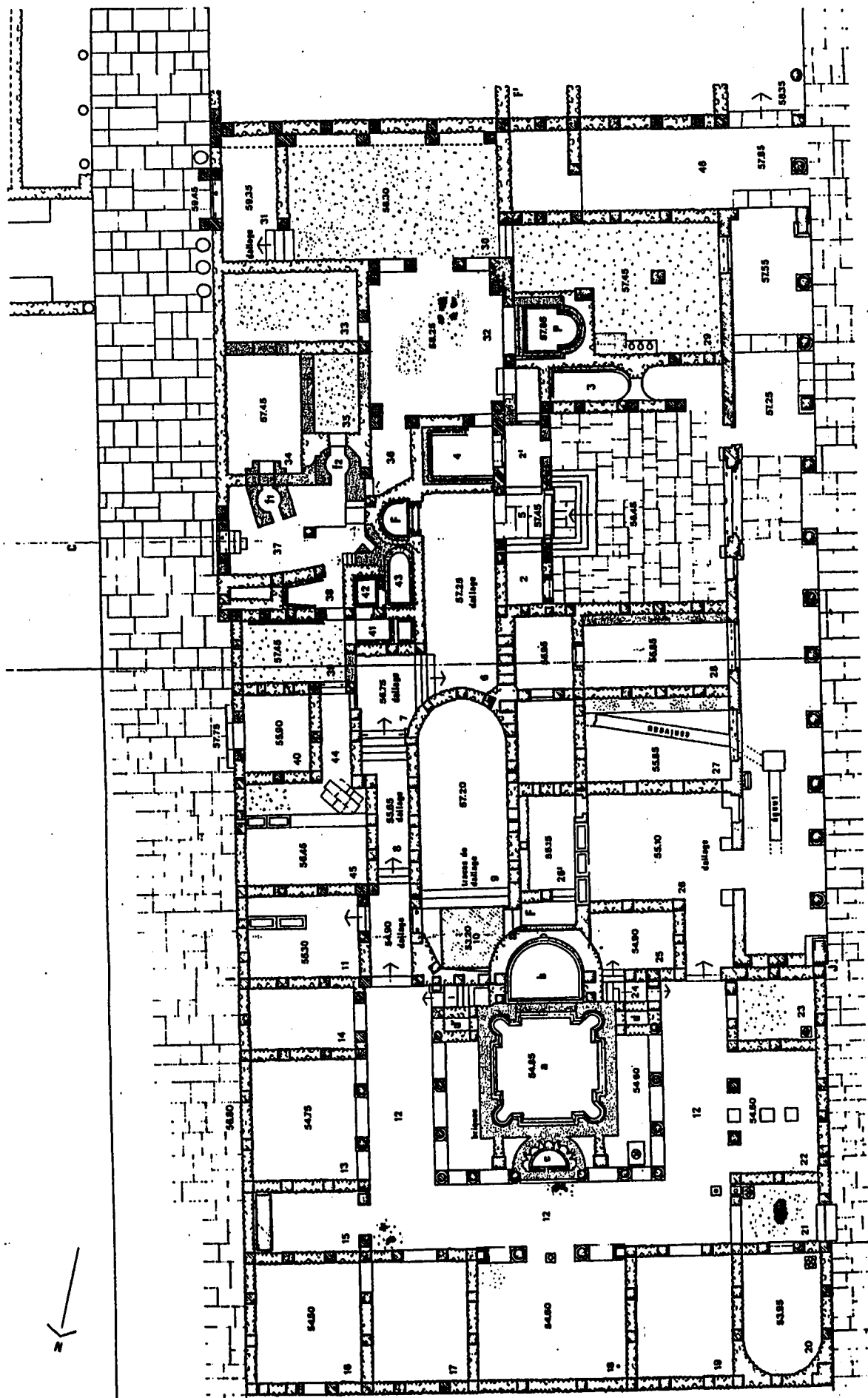


Figure 68. Cuicul, maison d'Europe (C.13). Plan. Large baths are rooms 32-37, small baths are rooms 41-43.

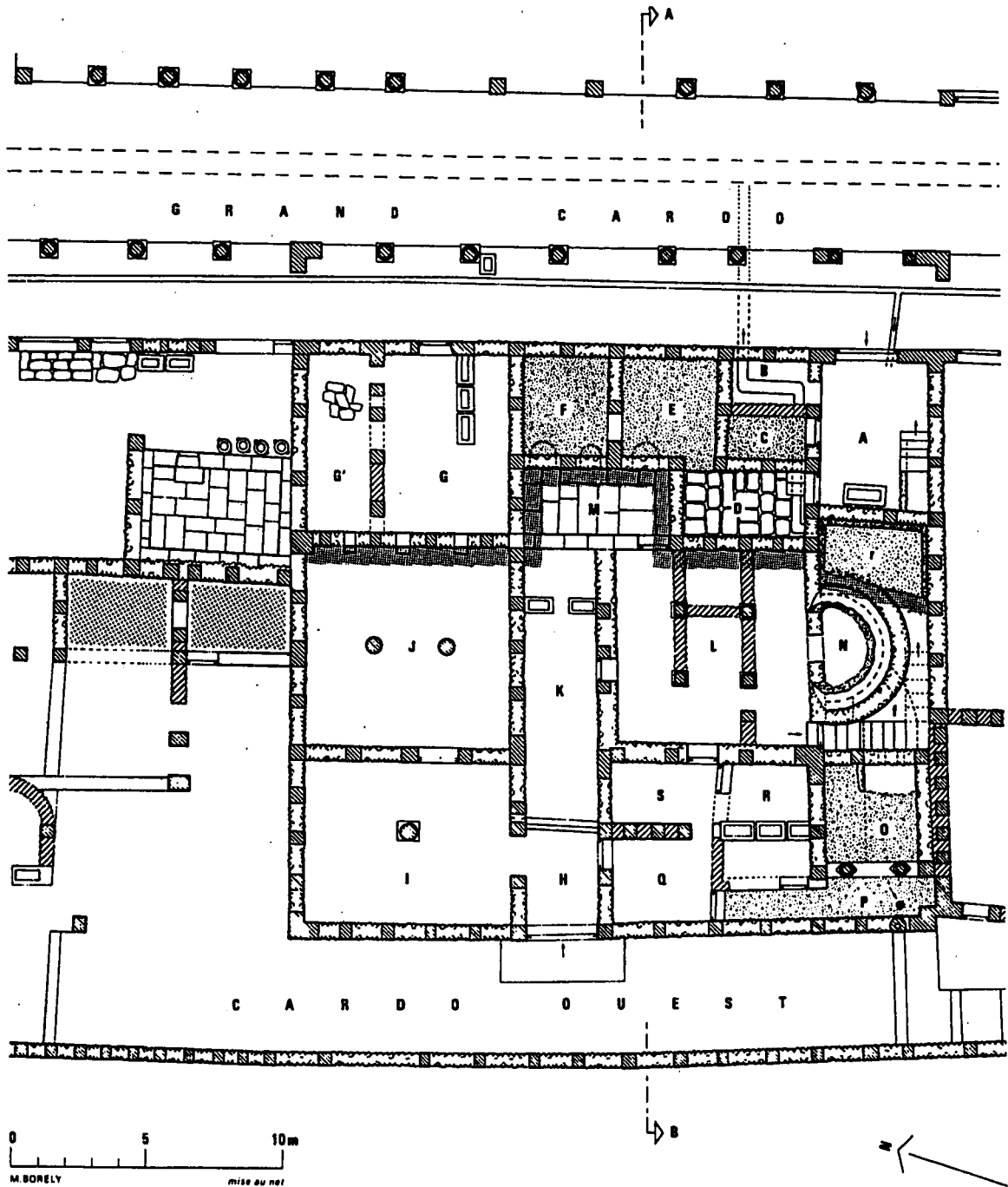


Figure 69. Cuicul, maison aux stucs (C.14). Plan. Rooms N and O formerly part of baths.

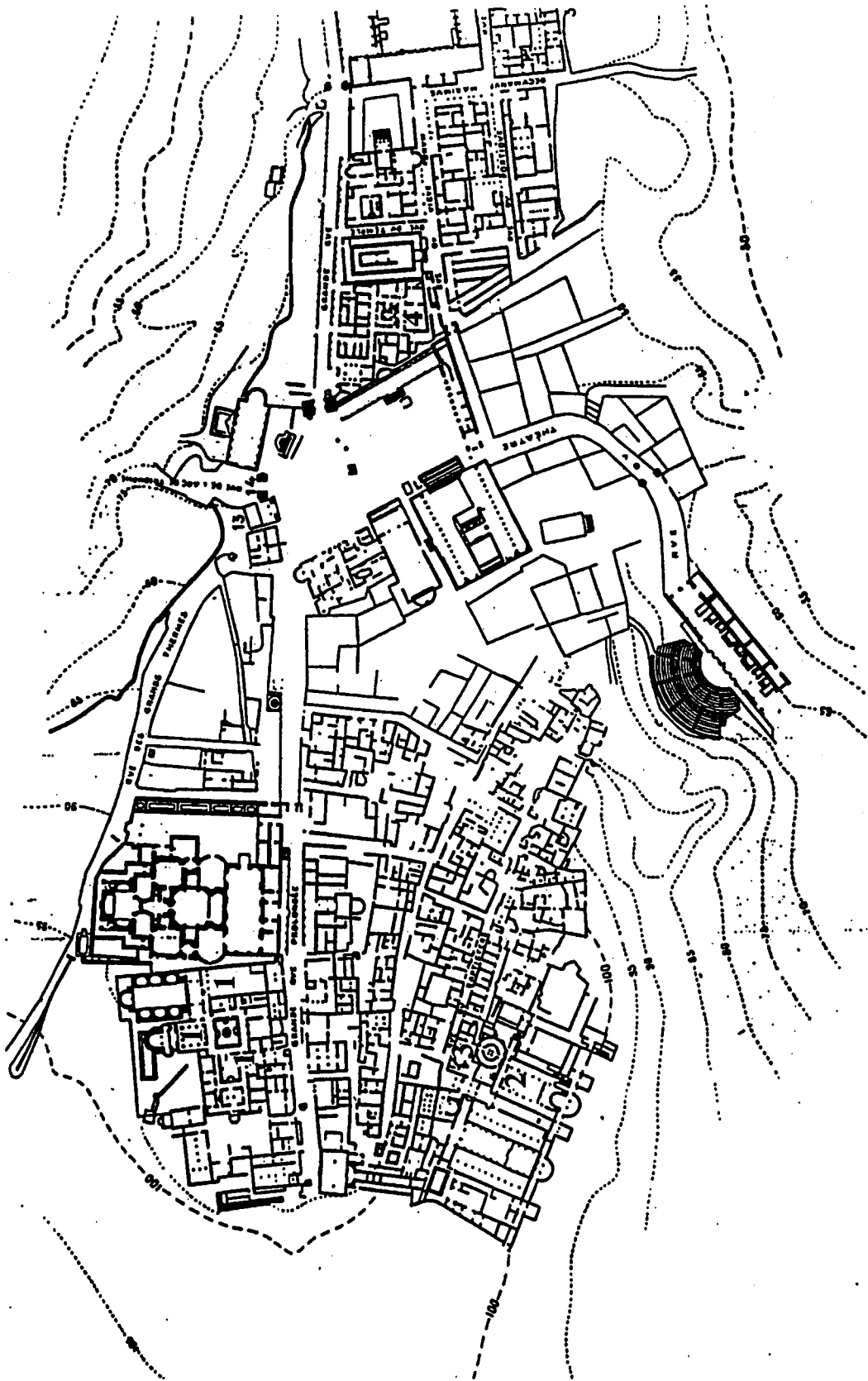


Figure 70. Cuicul. Plan of expanded city. 1 - maison de Bacchus (C.15); 2 - ecclesiastical complex with baptistry; 3 - baths of baptistry; 4 - maison de Castorius (C.12).

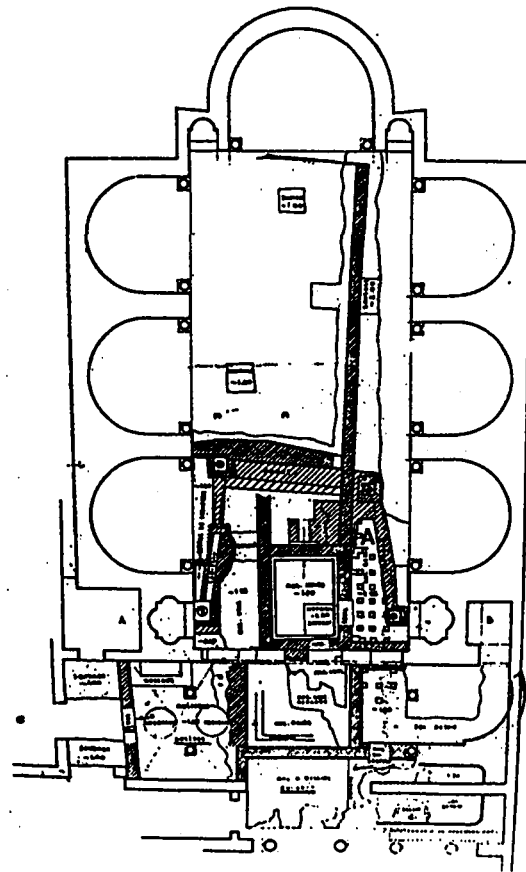


Figure 71. Cuicul, maison de Bacchus (C.15). Plan of the soundings below the room of the seven apses. A - hypocaust remains.

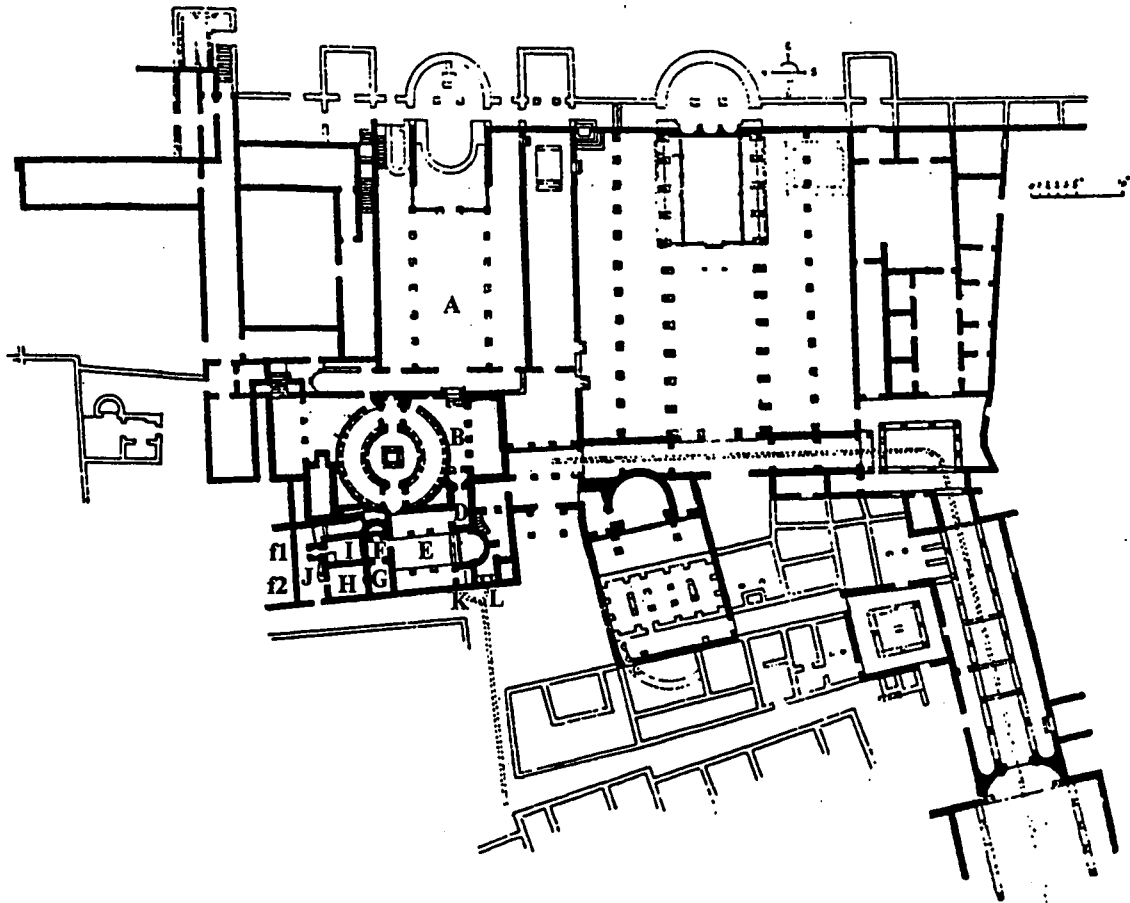


Figure 72. Cuicul, baptistery of the ecclesiastical complex. A - Eglise nord.. Baths are rooms E-H.

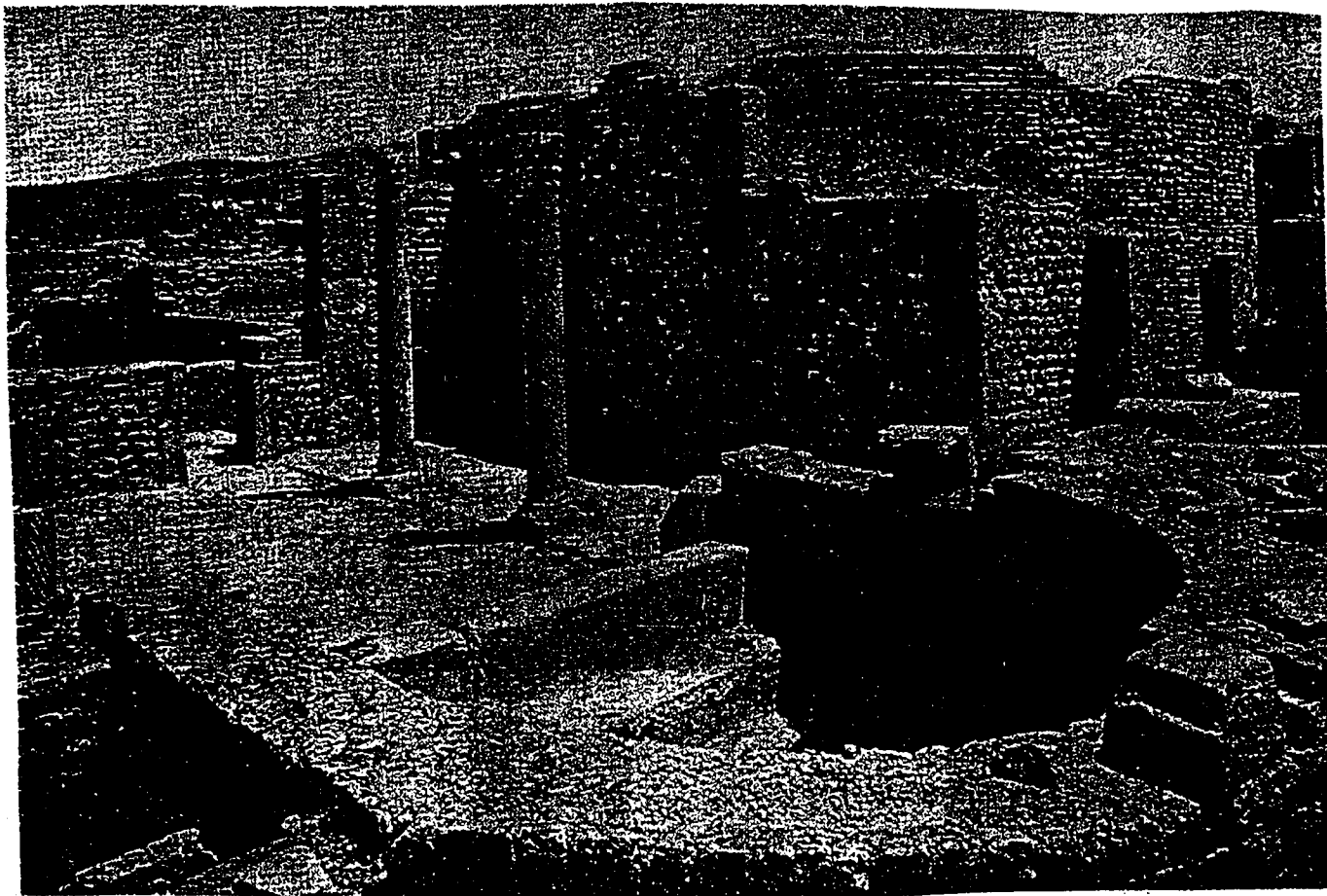


Figure 73. Cuicul, baptistry of the ecclesiastical complex. Looking north at entrance to heated rooms and baptistry to the right. Pool E in foreground.

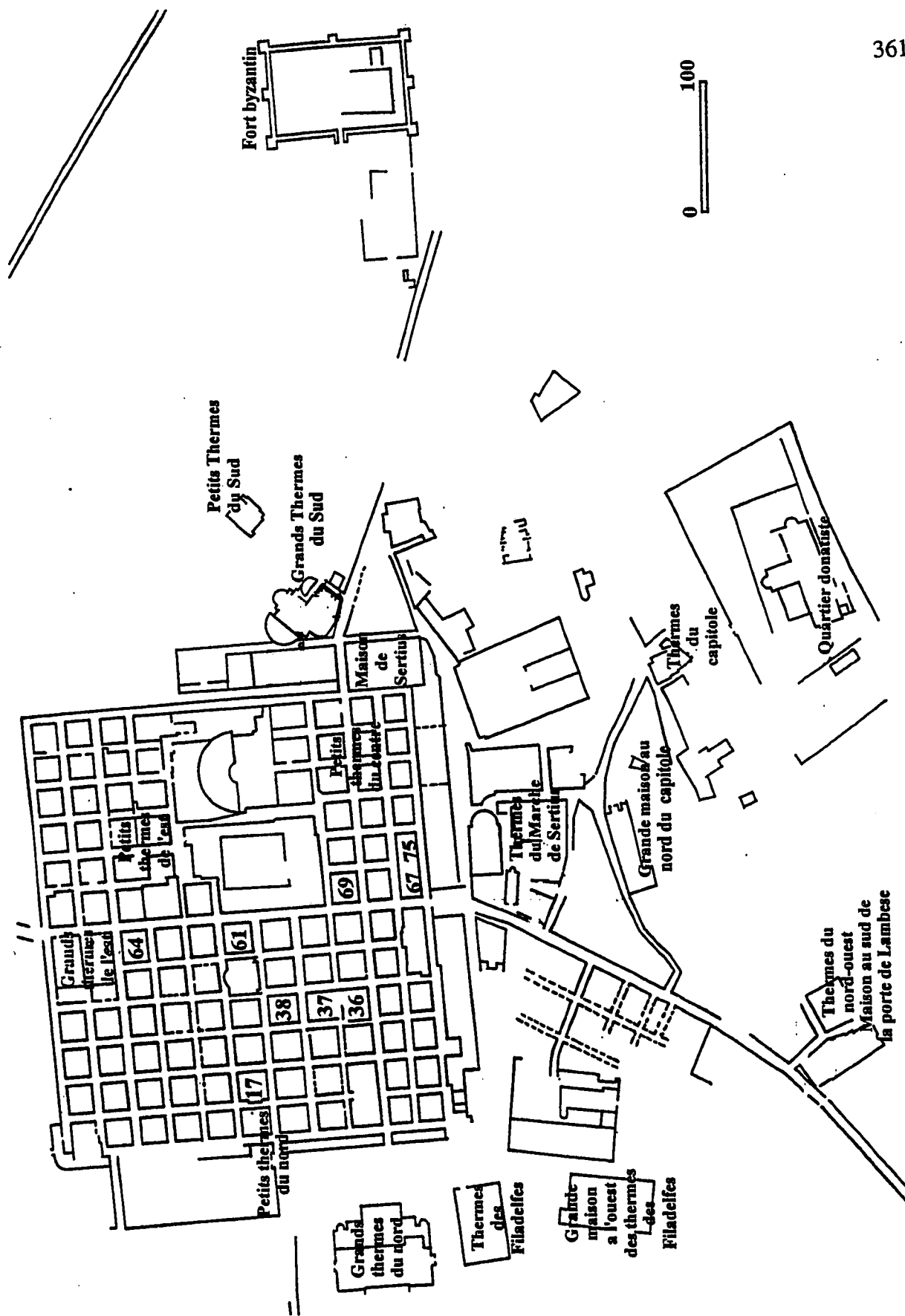


Figure 74. Timgad, site plan.

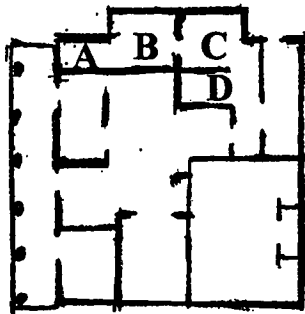


Figure 75. Timgad, ilot 17 (C.16). Plan. Baths are rooms A-D

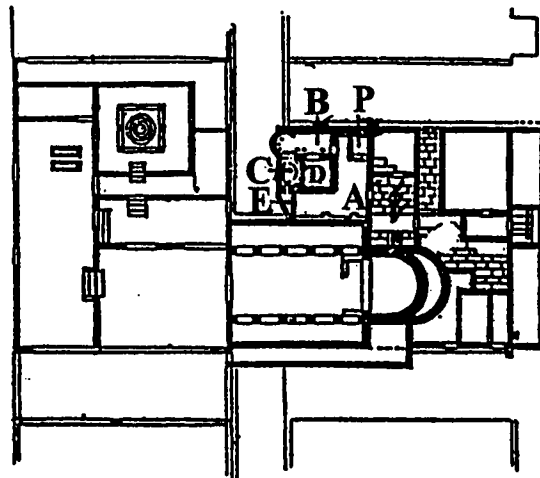


Figure 76. Timgad, maison de Januarius, ilot 37 (C.17). Plan. Baths are rooms A-E.

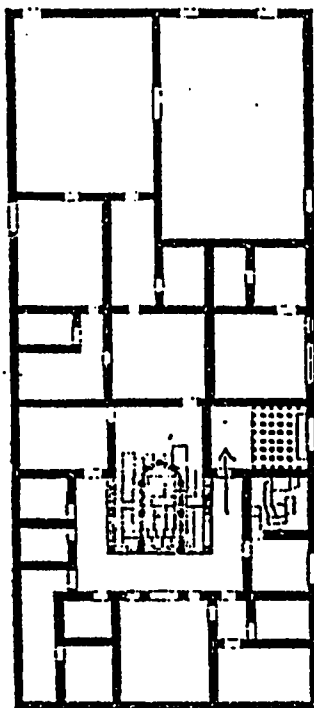


Figure 77. Timgad, maison de la piscina, îlot 67-75 (C.21). Plan.

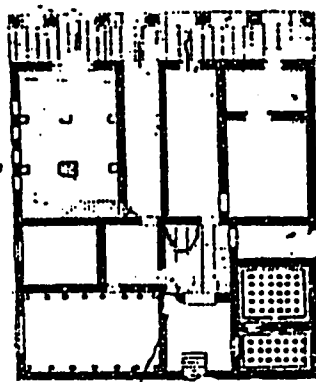


Figure 78. Timgad, îlot 69 (C.21). Plan.

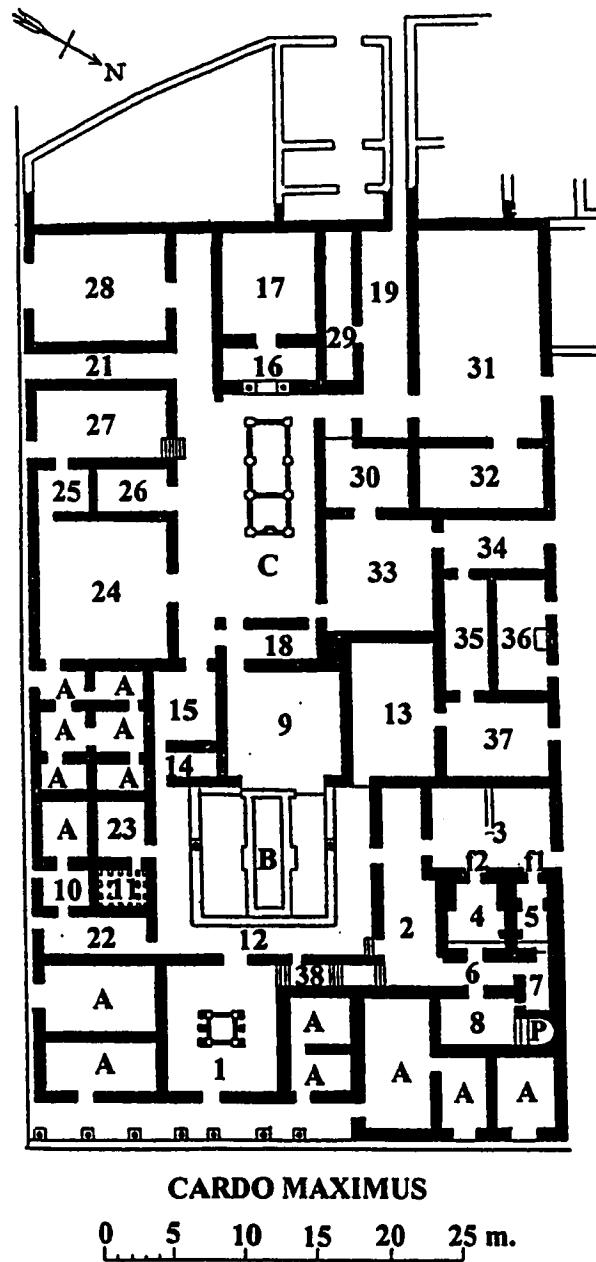


Figure 79. Timgad, maison de Sertius (C.23). Plan.
Baths are rooms 2-8.

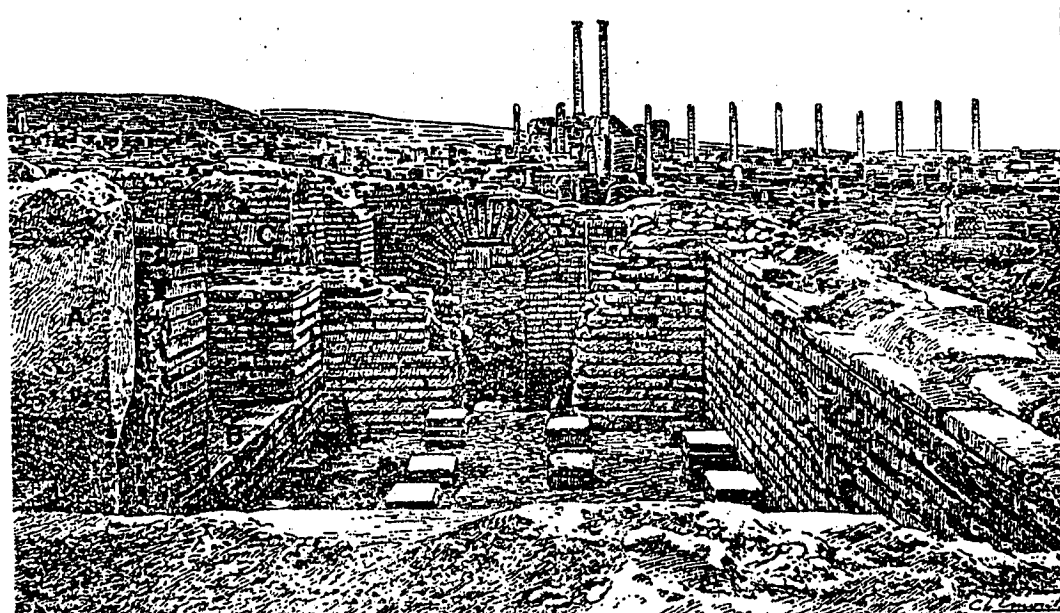


Figure 80. Timgad, maison de Sertius (C.23). Room 7 looking west through hypocaust arch to room 5. A- door to room 8; B- door to room 6; C- face of doorway between rooms 5 and 4.

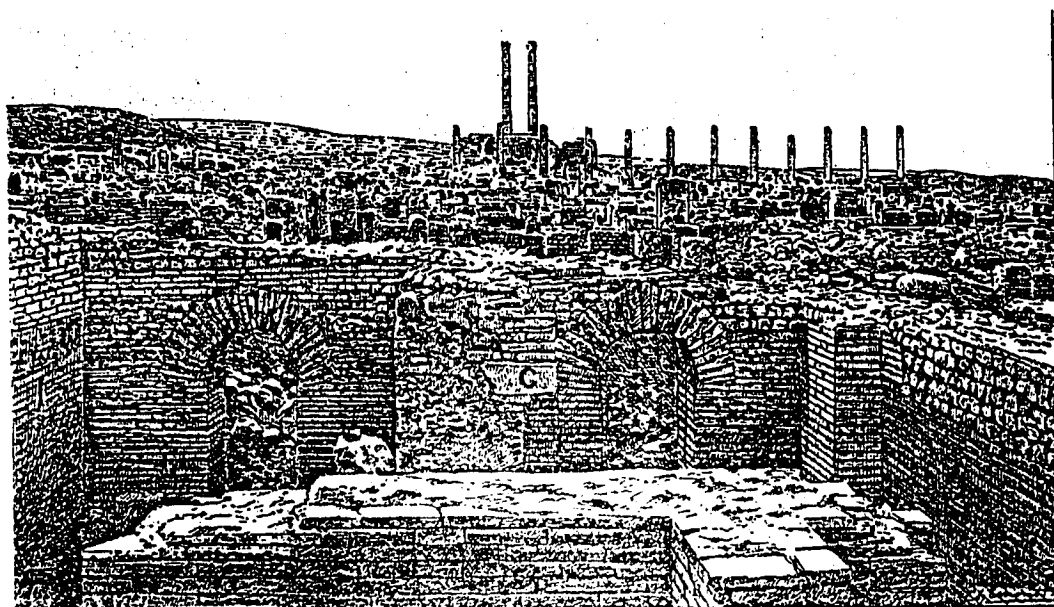


Figure 81. Timgad, maison de Sertius (C.23). Looking west across wall in foreground between room 6 and rooms 4 and 5; furnaces f1 and f2 in middle ground.

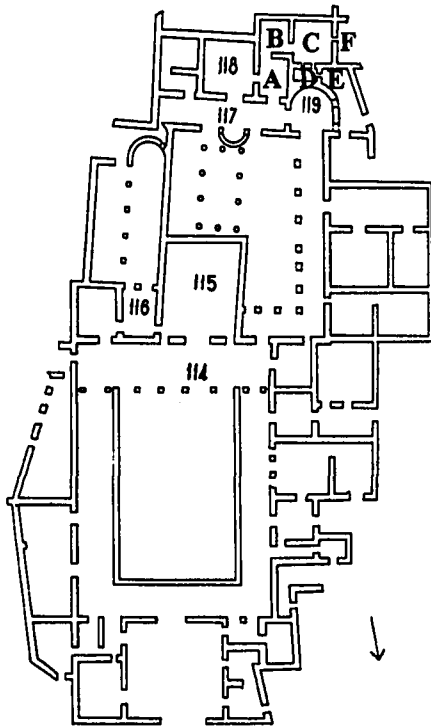


Figure 82. Timgad, maison au sud de la porte de Lambèse (C.24). Plan. Baths are rooms A-F.

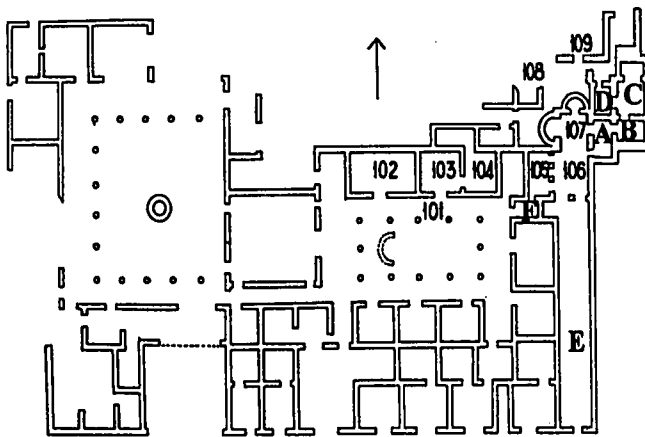


Figure 83. Timgad, grande maison à l'ouest des thermes de Filadelfes (C.26). Plan. Baths are rooms 106, 107, A-D.

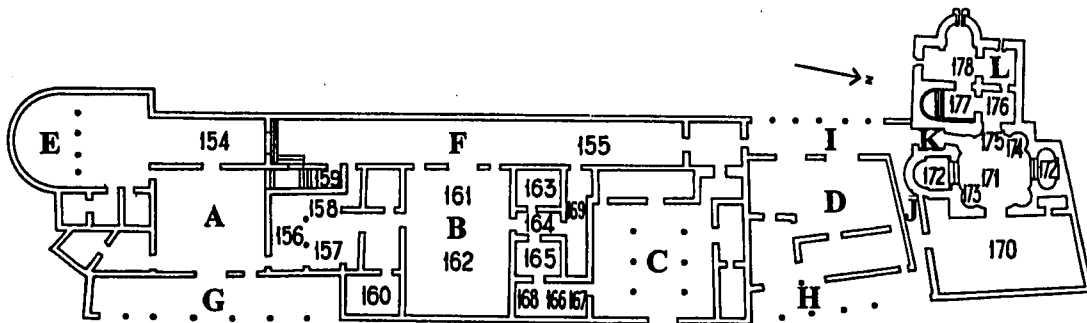


Figure 84. Timgad, grande maison au nord du capitol (C.27). Plan. Baths are rooms K, 170-178.

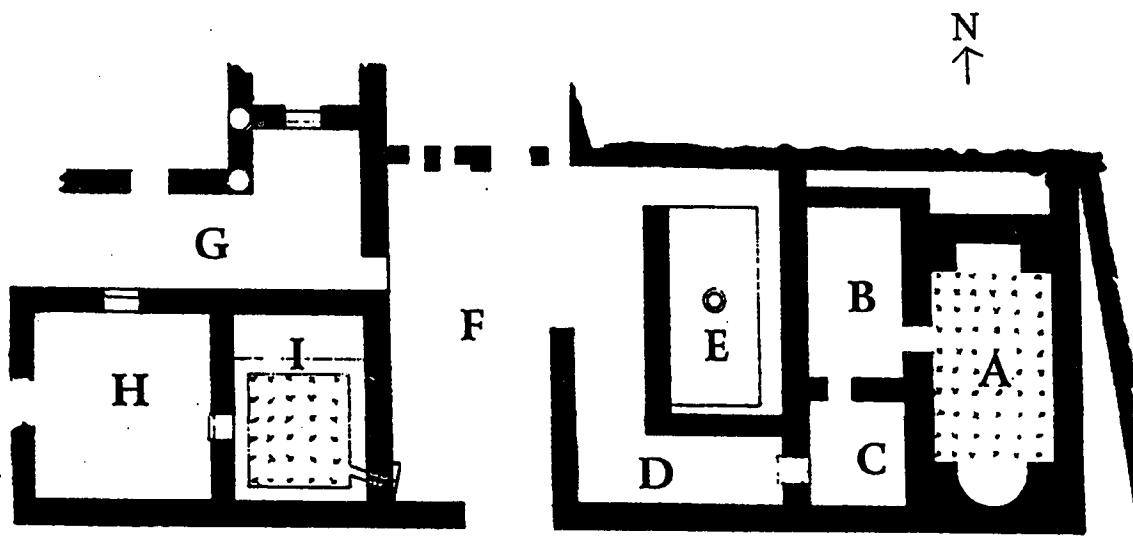


Figure 85. Cirta, maison à Sidi M'cid (C.28). Plan. Large baths are rooms A-D, small baths are rooms H-I.

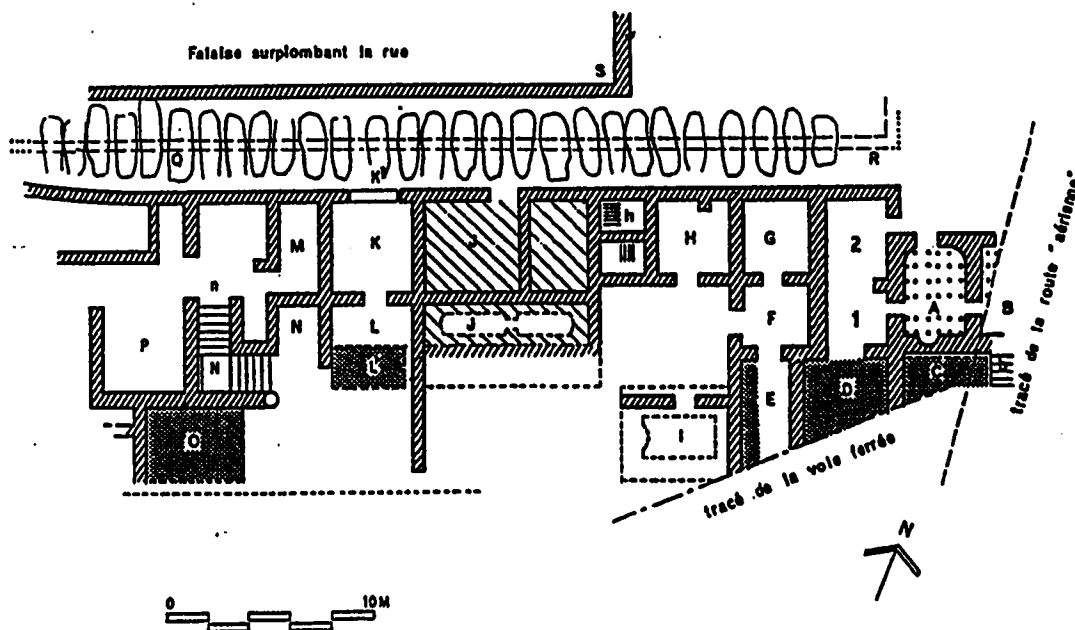


Figure 86. Hippo Regius, maison à étages (C.29). Plan. Baths are rooms A-B.



Figure 87. Hippo Regius, maison à étages (C.29). View showing standing walls of room A, to left, with doors. A- west wall, B-south wall, C - east wall, D - north wall.

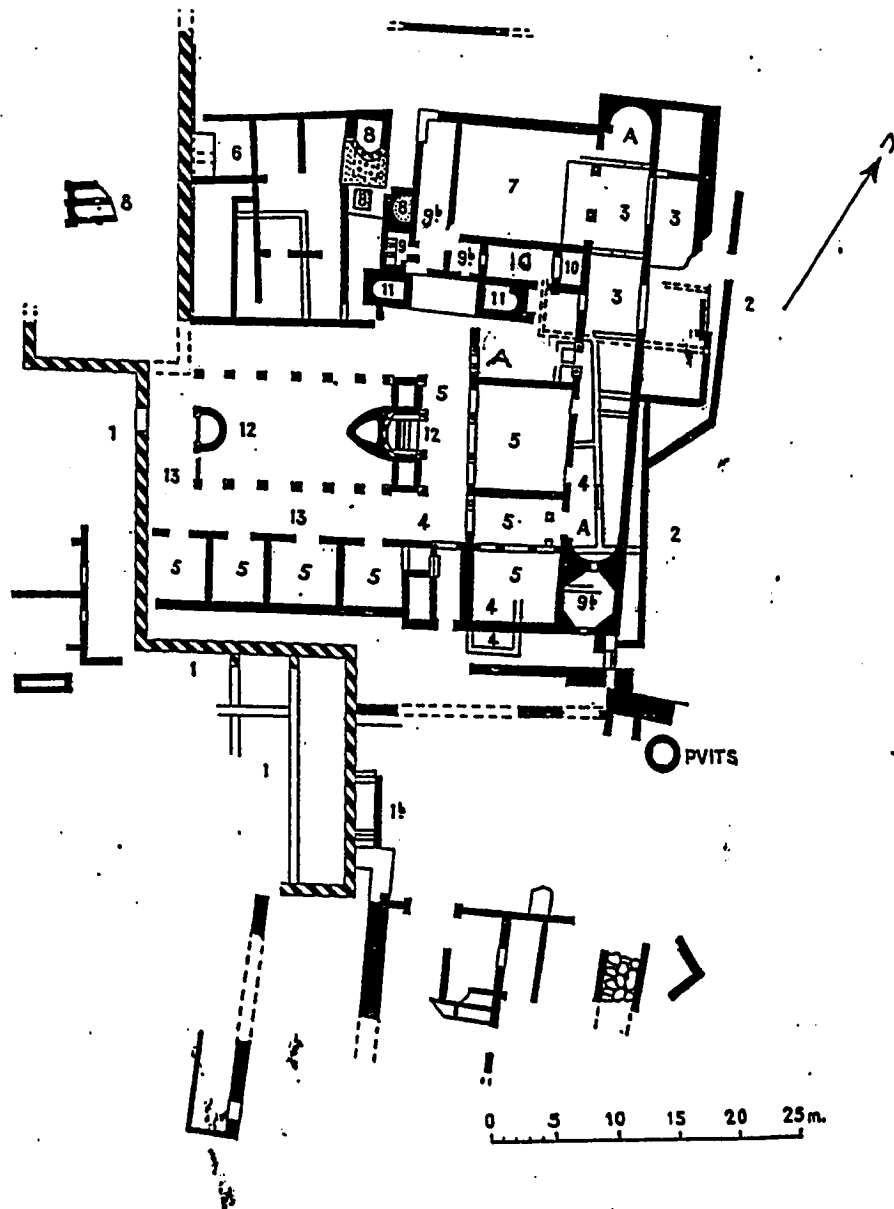


Figure 88. Hippo Regius, quartier des villas, seaside villa (C.30). Plan. Baths are rooms 8-11 in the north corner of the peristyle.

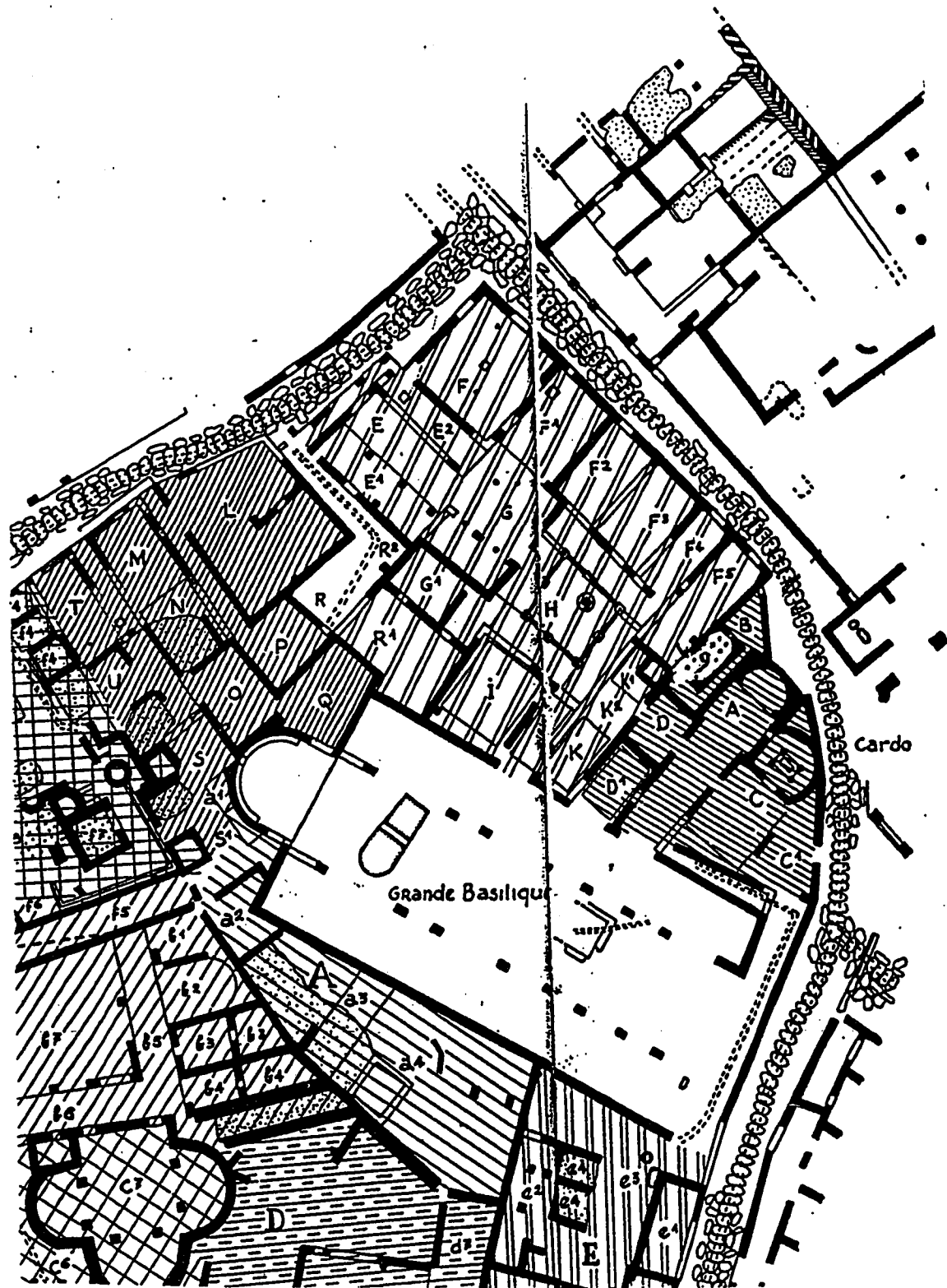


Figure 89. Hippo Regius, maison privée, quartier chrétien (C.31). Plan. Baths are room 9.

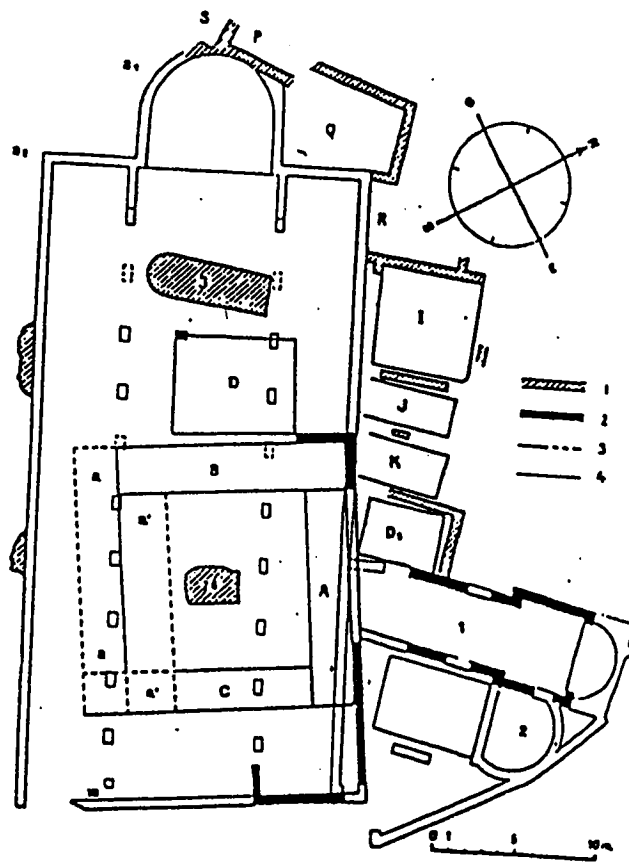


Figure 90. Hippo Regius, basilica, quartier chrétien. Plan.
Former house: ABCD.

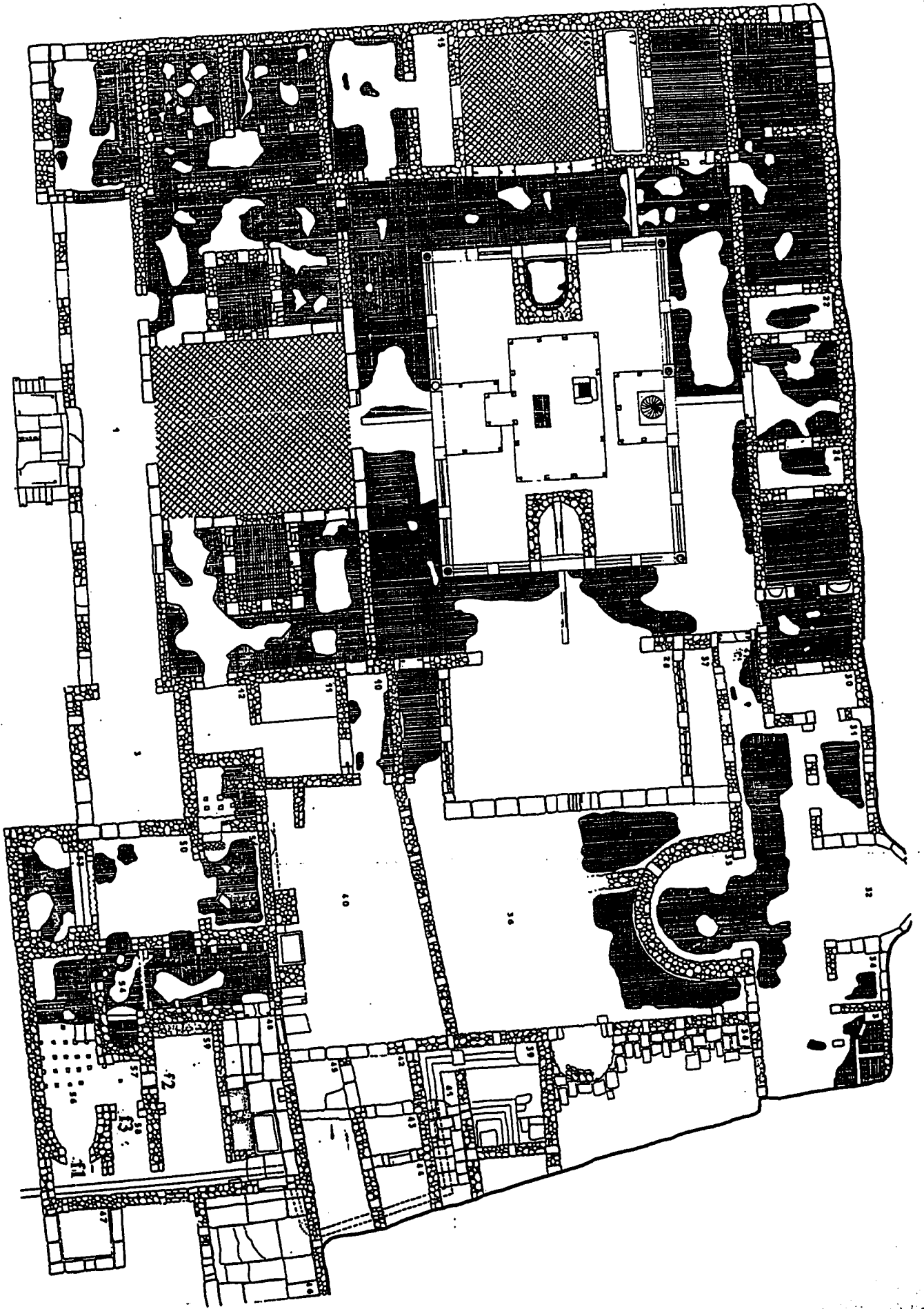


Figure 91. Althiburos, édifice des Asclepieia (C.32). Plan. Baths are rooms 49-59.

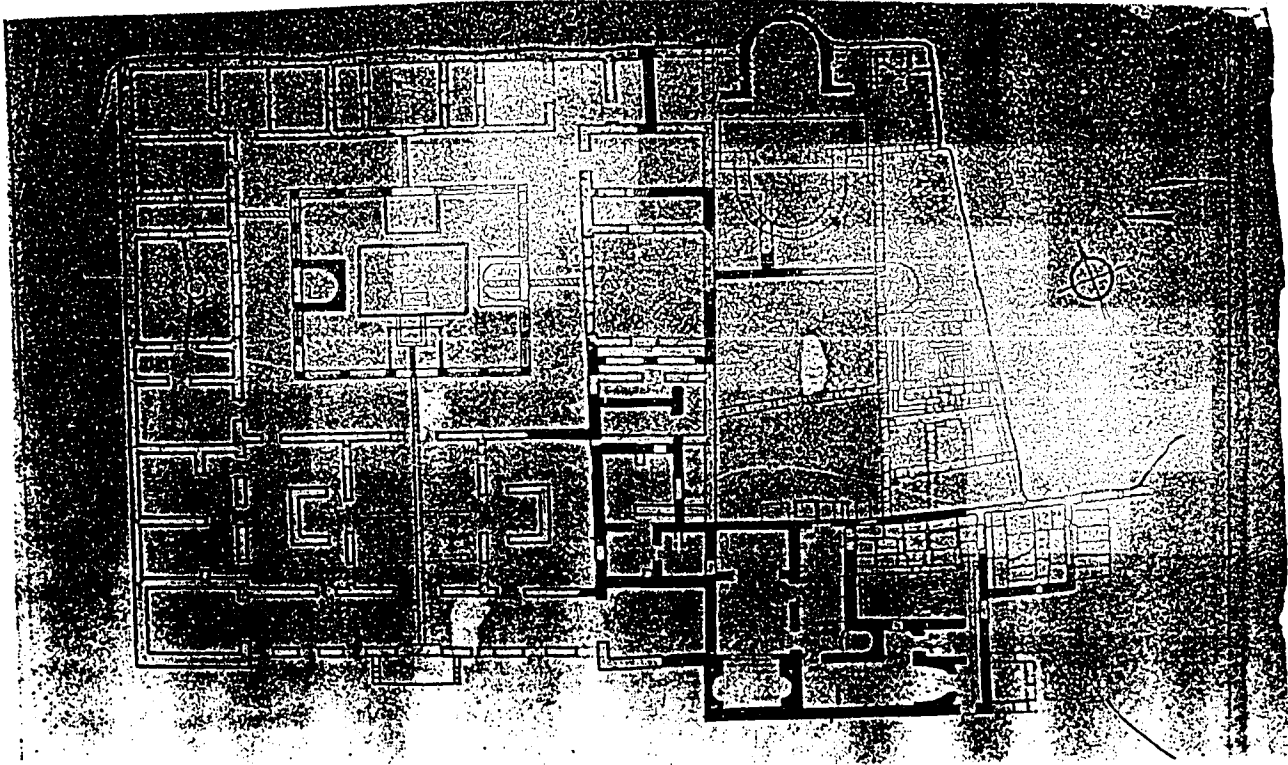


Figure 92. Althiburos, édifice des Asclepieia (C.32). Phase 2A

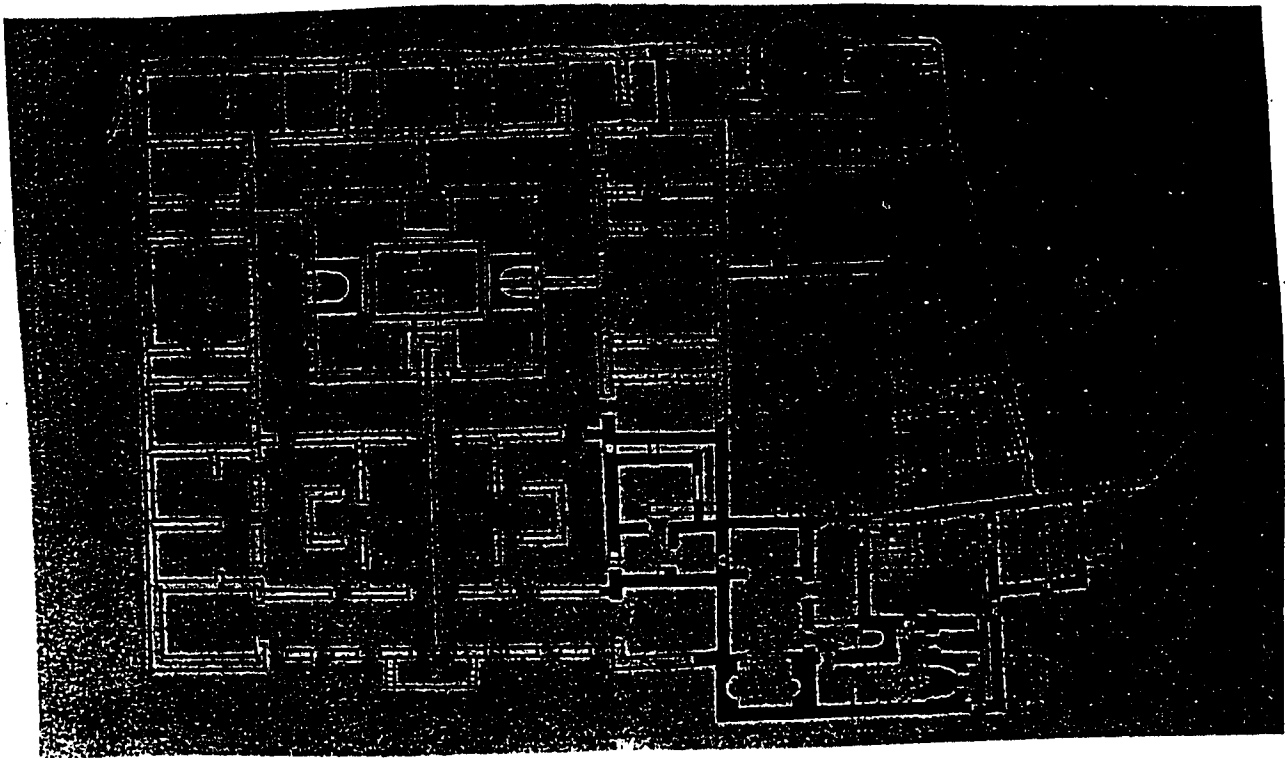


Figure 93. Althiburos, édifice des Asclepieia (C.32). Phase 2B.

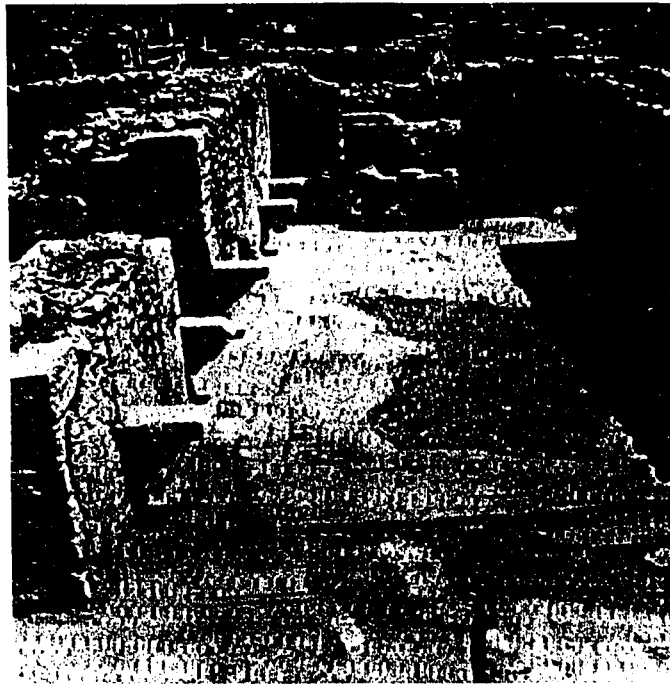


Figure 94. Althiburos, édifice des Asclepieia (C.32). Room 49 looking north. Projecting stones for bench along west wall (and east).



Figure 95. Althiburos, édifice des Asclepieia (C.32). Looking west at f1 and room 56.



Figure 96. Althiburos, édifice des Asclepieia (C.32). Looking west into room 58. Springers and beginning of archivolts of furnace arch (f3) visible to left and right of the opening..

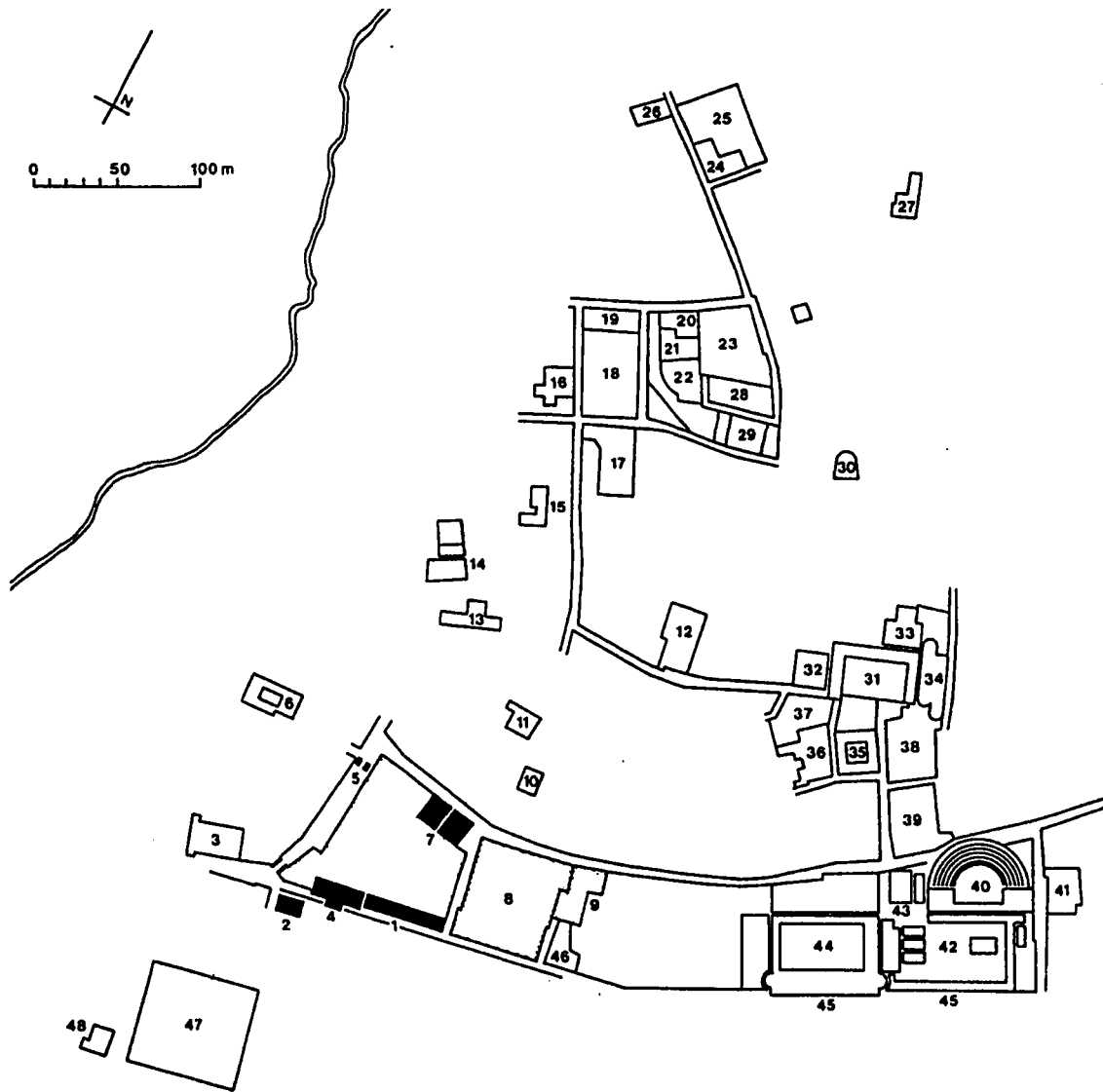


Figure 97. Bulla Regia. Site plan. Houses with baths: 9 - édifice de Diane (C.33); 18 - maison de la chasse (C.34); 23 - maison de la pêche (C.35); 25 - maison d'Amphitrite (C.37); 28 - maison no. 8 (C.36). Public baths: 8 - thermes Memmiens; 26 - thermes des Venantii; 27 - thermes du nord-est; 39 - thermes au nord-ouest du théâtre; 41- thermes à l'est du théâtre; 47 - grands thermes sud.

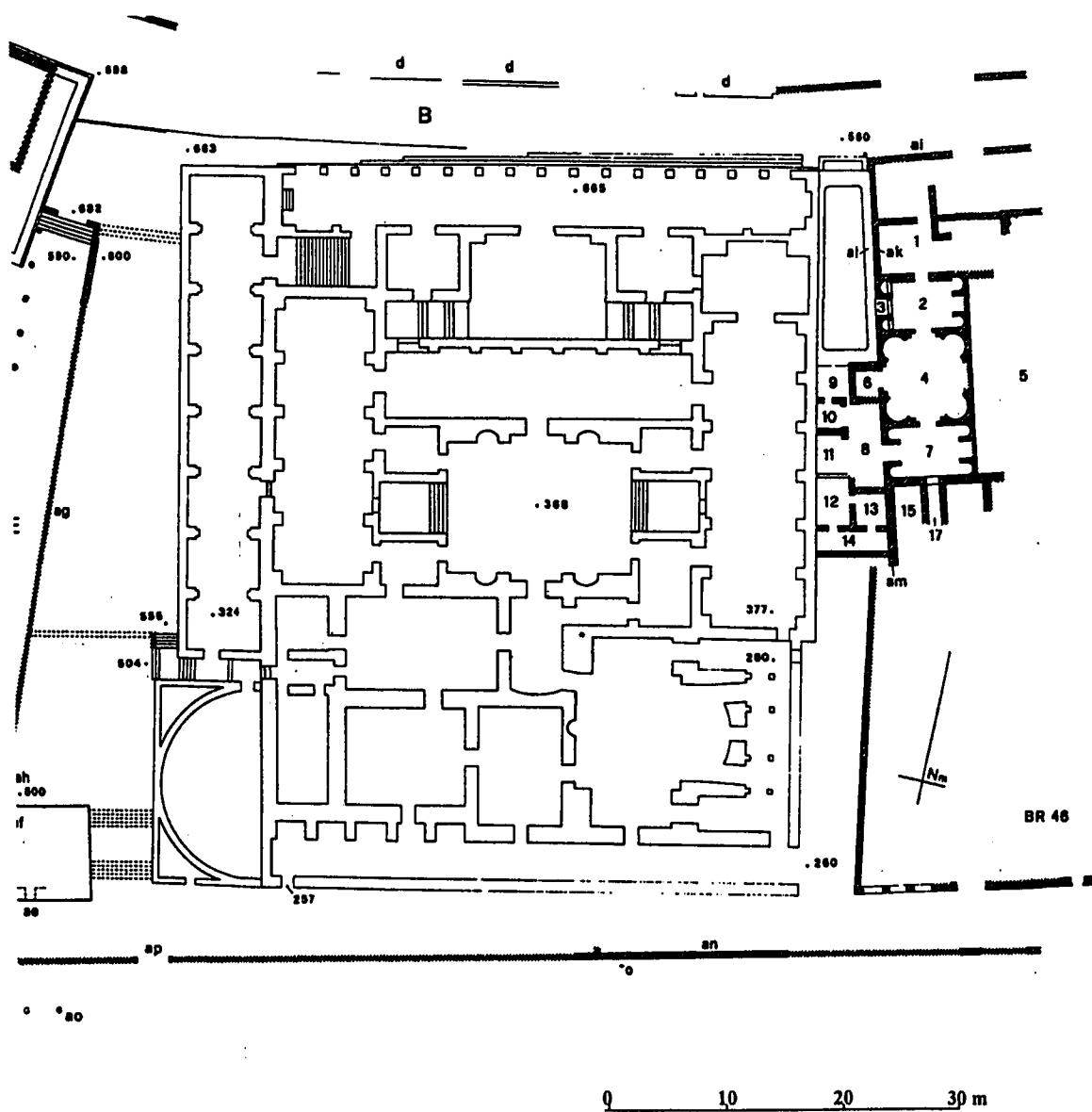


Figure 98. Bulla Regia, thermes Memmiens and the maison de Diane (C.33). Plan. The baths of the house are room 13, 14.

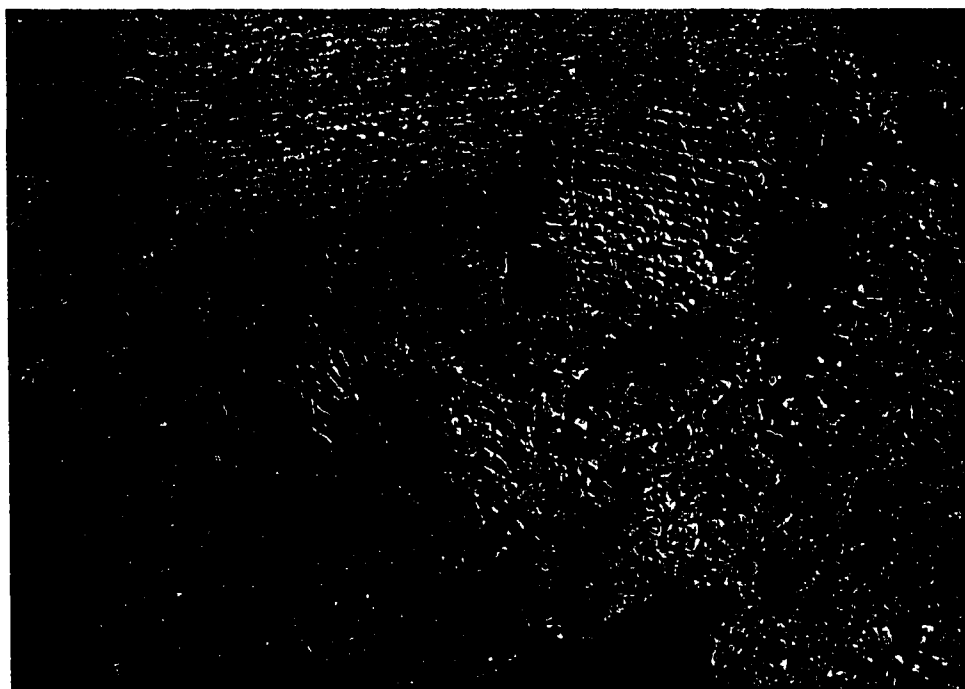


Figure 99. Bulla Regia, maison de Diane (C.33). Room 14, looking west at the furnace arch to room 13.

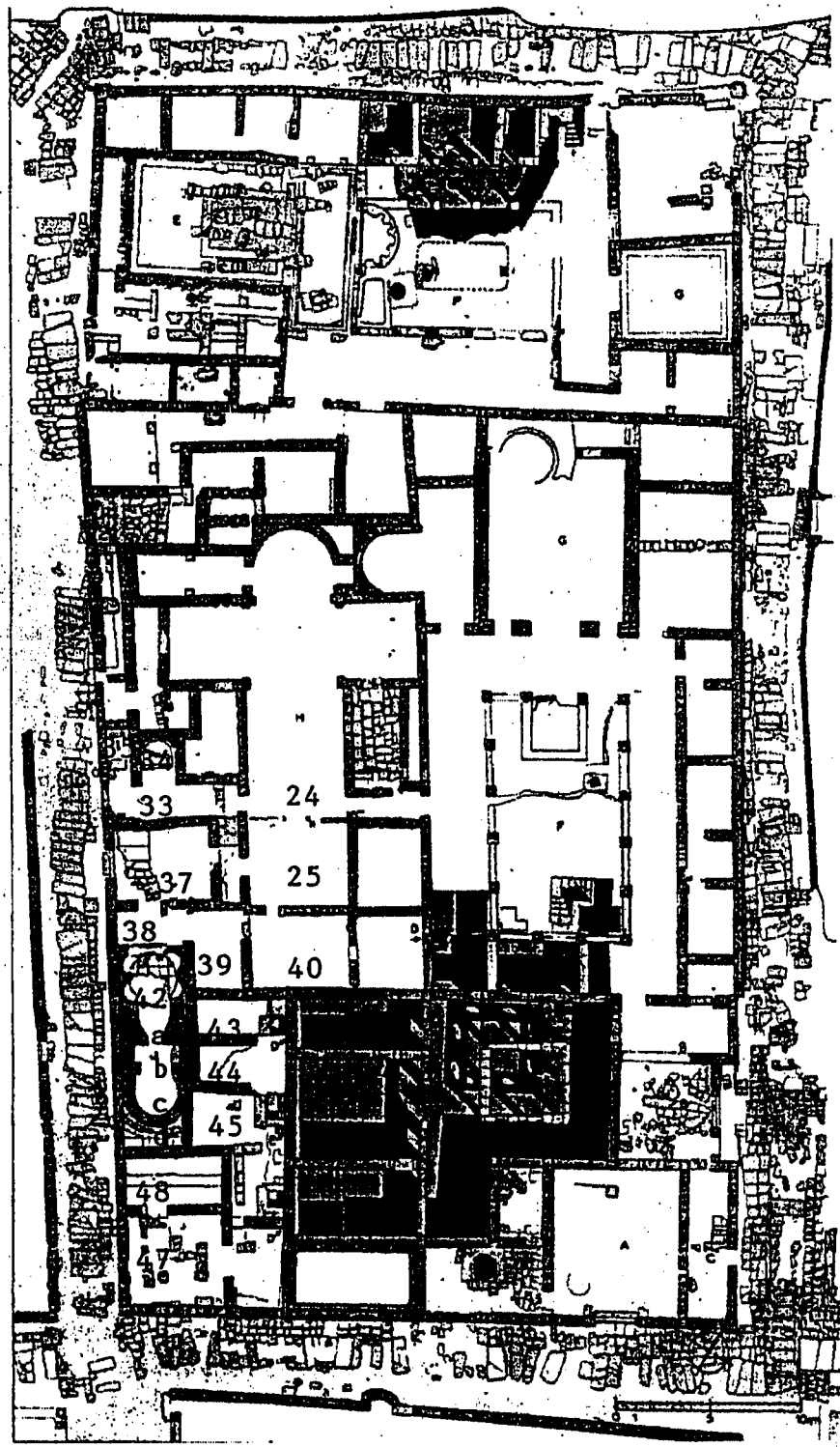


Figure 100. Bulla Regia, maison de la chasse (C.34). Plan. Baths are rooms 34 and 42.



Figure 101. Bulla Regia, maison de la chasse (C.34). Basin in room 42a looking south.



Figure 102. Bulla Regia, maison de la chasse (C.34). Room 42b looking north.



Figure 103. Bulla Regia, maison de la chasse (C.34). Room 42b looking south at blocked furnace arch between 42c and 42d.



Figure 104. Bulla Regia, maison de la chasse (C.34). Room 42d looking north at hypocaust opening of room 42b below rear of basin in 42a. Drain of room 42d in foreground.

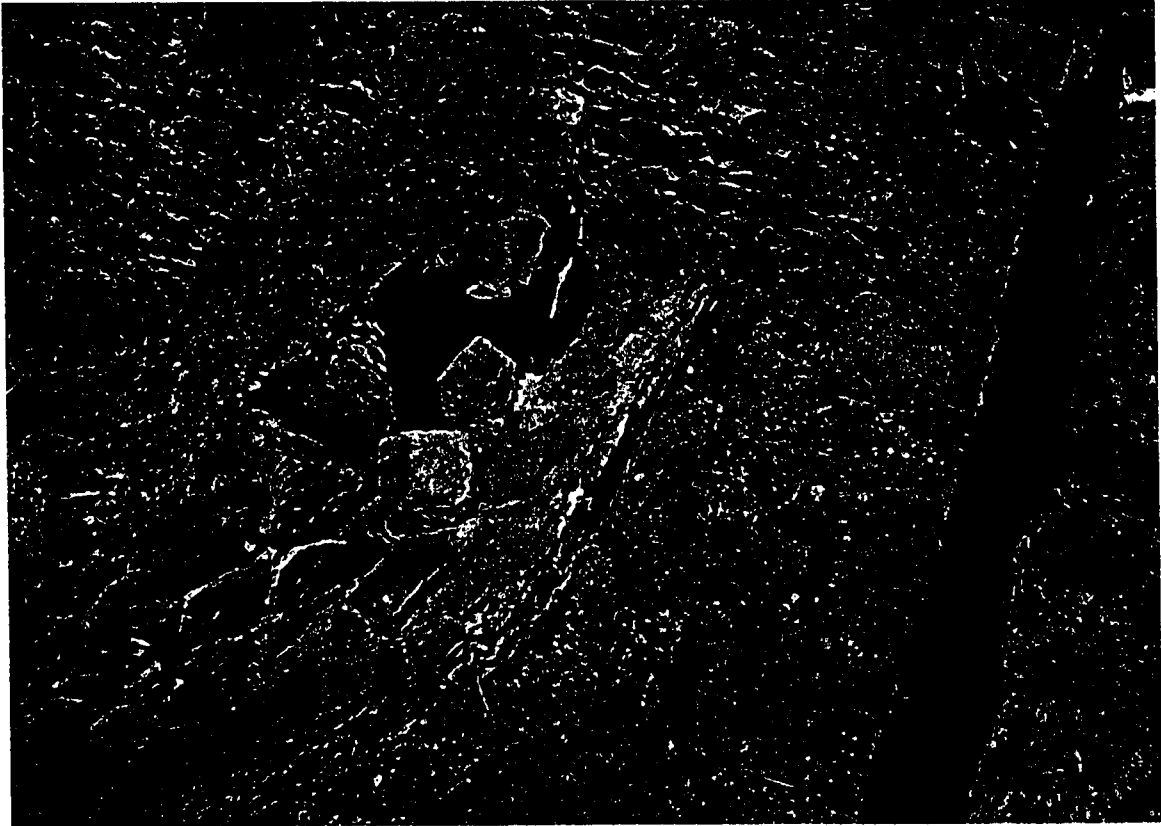


Figure 105. Bulla Regia, maison de la chasse (C.34). Drain in room 42d and blocked furnace arch of 42c, looking east.

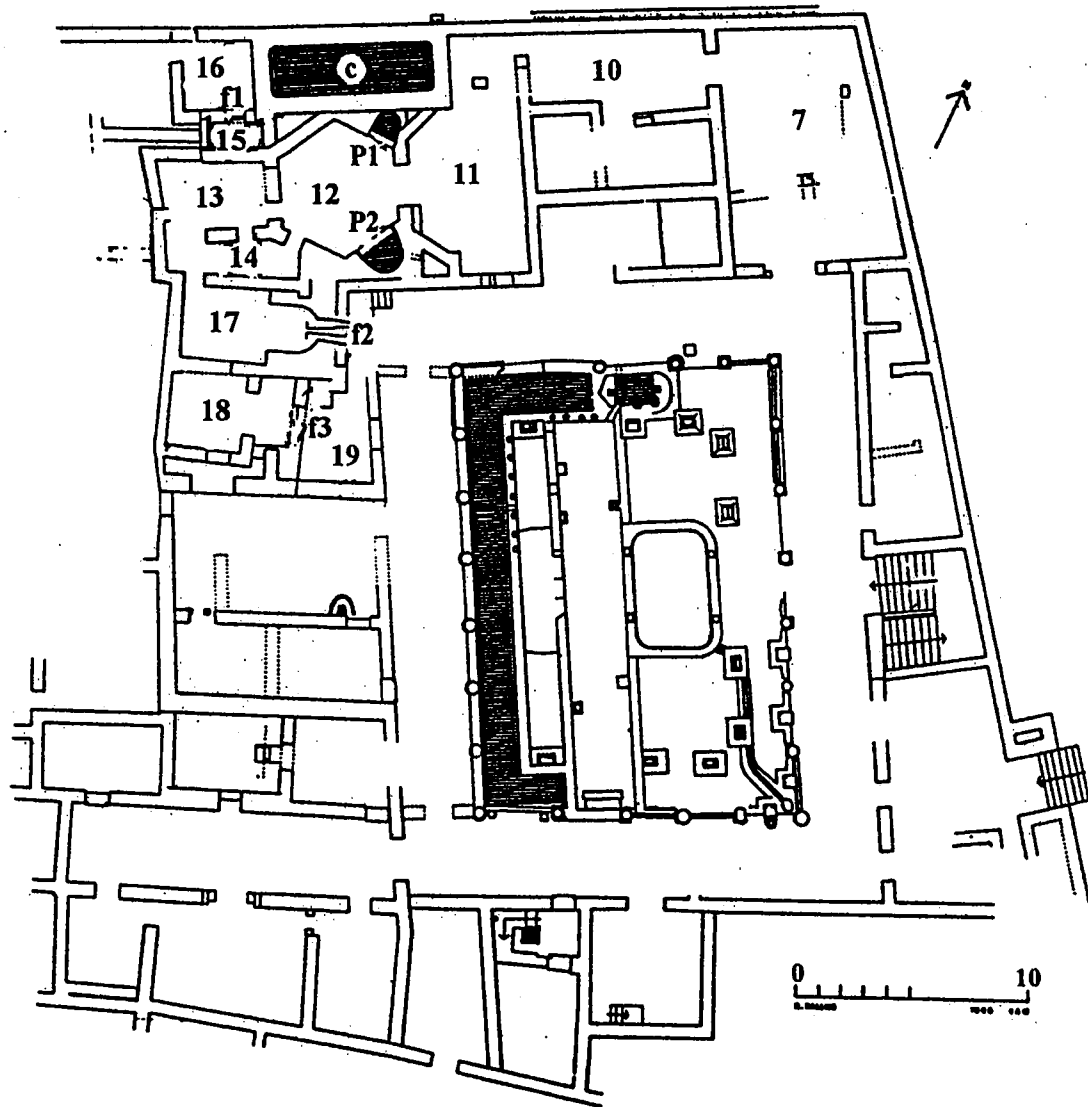


Figure 106. Bulla Regia, maison de la pêche (C.35). Plan. Baths are 11-19.



Figure 107. Bulla Regia, maison de la pêche (C.35). Room 12 looking east to room 11. Pool P2 to right of entrance.



Figure 108. Bulla Regia, maison de la pêche (C.35). Pool P1 and ceramic drainage pipe marked by arrow.

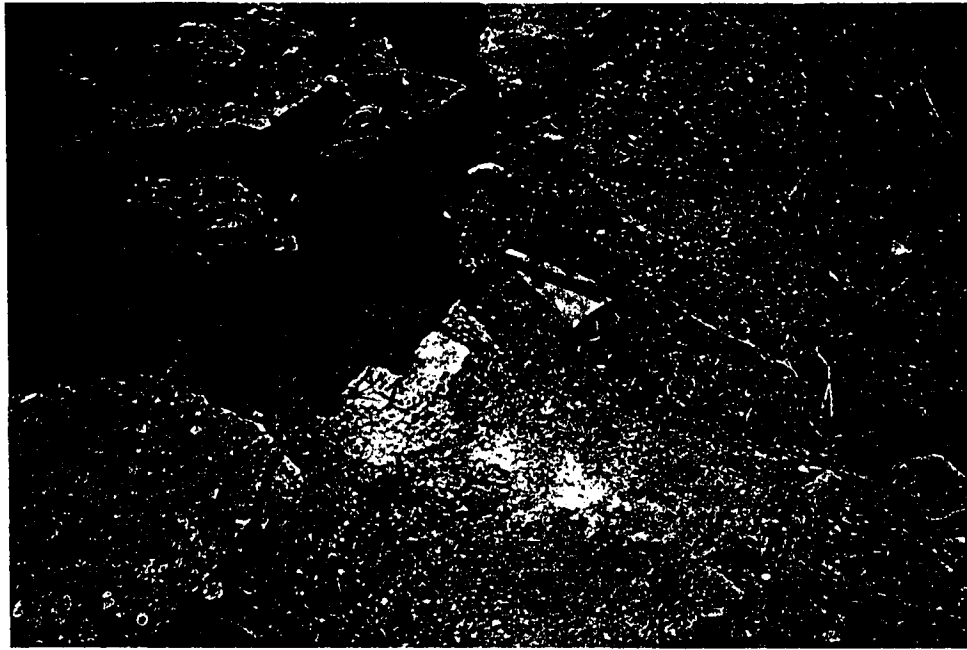


Figure 109. Bulla Regia, maison de la pêche (C.35). Doorway between rooms 12 and 13, looking west. Stone socket for door pivot marked by arrow.



Figure 110. Bulla Regia, maison de la pêche (C.35). Room 13 looking northwest. Pool 15 and furnace arch (f1) to right of upper center.

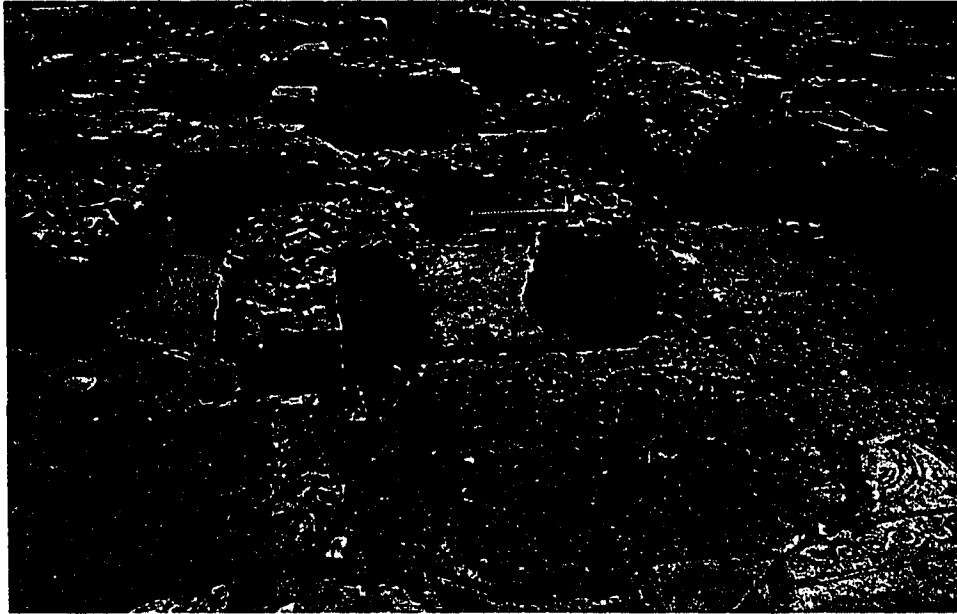


Figure 111. Bulla Regia, maison de la pêche (C.35). Room 13 looking south at room 14. Dividing wall has central doorway paved with mosaic. Entrance to room 17 from room 14 at top right.



Figure 112. Bulla Regia, maison de la pêche (C.35). Room 17 looking west at apse and furnace f2.

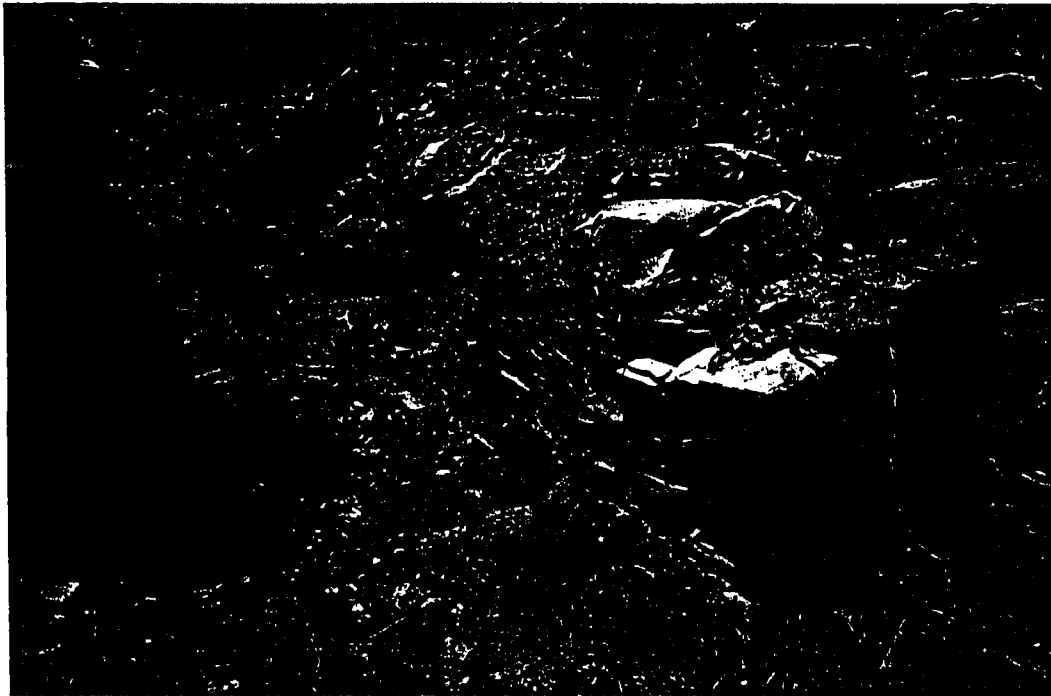


Figure 113. Bulla Regia, maison de la pêche (C.35). Looking west through furnace f2 into room 17. Stone mass in right foreground; perhaps location of steps.



Figure 114. Bulla Regia, maison de la pêche (C.35). Room 18 looking east at furnace f3. Stone piers in right and left foreground; perhaps supports for a pool.

Rooms 18-20b, the baths, in the first phase.

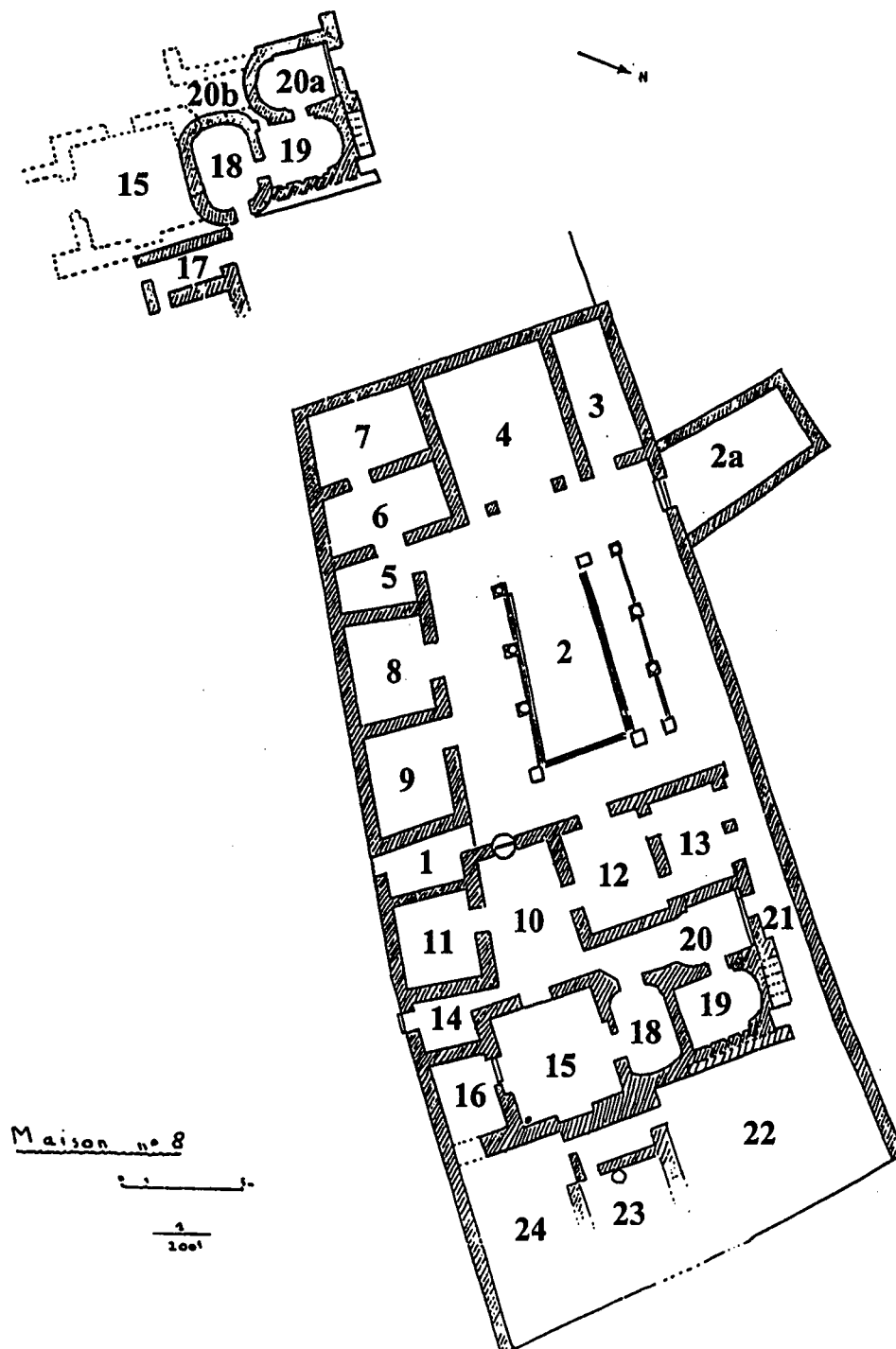


Figure 115. Bulla Regia, maison no. 8 (C.36). Plan. Baths are rooms 18-20b, shown in inset.

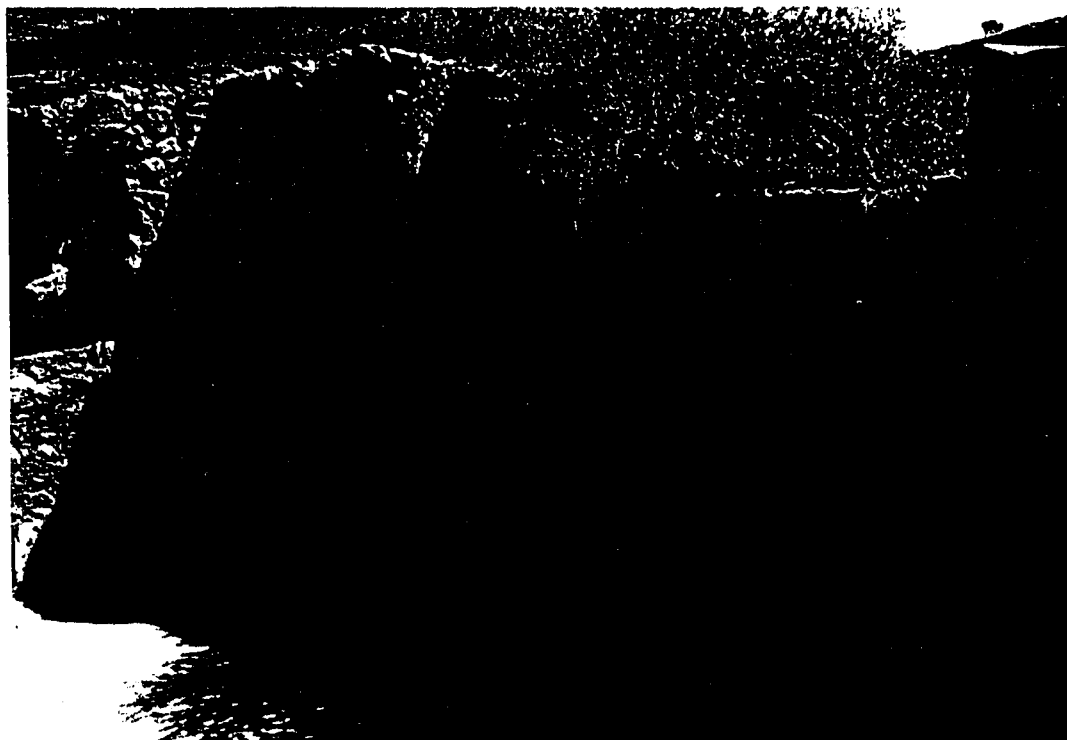


Figure 116. Bulla Regia, maison no. 8 (C.36). East wall of room 15 with painted plaster.



Figure 117. Bulla Regia, maison no. 8 (C.36). Doorway from room 20 to room 18, looking east. To right, exterior wall of room 15 is not bonded to the wall of room 20. Painted wall plaster is also preserved covering this join.



Figure 118. Bulla Regia, maison no. 8 (C.36). Room 18, looking northeast. Blocked doorway between rooms 18 and 22 on the right, and between rooms 18 and 19 on the left.

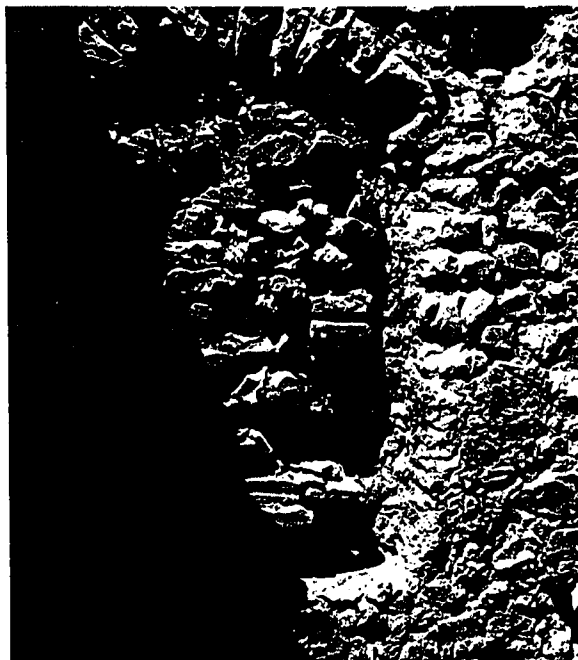


Figure 119. Bulla Regia, maison no. 8 (C.36). Blocked opening in west wall of room 19.



Figure 120. Bulla Regia, maison no. 8 (C.36). East wall of room 19 showing cavities left by *tubuli*.

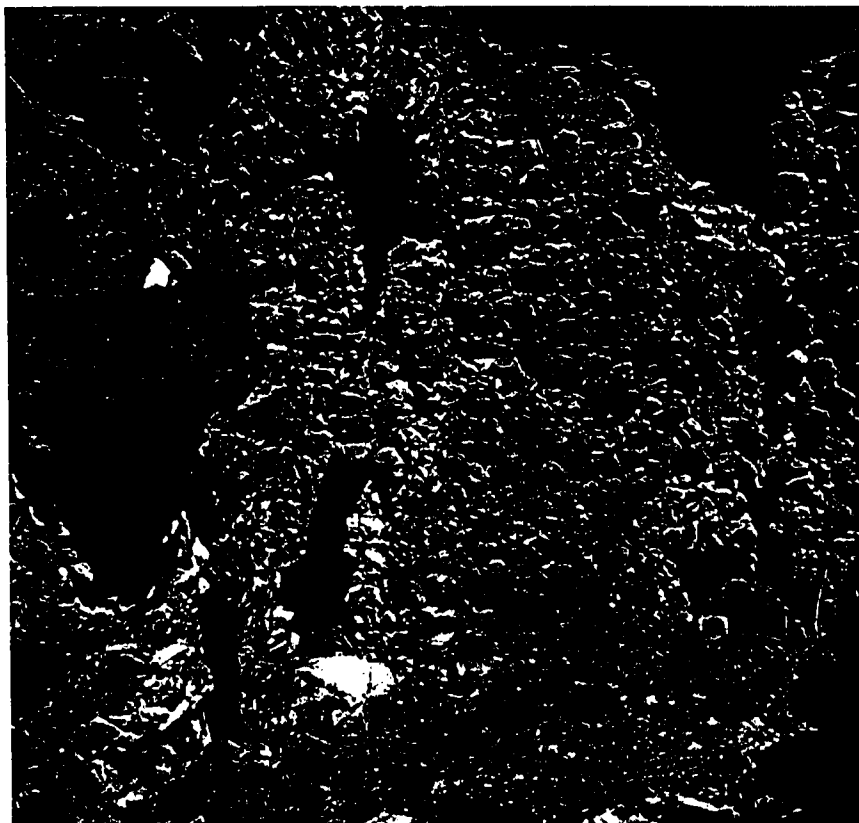


Figure 121. Bulla Regia, maison no. 8 (C.36). Northwest wall of room 19, and doorway to room 20.

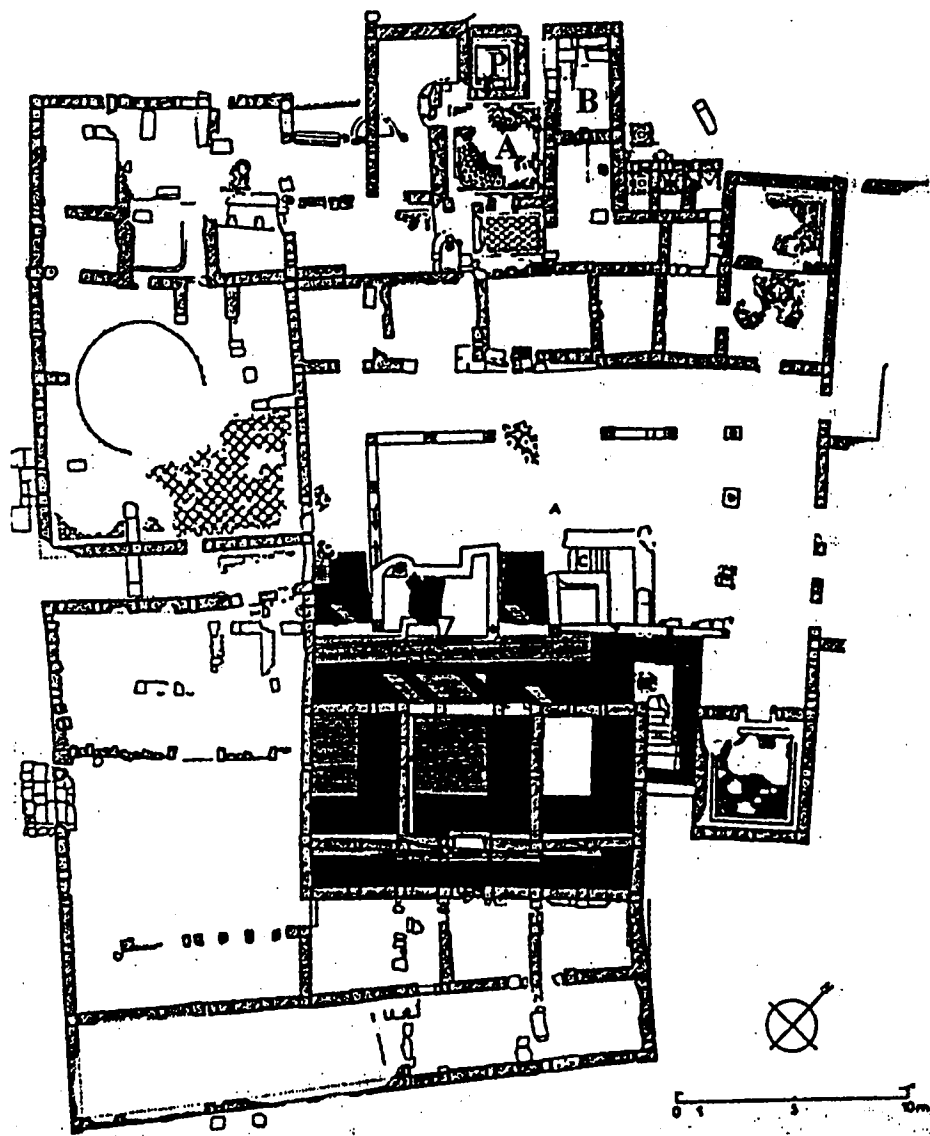


Figure 122. Bulla Regia, maison d'Amphitrite (C.37). Plan. Baths are rooms A,B,P.

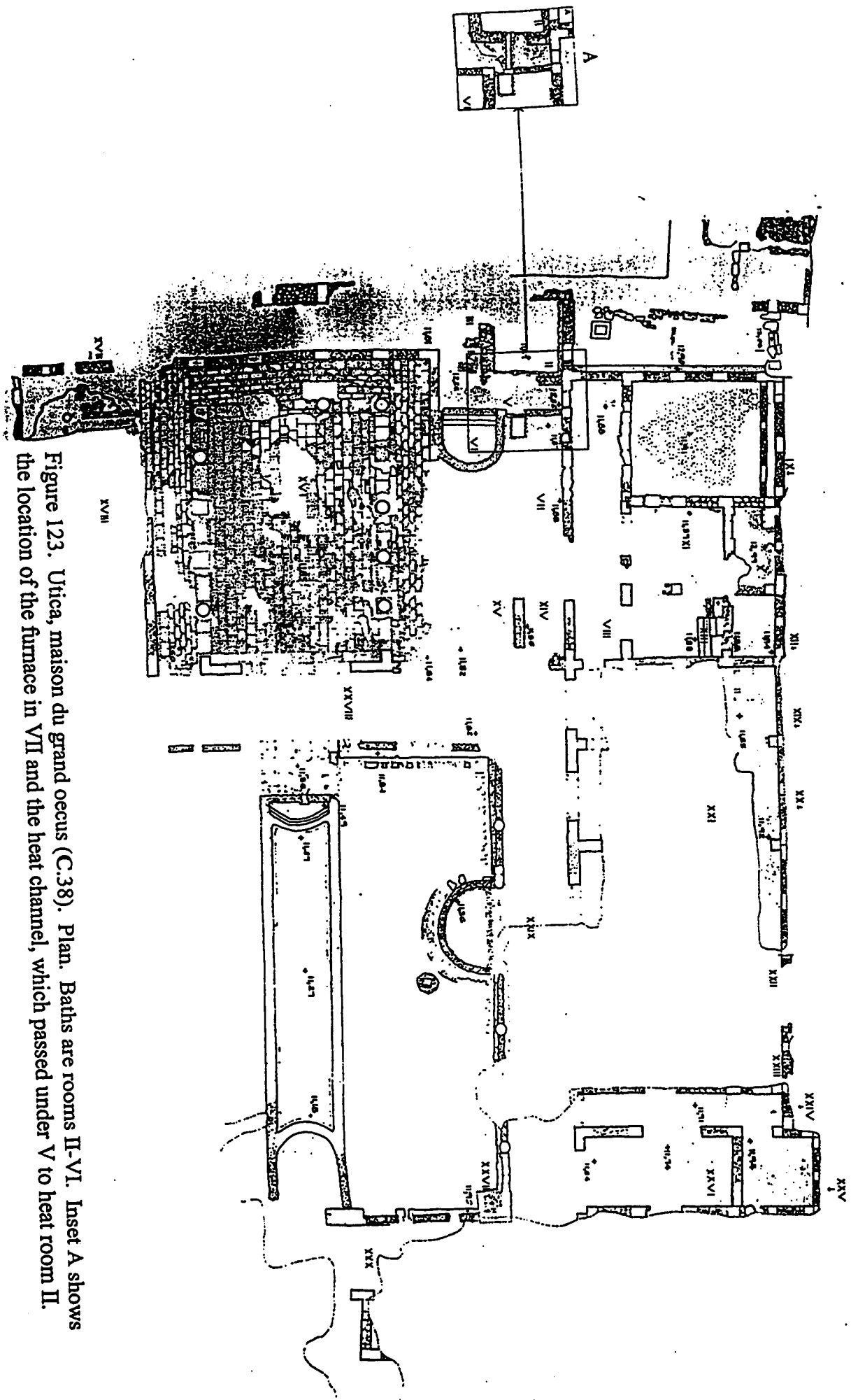


Figure 123. Utica, maison du grand oecus (C.38). Plan. Baths are rooms II-VI. Inset A shows the location of the furnace in VII and the heat channel, which passed under V to heat room II.

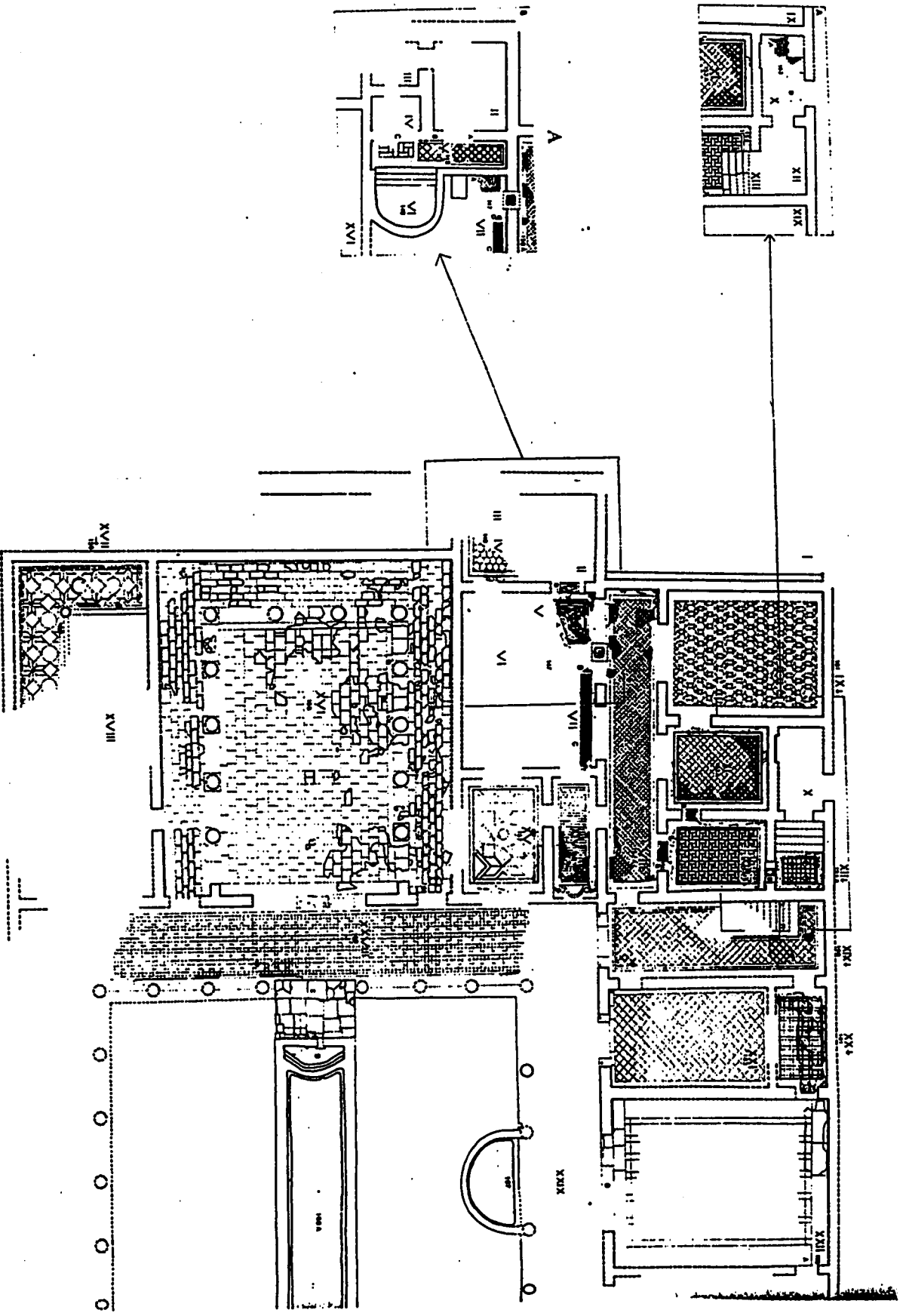


Figure 124. Utica, maison du grand oecus (C.38). Plan with mosaic decoration. Baths are rooms II-VI. Inset A shows the layout of the baths.

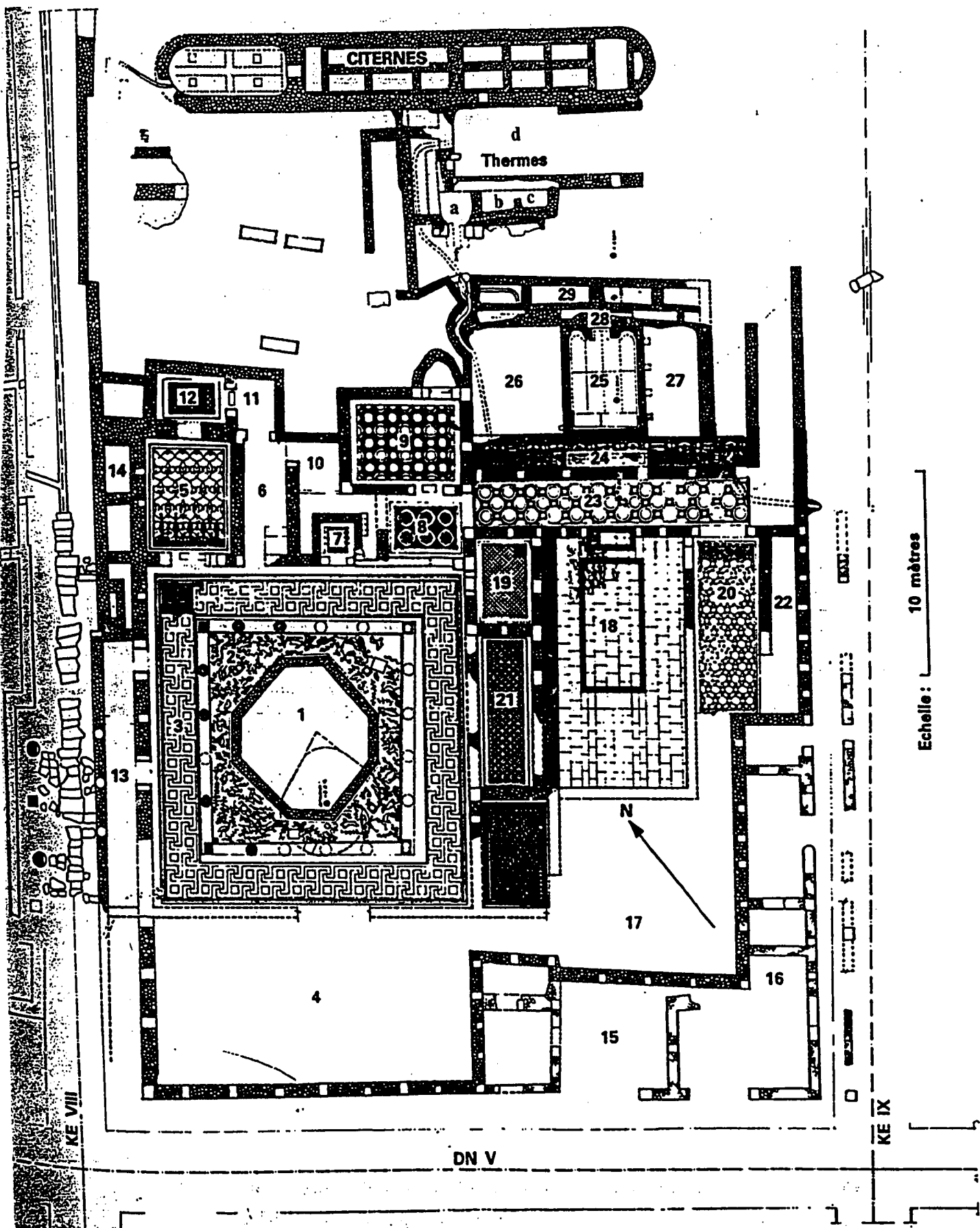


Figure 125. Carthage, maison de la volière (C.39). Plan. Baths are a-d, f.



Figure 126. Carthage, maison de la volière (C.39). View of room a and furnace f, center foreground, and areas b and c to the left, looking south at the rest of the house on lower ground.

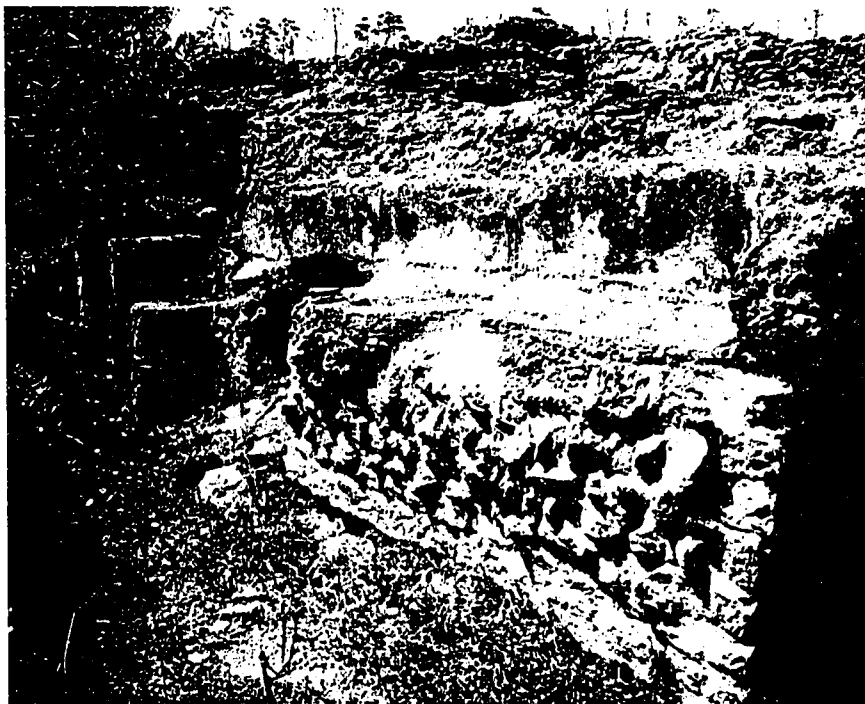


Figure 127. Carthage, maison de la volière (C.39). Installation along the south of rooms b and c, with the opening of furnace f beyond; looking north.

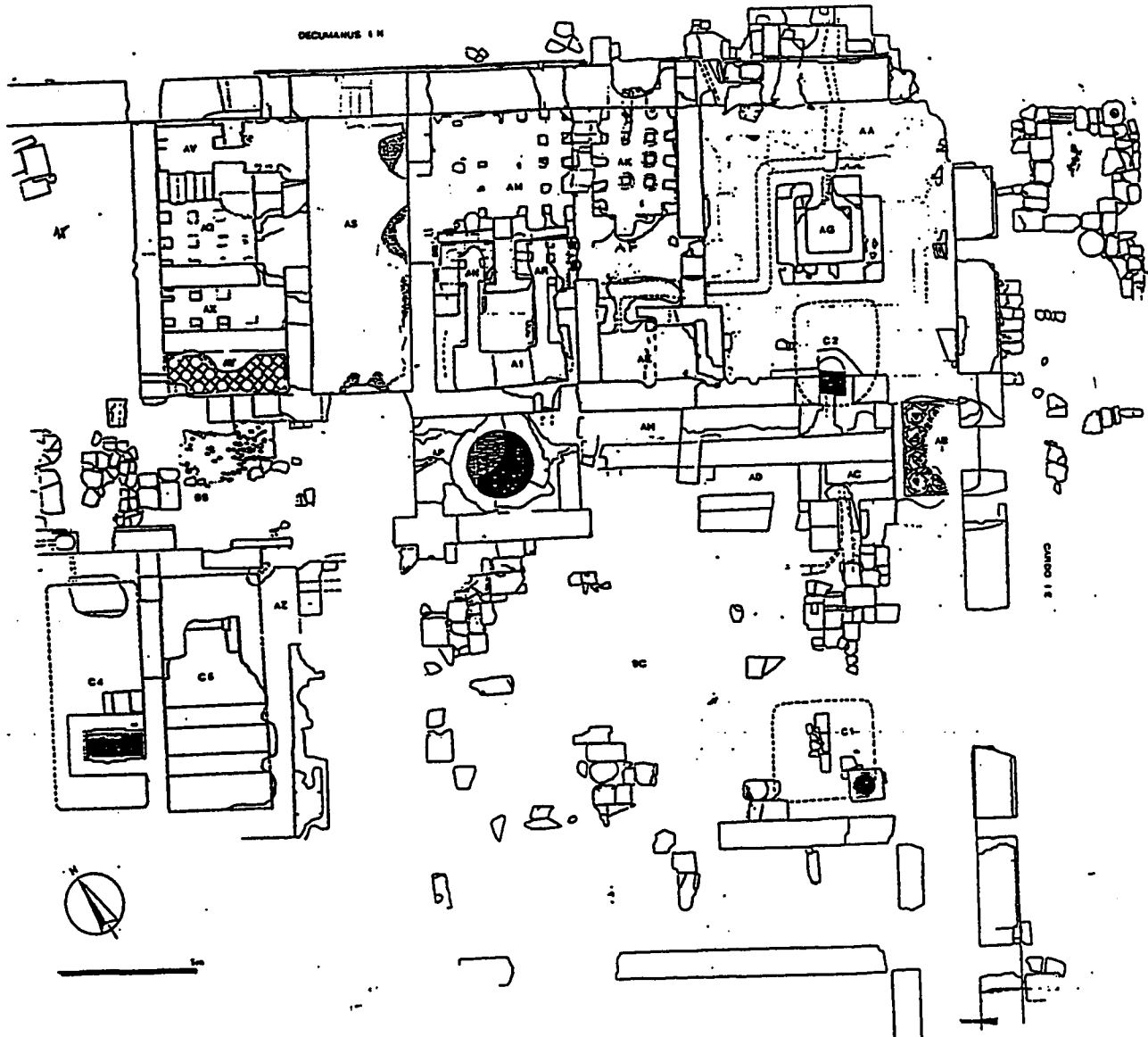


Figure 128. Carthage, maison des bains (C.40). Plan. Baths are rooms AF, AK and AM, pools AE, AR, and AN, and furnace AI.



Figure 129. Carthage, maison des bains (C.40). Room AF looking south at pool AE. Exposed drain in front of pool.

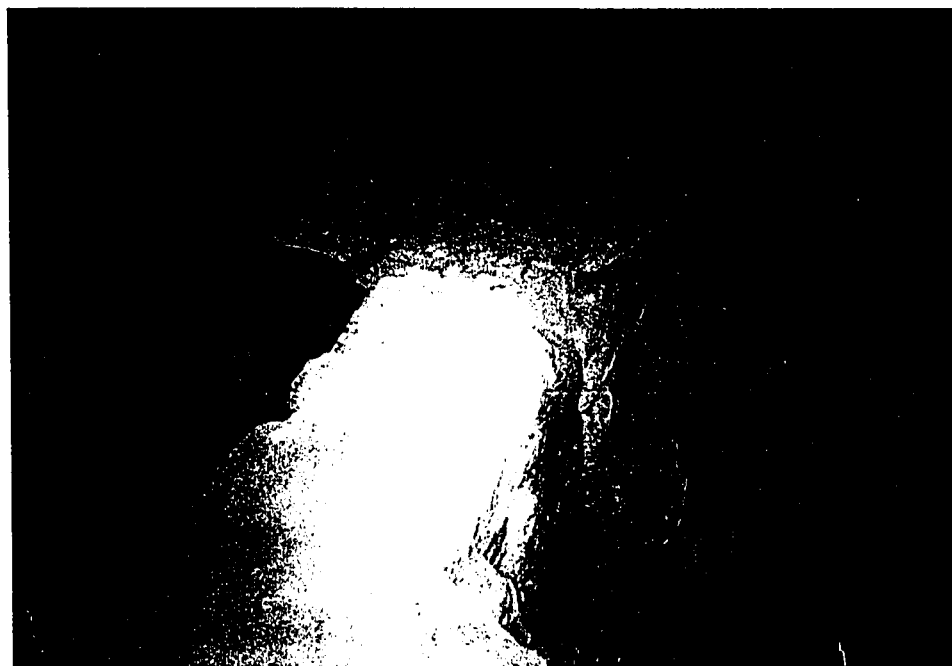


Figure 130. Carthage, maison des bains (C.40). Threshold on wall between rooms AK (right) and AM (left). Two openings in the wall below the threshold to allow AK to draw heat from AM. Engaged brick *pilae* are also visible along the wall in AK.

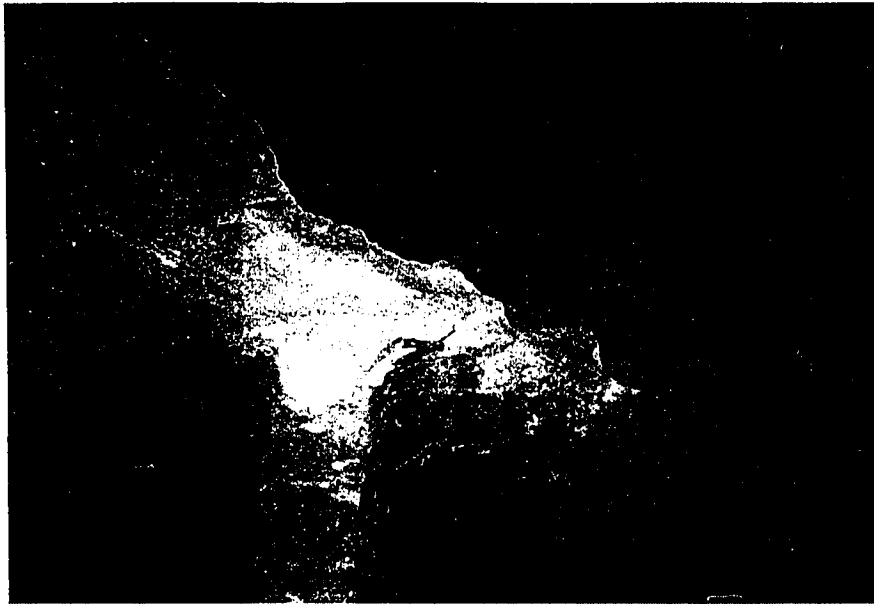


Figure 131. Carthage, maison des bains (C.40). Openings of furnace AI to room AM, looking north. Remains of one pool above, and heat channel behind the ducts.



Figure 132. Carthage, maison des bains (C.40). Room AI and heat channel to pool AR.

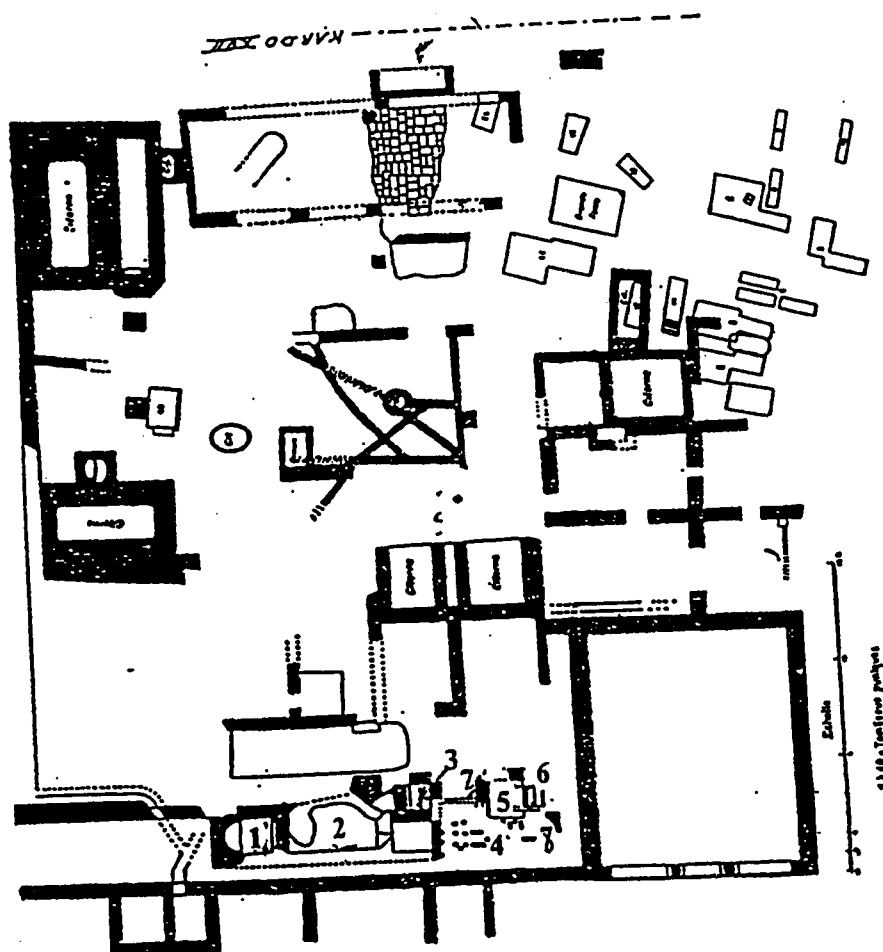


Figure 133. Carthage, maison des corbeilles, Park of the Antonine baths I (C.41).
Plan. Baths are rooms 1-8.



Figure 134. Carthage, maison des corbeilles (C.41). Room 2 looking south at apsed pool 1.



Figure 135. Carthage, maison des corbeilles (C.41). Entrance (7) to heated section with mosaic tesserae at the hypocaust level.



Figure 136. Carthage, maison des corbeilles (C.41). View of heated section, looking southwest across room 4. In foreground, small section of the damaged apsed pool. Behind, the better preserved small rectangular pool (6) is lying on the ground..



Figure 137. Carthage, Park of the Antonine baths II (C.42). View of the hypocaust room. The lower brick tiles of the hypocaust are *in situ*.

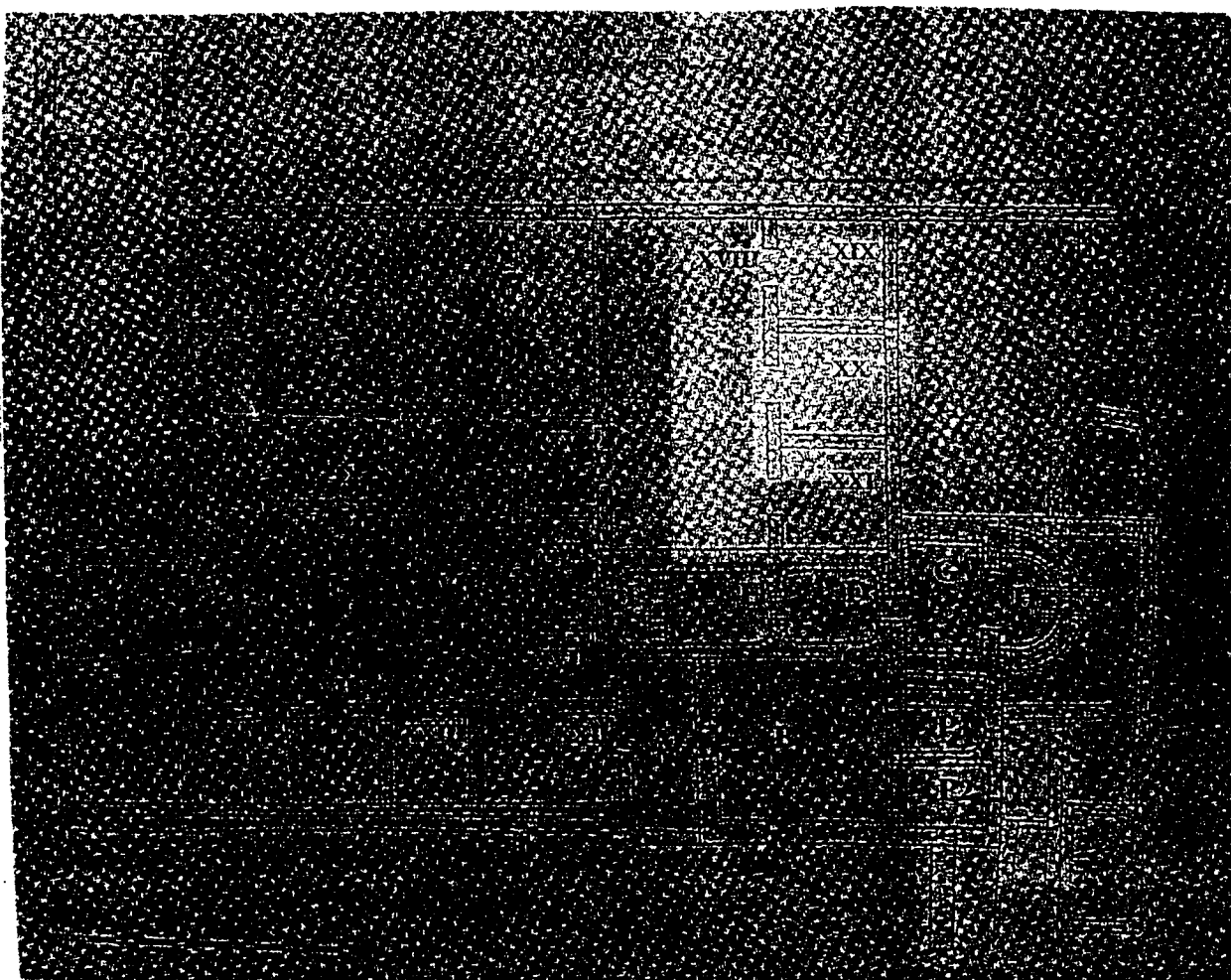


Figure 138. Papput, Maison du péristyle figuré (C.43). Plan.
Baths are rooms A-H.

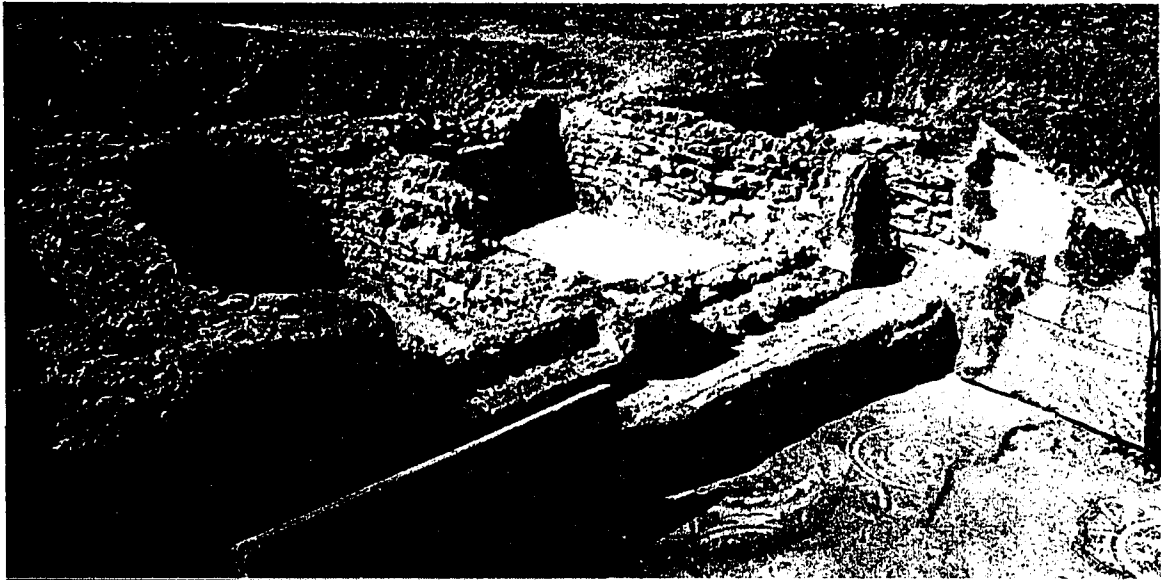


Figure 139. Puppit, Maison du péristyle figuré (C.43). Room B, looking north at pools P1 and P2.

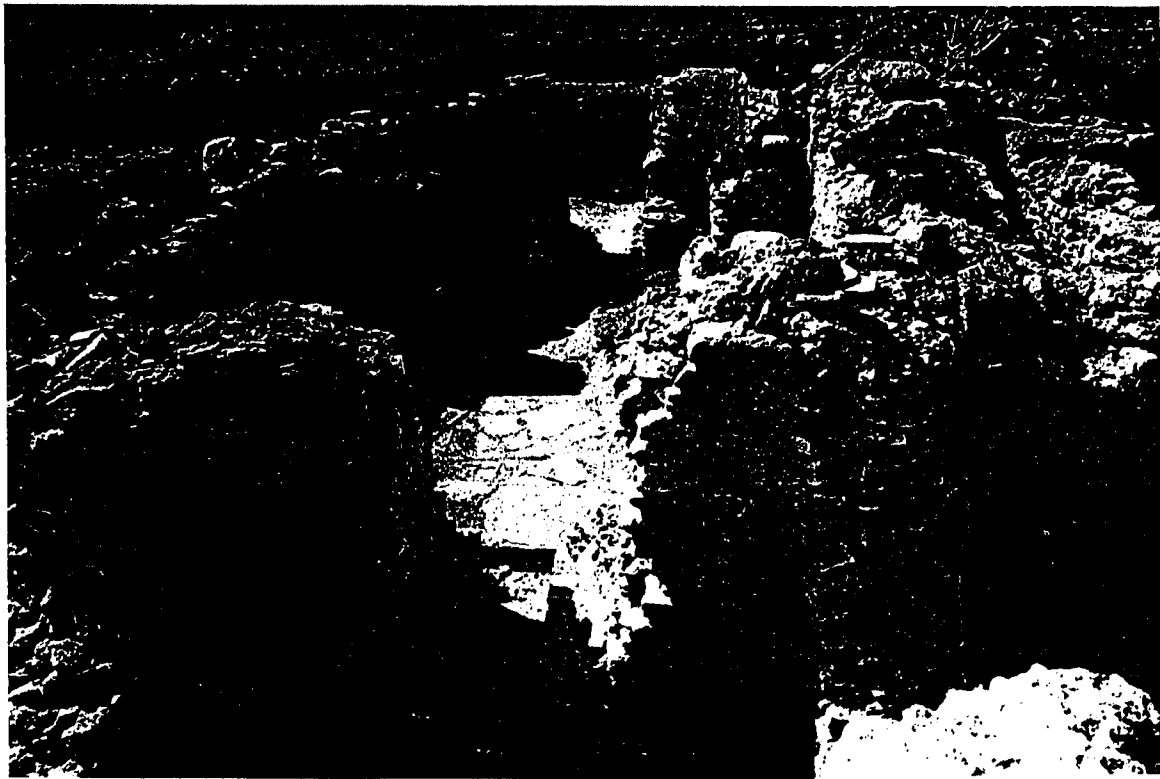


Figure 140. Puppit, maison du péristyle figuré (C.43). Heated section, looking north from opening between rooms E and D to furnace of room G.



Figure 141. Pupput, maison du péristyle figuré (C.43). View of heated section, looking north from room H, at G, furnace f in center. Volcanic rock used with bricks for the *pilae* is piled up on top of the wall.

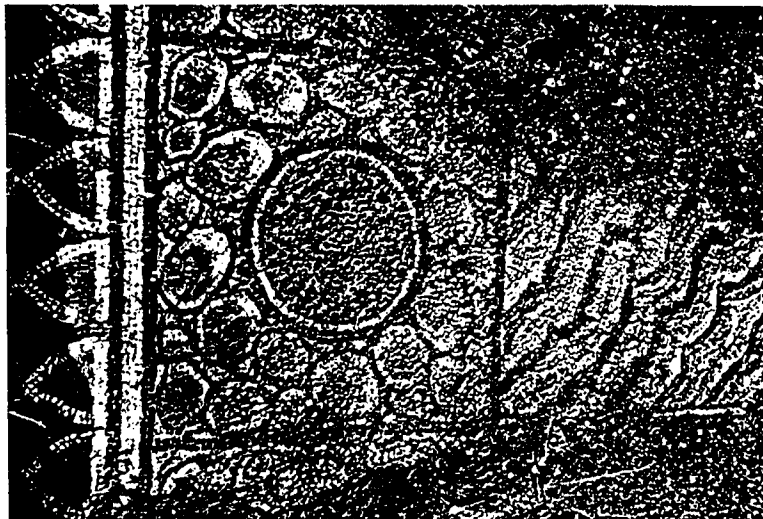


Figure 142. Timgad, maison de Sertius (C.23). Mosaic imitating marble in room 8.

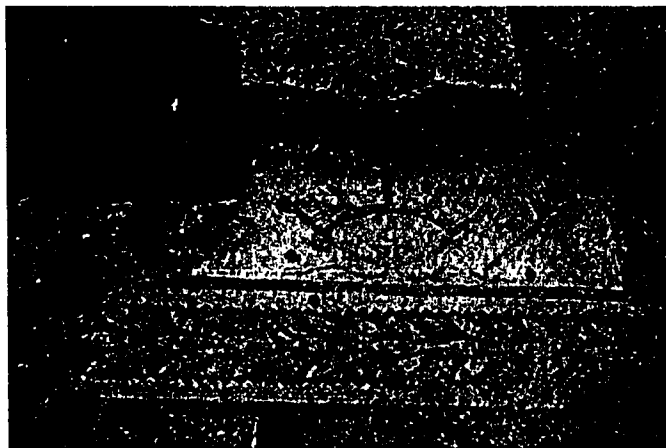


Figure 143. Althiburos, édifice des Asclepieia (C.32). Threshold mosaic 53, room 52.



Figure 144. Timgad, grande maison au nord du capitole (C.27). Threshold mosaic 175 from entrance to the heated section.



Figure 145. Timgad, maison près du marché aux vêtements (C.25). *Frigidarium* mosaic.

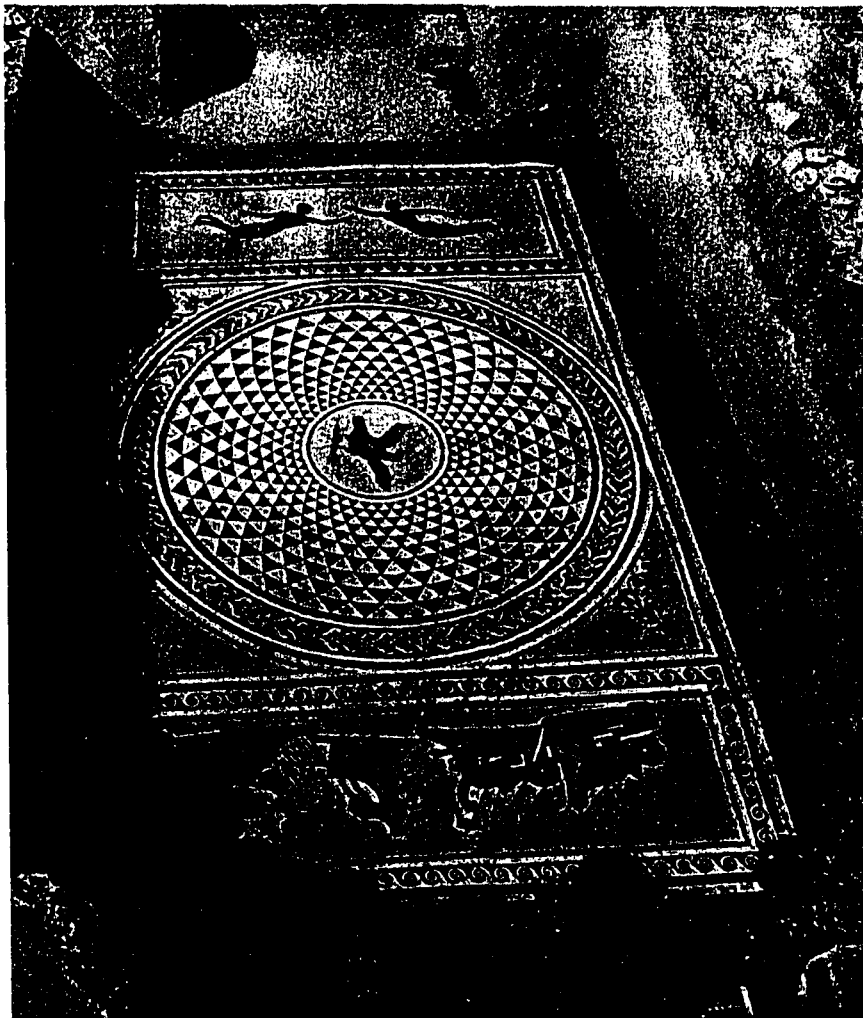


Figure 146. Cirta, maison à Sidi M'cid (C.28). Mosaic in room A.

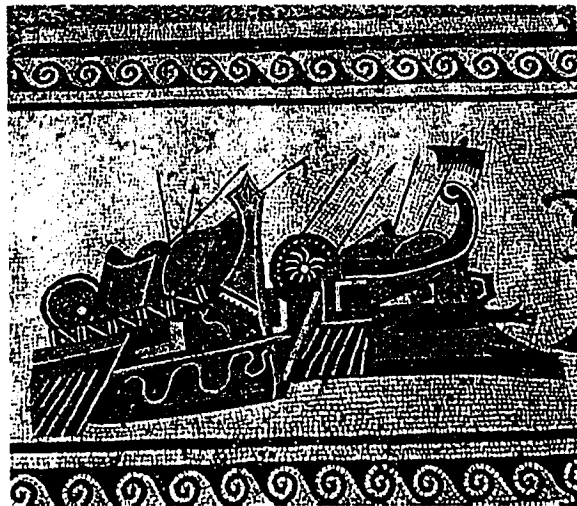


Figure 147. Cirta, maison à Sidi M' Cid (C.28). Detail of ships in fig. 146, above.

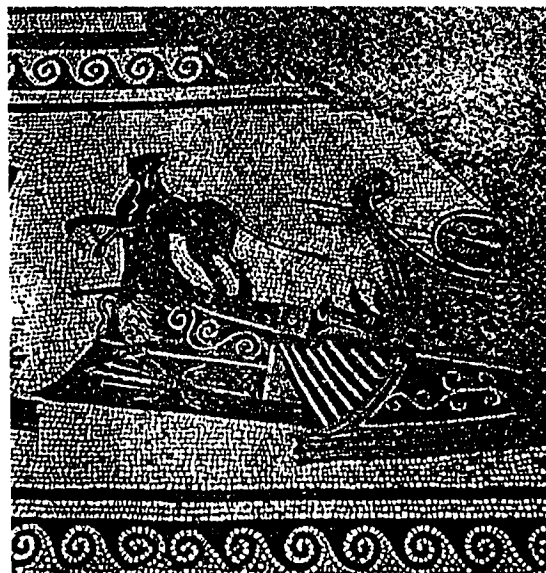


Figure 148. Cirta, maison à Sidi M' Cid (C.28). Detail of ships in fig. 146, above.



Figure 149. Pompeii, casa di Caesius Blandus (VII 1, 40), mosaic of *caldarium* from E.



Figure 150. Pompeii, casa del Criptoportico (I 6, 2), *sudatorium* from the E.



Figure 151. Pompeii, casa del Menandro (I 10, 4). *Caldarium* mosaic.

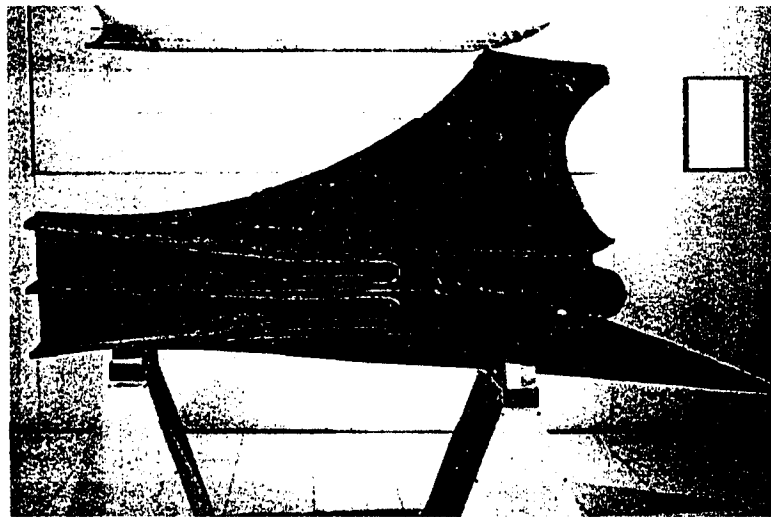


Figure 152. The Athlit Ram.

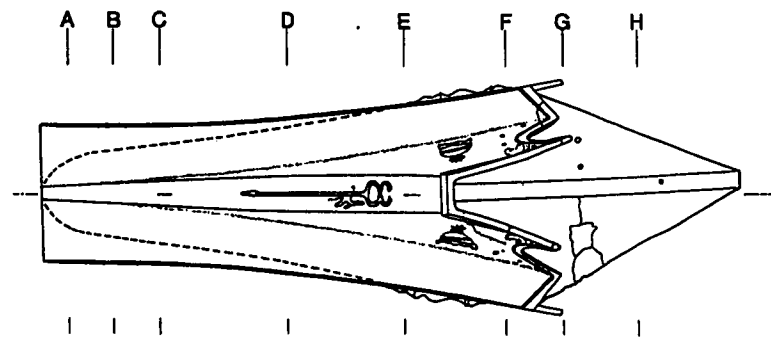


Figure 153. The Athlit Ram. Top view.

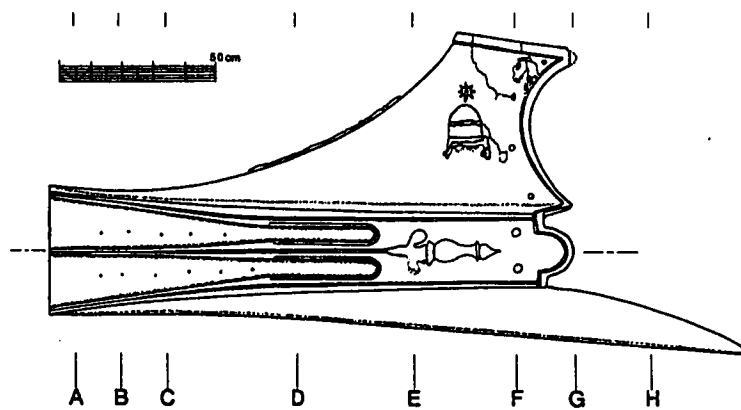


Figure 154. The Athlit Ram. Port side view.

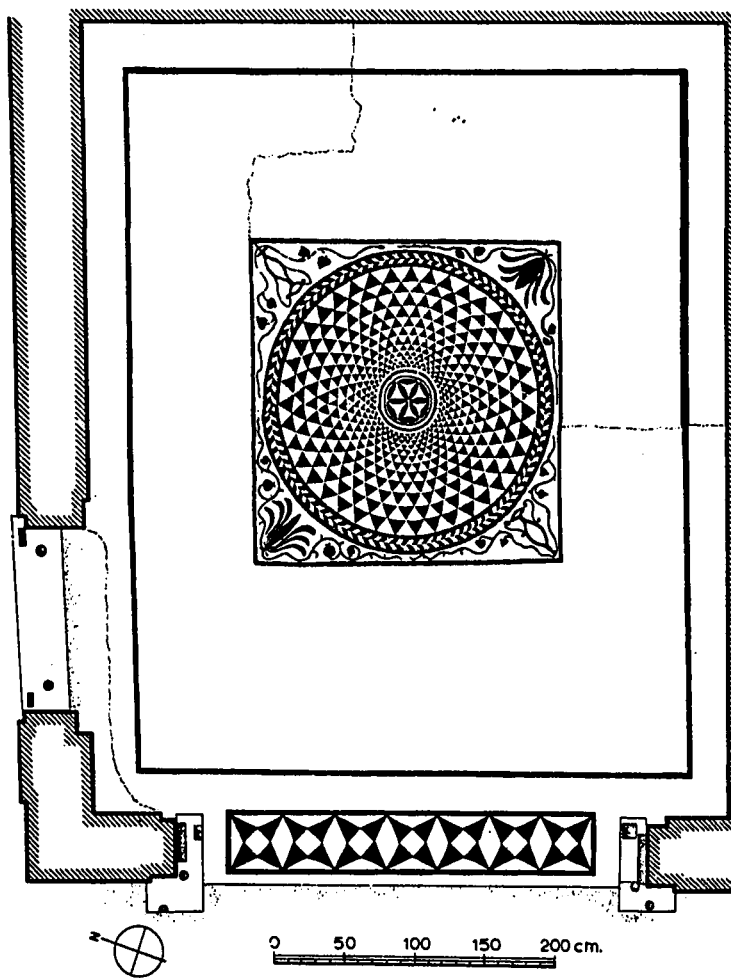


Figure 155. Pompeii, casa degli Amorini dorati (IV 16, 7.38). Exedra G mosaic.

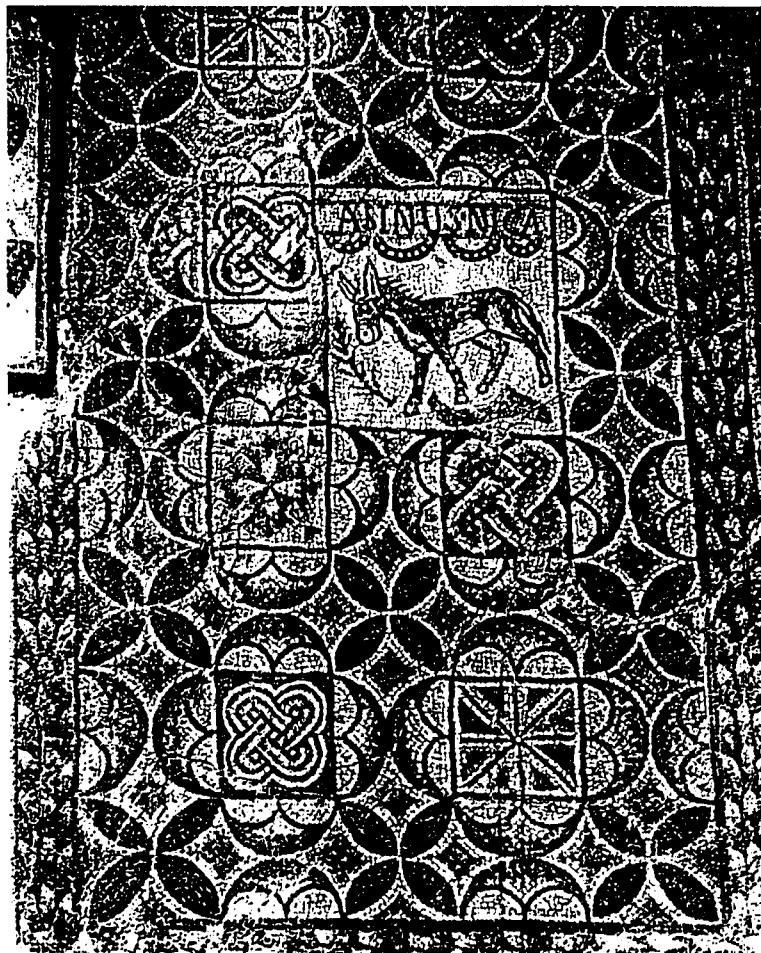


Figure 156. Cuicul, maison de l'âne (C.11). Mosaic from room XVI.



Figure 157. Cuicul, maison de l'âne (C.11). Mosaic from room XIV.

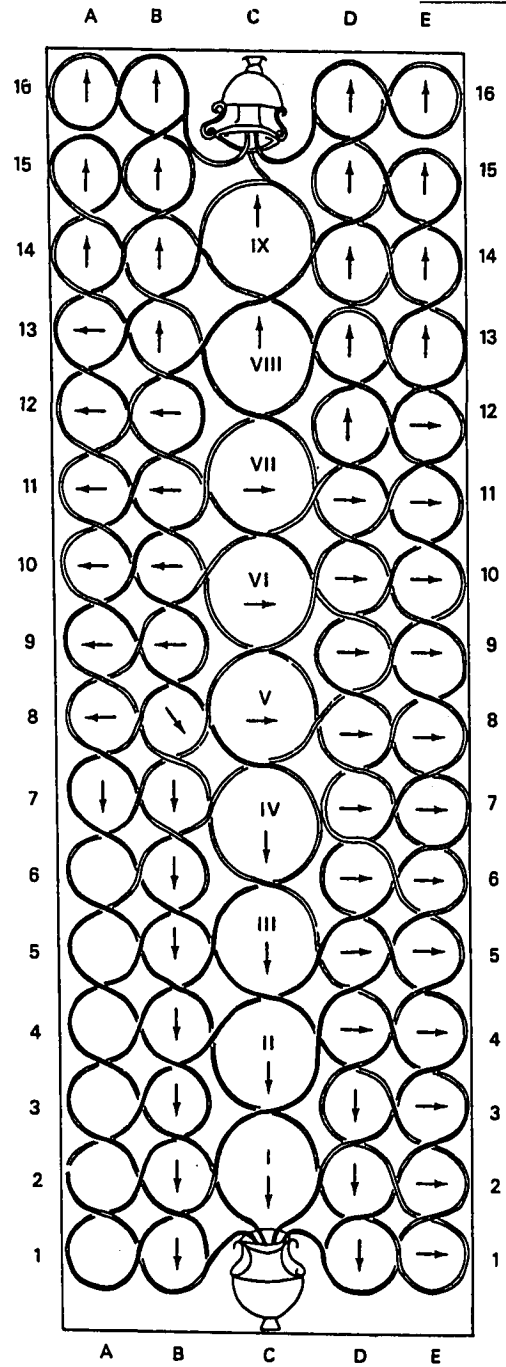


Figure 158. Cuicul, maison de l'âne (C.11). Mosaic from room XIV, numbering of medallions.



Figure 159. Medallions CII and CIII.
Detail of figure 157.



Figure 160. Medallions CIV and
CV. Detail of figure 157.



Figure 161. Medallions CVI and CVII. Detail of figure 157.



Figure 162. Silistra. Wall painting in *hypogeum*.



Figure 163. Proiecta casket body. Right side.

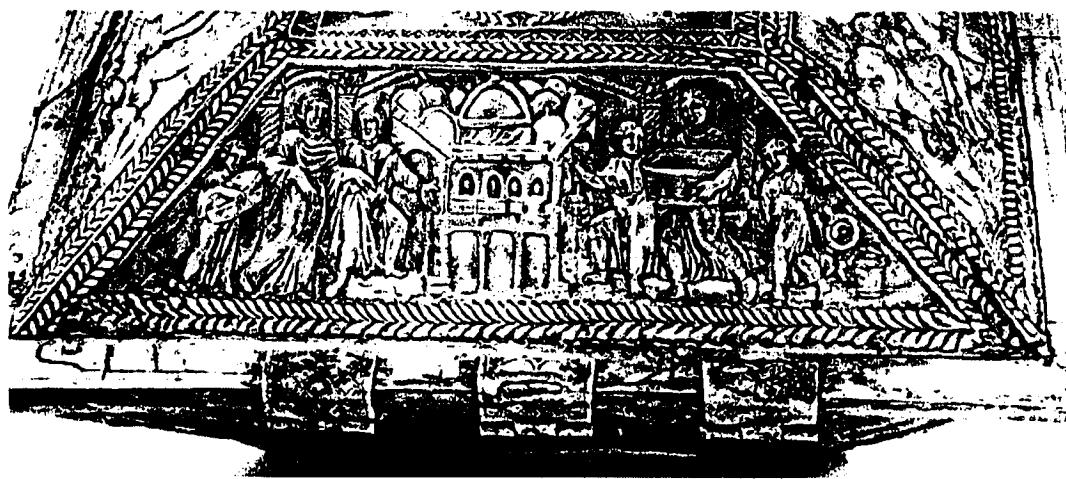


Figure 164. Proiecta casket lid. Back panel.

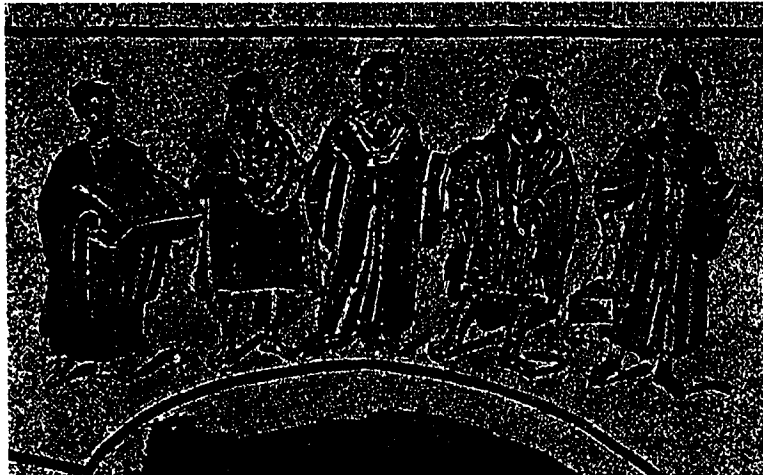


Figure 165. Piazza Armerina. Mosaic from vestibule 21.



Figure 166. Piazza Armerina. Mosaic 4d from *frigidarium*.



Figure 167. Piazza Armerina. Mosaic 4b from *frigidarium*.

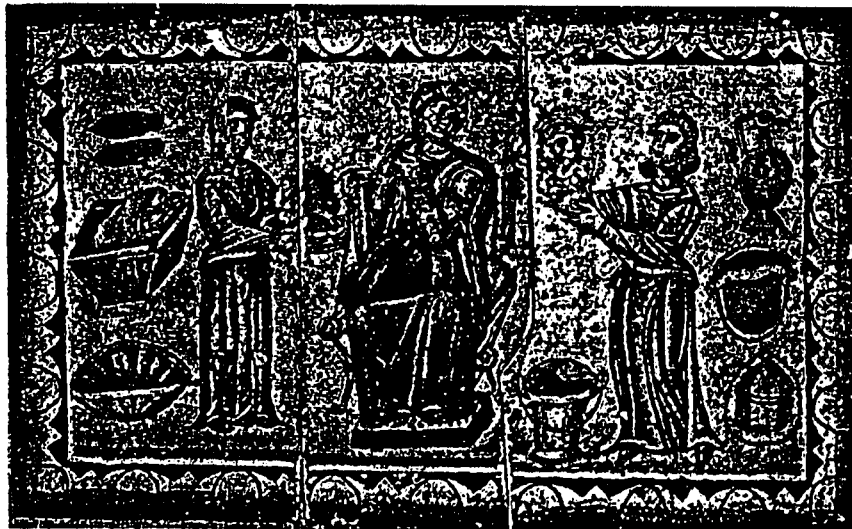


Figure 168. Sidi Ghrib. Mosaic from alcove 5.