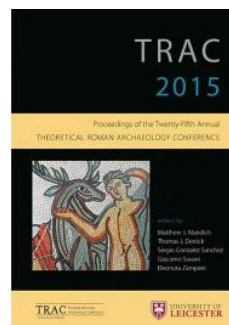

TRAC Theoretical Roman Archaeology Conference

www.trac.org.uk

Paper Information:

Title: Public and Private Bathing in Late Antique
North Africa. Changing Habits
in a Changing Society?
Author: Sadi Maréchal
Pages: 125–140

DOI: http://doi.org/10.16995/TRAC2015_125_140
Publication Date: 16/03/2016



Volume Information:

Mandich, M.J., Derrick, T.J., Gonzalez Sanchez, S., Savani, G., and Zampieri, E. (eds) 2016. *TRAC 2015: Proceedings of the Twenty-Fifth Annual Theoretical Roman Archaeology Conference, Leicester 2015*. Oxford: Oxbow Books.

Copyright and Hardcopy Editions:

The following paper was originally published in print format by Oxbow Books for TRAC. Hard copy editions of this volume may still be available, and can be purchased direct from Oxbow at <http://www.oxbowbooks.com>.

TRAC has now made this paper available as Open Access through an agreement with the publisher. Copyright remains with TRAC and the individual author(s), and all use or quotation of this paper and/or its contents must be acknowledged. This paper was released in digital Open Access format in April 2019.

Public and Private Bathing in Late Antique North Africa. Changing Habits in a Changing Society?

Sadi Maréchal

Introduction

Early studies on Roman baths present Late Antiquity as a period of decline, in which large imperial *thermae* were no longer built and the elite preferred to invest in private baths in their sumptuous villas (Brödner 1983: 257–264; Heinz 1983: 122–123). Indeed, the archaeological and epigraphic evidence found on the Italian peninsula show a clear decrease in building activities from the fourth century A.D. onwards (Ward-Perkins 1984: 148; Nielsen 1990: 57). This evolution has often been linked to the political changes and new economic realities of Late Antiquity, such as the higher taxation resting on the shoulders of the *curiales*. In the Roman West, the emperor limited munificence to his city of residence, while the urban elite ceased to invest in public infrastructures as a result of new career paths that bypassed civic duties (Wickham 2005: 596–597). Thus, a loss of interest in building and maintaining public baths could be seen as clear evidence for a changed relationship between the elite and the city (or even the state) during Late Antiquity (Yegül 1992: 321). However, a specific type of bathhouse in North Africa seems to challenge the idea that private euergetism in the form of public bath construction disappeared altogether. Several examples of fairly substantial baths visibly situated within private houses, but with independent street entrances, have been identified and dated to the fourth century A.D. Additionally, a number of extra-urban villas had similar large bathhouses that could be accessed from the outside. This changed form of euergetism could point to a significant cultural shift in the Late Antique North African context, possibly reflecting a change in status of secular public buildings, and even of urban topography more generally. The architecture of these Late Antique semi-private baths also questions some generalizing assumptions that persist about Late Antique bathing, especially concerning the size of the heated section and the size of the pools.

Late Antique Baths: A Private Affair?

One of the most deep-rooted ideas about baths in Late Antiquity pertains to the disappearance of publicly accessible bathhouses in favour of private baths. This paradigm influenced research in all the provinces of the Roman Empire, including North Africa (Thébert 2003: 415–418), without much attention to divergent historic trajectories of the separate regions. The idea behind this ‘privatization’ of bathing habits is linked to the theory that sees Late Antique houses as a reflection of a more hierarchized society in which members of the elite retreated from public

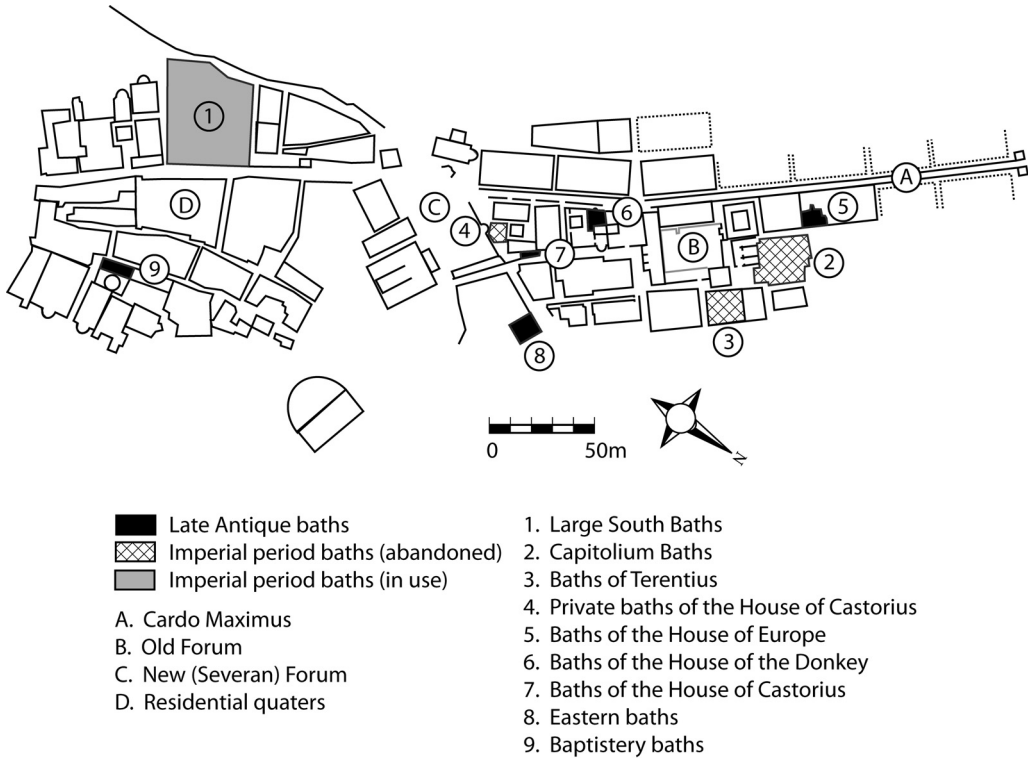
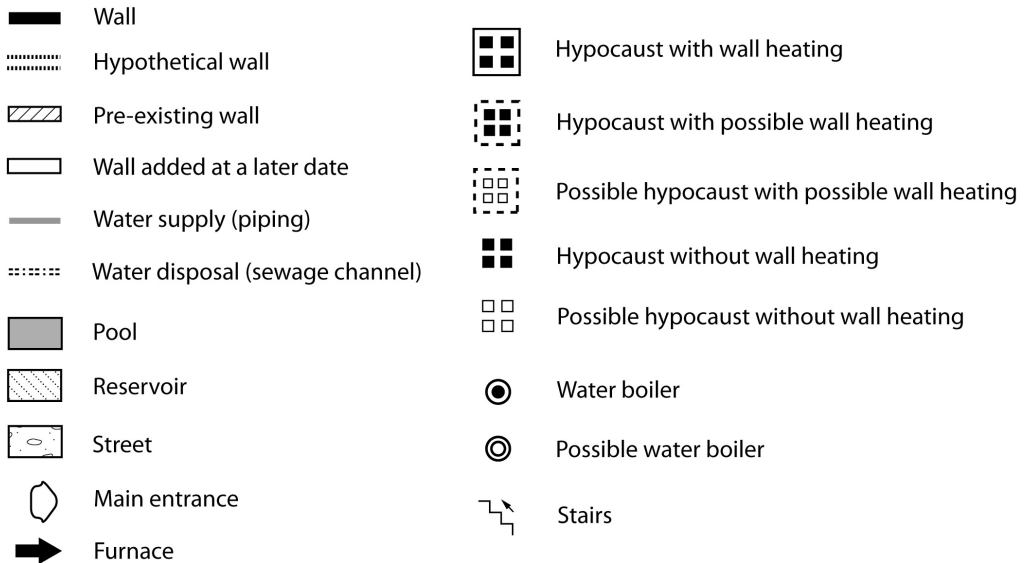


Figure 1: Schematized plan of Cuicul with the location of the baths (after Leschi 1953: general plan).

Symbols for Figures 2–7



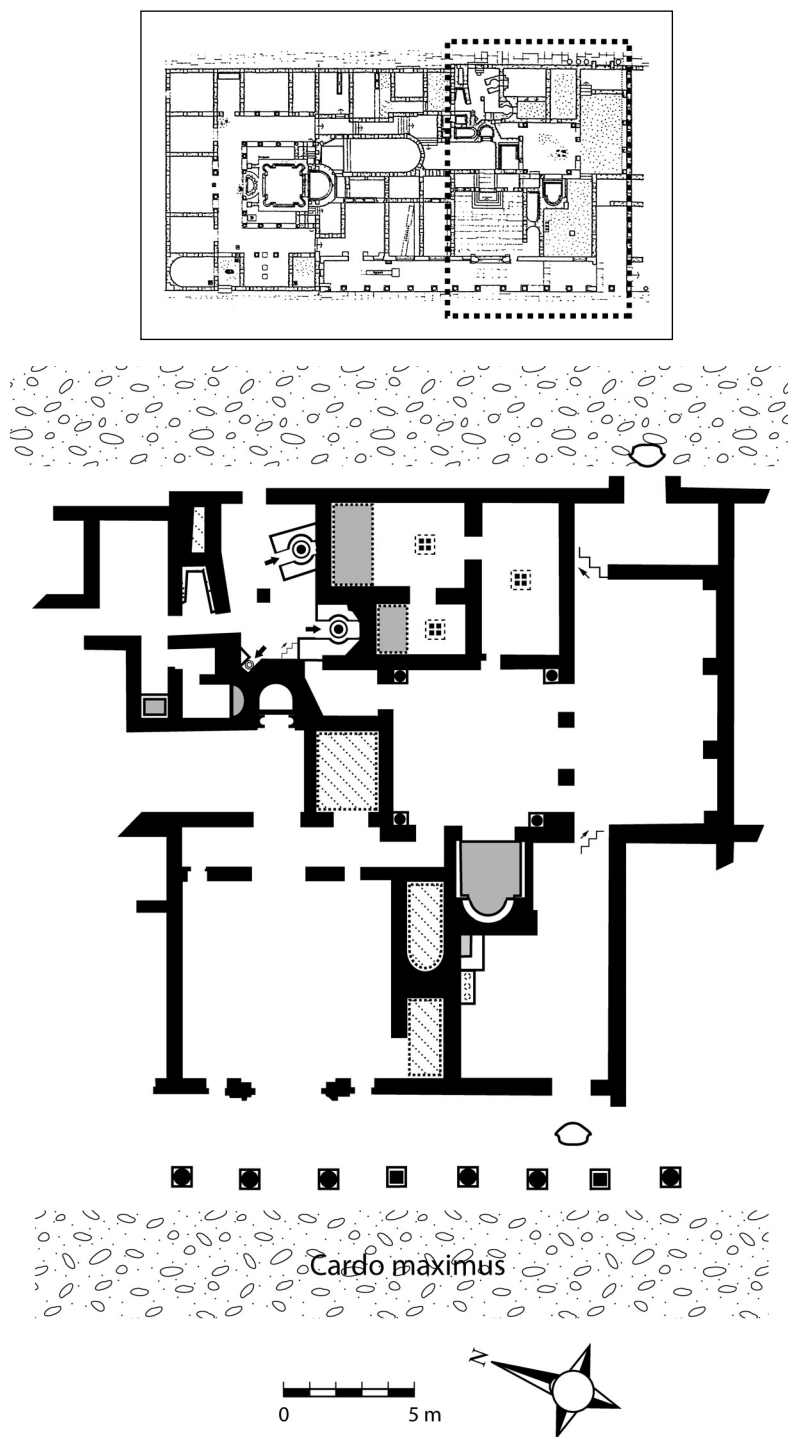


Figure 2: The baths of the House of Europe in Cuicul (after Blanchard-Lemée 1975: fig. 49).

life (Thébert 1987: 380); or incorporated public functions within their own homes, albeit in an architectural context that reflected a growing social gap between patron and client (Ellis 1988: 571–575). This theory concerning the increasing seclusion of the urban elite, associated with the model of the Late Antique house, has come under recent scrutiny (Bowes 2010), and the appearance of a type of semi-private, semi-public bathhouse as part of the large *domus* in some North African cities calls for a re-examination of the alleged ‘privatization of bathing habits’.

First of all, we should remember that there was no obvious increase in the number of private baths found in urban contexts during Late Antiquity. In fact, the total number of private baths in North Africa is rather low (Thébert 2003: 363–365; Ghiotto 2003: 227; de Haan 2010: 339–356), and their geographic distribution is uneven (Bowes 2010: 52–54). In *Thamugadi* (Timgad, Algeria), all the private baths (i.e. baths that were only accessible from the interior of the house) were built during the High Empire (Thébert 2003: 228–254). The same can be said for the private baths in *Cuicul* (Djemila, Algeria – Thébert 2003: 194–203) and Carthage (Tunis, Tunisia – Rossiter 2009). At the turn of the third and fourth centuries, however, a new type of semi-private, semi-public bath seems to have been introduced. If we take the city of *Cuicul* as an example (Fig. 1), we can observe that at least three large houses were equipped with a private bathhouse in Late Antiquity. However, the construction date of these baths could only be deduced from the mosaics (Blanchard-Lemée 1975: 93, 151, 164). In the House of Europe (Fig. 2), a newly built bathhouse was added during the fourth century A.D. covering roughly one third of the ground floor (Blanchard-Lemée 1975: 140–151). In the same century, the House of the Donkey (Fig. 3) also acquired a bathhouse, embellished with splendid mosaics (Blanchard-Lemée 1975: 29–100), and the small east baths of the House of Castorius (Fig. 4) were added at an unknown date in Late Antiquity and partially encroached upon an important road leading up to the Severan Forum (Blanchard-Lemée 1975: 161–165). Similar semi-private baths have also been found in *Volubilis* (Wälila, Morocco) at the House of Venus (Thouvenot 1958: 49–63), the House of the Works of Hercules (Thouvenot 1948: 80–100), the House of the Nereids (Étienne 1960: 102–103), the House of the Sundial (Étienne 1960: 100–101), and the House of Orpheus (Thouvenot 1941: 52–60); all of which featured baths with a separate street access. In these cases, most of the baths seem to have been later additions, but unfortunately, the date of their construction cannot be pinpointed. As some of the houses themselves were constructed in the third century, it is possible that the baths were constructed at the end of that century or at the beginning of the following century (Thébert 2003: 272, 280–283; Carucci 2007: 204, 211). The important thing to notice with all these bathhouses is that they had a separate street entrance, enabling people to enter the baths without passing through the house. In the House of Europe and the House of the Donkey in *Cuicul*, and the House of Venus in *Volubilis*; these street entrances were quite eye-catching thanks to protruding walls or porticos (Thébert 2003: 282). The rather large surface area of these baths in comparison to the entire ground floor further supports the idea that they were not only used by the inhabitants of the house, but also by outsiders (de Haan 2010: 129).

The same trend can be observed in the baths of extra-urban villas. Recent comparative research in Italy has demonstrated that there was no substantial increase in the number of villa baths during the Late Antique period. For the region of *Latium*, a survey of some 384 sites found only one confirmed example of a bathhouse constructed in Late Antiquity; and of the 69 villas with a private bath, most had their baths added during the second or third century A.D. (Marzano 2007: 435). The dataset of North African villa-baths in Nathalie de Haan’s work shows similar results, as only seven of the 60 villa baths identified by the author could be dated to the fourth

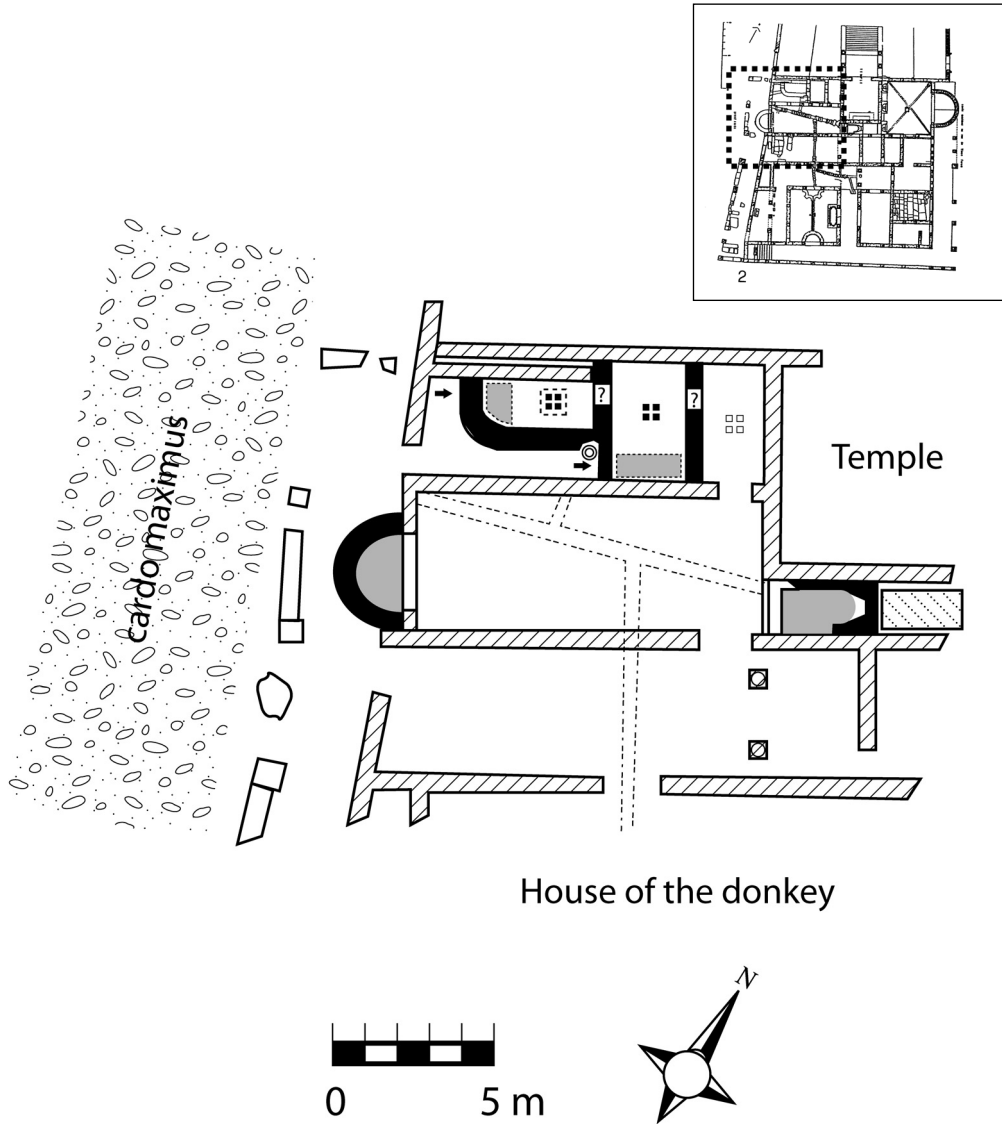


Figure 3: The baths of the House of the Donkey in Cuicul (after Blanchard-Lemée 1978: 24, fig. 4).

century or later (de Haan 2010: 339–356). The fourth-century baths of Sidi Ghrib in Tunisia (Ennabli 1986) (Fig. 5) and the late fourth-century baths of Oued Athmenia in Algeria (Pouille 1878; Alquier and Alquier 1930) (Fig. 6) are the most well known examples. Although these villa baths have sometimes been presented as an entirely different category in comparison to the private baths in an urban context (Thébert 2003: 364), scholars have recently argued that the

rural villas may well fit within the same broad architectural evolution that influenced the urban *domus* (Bowes 2010: 94–95). The architecture of both types of private houses had to reflect the wealth and prestige of the owner as a statement of power in an ever-growing social competition. The North African examples, but also the villa baths in Sicily such as the early fourth-century Villa del Casale in Piazza Armerina (Pensabene 2010), had separate entrances to the outside, enabling bathers to enter the baths without passing through the house. The elaborate decorative schemes in these bath suites – with mosaics depicting hunting scenes, bathing and other *otium*-related topics (Pouille 1878: 448–449; Wilson 1983: 17–23; Ennabli 1986: 32–33) – also seem to have carried messages of social hierarchy and power intended for a larger clientele than just the masters of the house.

Competing for Bathers

As described above, the private bath suite of an urban *domus* or of a rural villa could be accessible to a wider public. But to whom were these baths accessible and why did the owners of the house make such an important investment? To begin, the baths may have been accessible only for a select target group of which the owner was obviously a member. For example, one can think of baths for *collegia* or simply for the friends or *clientes* of a patron (Leone 2007: 58; de Haan 2010: 130). The existence of specific baths just for *collegia* has been proposed (Thébert 1991), but is still debated. Some scholars have also argued that operating a bathhouse could have had a direct financial benefit (Nielsen 1990: 124). However, this seems unlikely as we should remember that the operating costs of baths, including water supply, fuel consumption, and staff fees, must have been quite high (Nielsen 1990: 122–124). The main reason for building and operating a bathhouse was therefore more about social prestige and charming fellow citizens, rather than making good money (Fagan 1999: 165–170). By building the baths inside their own home, the wealthy proprietors could tie fellow citizens living in the neighbourhood even closer to their *familia*. The Late Antique juridical sources confirm that such semi-private baths were indeed accessible to the people. In Justinian's Digests (*Digesta* 32, 35, 3), a wealthy citizen of *Tibur* (Tivoli, Italy) granted in his will, free access to the baths adjoining his house to fellow citizens. Furthermore, a different juridical case study judged that if the baths of a house had been opened to the public, there should be a direct access between the baths and the houses in order for the baths to be recognized as an integral part of that house (*Digesta* 32, 91, 4). The custom of inviting clients, colleagues and friends to one's private bathhouse, was a tradition that had existed since Republican times, and is well attested by the literary evidence (de Haan 2010: 119–140; Trümper 2014: 210). However, opening up the private baths to the entire neighbourhood, or surrounding settlement in the case of villa baths, reveals a new relationship between the wealthy patron, his surroundings, and his fellow citizens. Instead of an increasing seclusion from society and a privatization of property, an important area of the private space was made 'public' by inviting fellow citizens into the *domus*, and thus, also into the political entourage of the proprietor. In Late Antique urban contexts, such attempts to tie a certain neighbourhood to the *familia* of a wealthy patron have also been recognized by the closing off of streets, and new private constructions protruding onto public space (Christie 2006: 224; Gering 2010: 94).

This type of semi-private bath may well have continued the tradition of the elite offering baths to the community, be it in a slightly different form. However, if the private baths were to be opened to a larger public, they would have to be bigger and better equipped. If we look at the location of the Late Antique semi-private baths in the urban fabric of *Cuicul* (Fig. 1), we notice

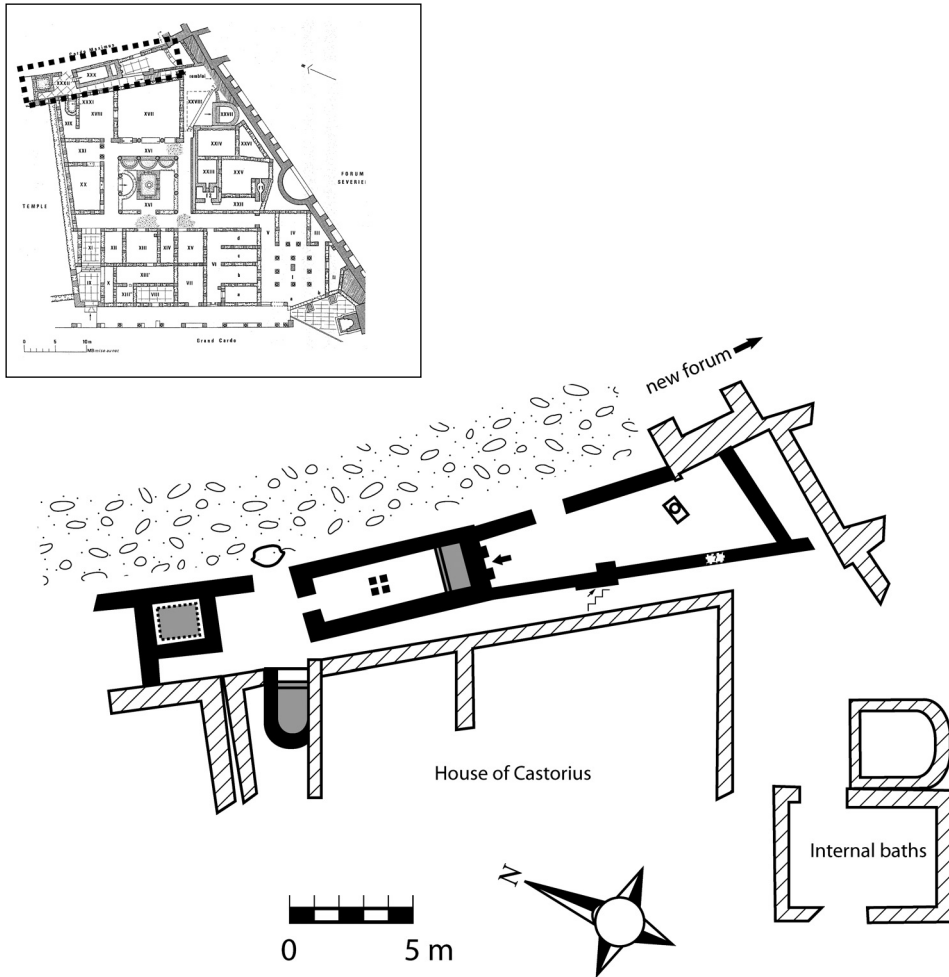


Figure 4: The baths of the House of Castorius in Cuicul (after Blanchard-Lemée 1975, fig. 62).

they were located along important traffic arteries, but also that they avoided the catchment area of the large south baths, which were still in use in the fourth century (Blanchard-Lemée 1975: 233–234). The smaller privately owned baths had then to rely on providing a more intimate bathing experience, complete with special facilities and quality services in order to out-edge the competition of public baths, and especially, rivalling private baths (Fagan 1999: 126–127), as more bathers could mean more political support for the patron. Convincing these bathers with luxurious decoration, such as fine mosaics and colourful marbles, was one way to go (e.g. *Cuicul*, the baths of the House of the Donkey – Carucci 2007: 139) (Fig. 3); but offering more space and more rooms to create a bath that could rival the services of a public bath was even better (e.g. *Cuicul*, the baths of the House of Europe) (Fig. 2). Thus, by elaborating the two

main functional elements of a Roman-style bathhouse, the heating system and the pools, wealthy patrons could build attractive baths to impress fellow citizens.

Late Antique, but Still Hot

The heated section was a fundamental aspect of any Roman style bathhouse. For the Romans, bathing involved some basic elements: sweating out the bad bodily fluids, relaxing the body in warm water, rubbing away the filth, and strengthening the body in cold water (Blonski 2014: 233–238). Therefore, it should not come as a surprise that the Late Antique, semi-private baths had at least one heated room, one warm water pool, and one cold water pool (Figs. 2, 3, 4). For the examples cited above, the heated section might seem quite small, but it is still proportionate to the entire bathhouse. In fact, the relatively small size of the heated rooms is a well-known regional characteristic of North African bathhouses (Nielsen 1990: 94; Yegül 1992: 409; Thébert 2003: 326), possibly due to the abundant year-round sunshine and the high temperatures in the summer months. The limited surface covered by the heated section, which has often been mentioned as a characteristic of Late Antique baths due to fuel shortage (Nielsen 1990: 124; Stasolla 2002: 70), could instead be seen as a mere continuation of a North African tradition. Some semi-private baths wanted to offer something more than the usual caldarium/tepidarium combination and were thus equipped with additional heated rooms, possibly a sudatorium or a second caldarium, e.g. the baths of the House North of the Capitolium in Thamugadi (Timgad, Algeria – Ballu 1916: 240–241). The fact that additional heated rooms were constructed when the baths could have functioned perfectly with only two or three of these, suggests that the patrons deliberately opted for better-equipped baths. Furthermore, elaborate heated sections, which can also be identified in the villa baths at Sidi Ghrib (Fig. 5) or Oued Athmenia (Fig. 6), do not seem to point to a general lack of fuel in Late Antique North African contexts.

Small Pools for Great Comfort

Besides the heated section, the pools were the other key element of a Roman-style bathhouse, as the size and the decoration of these pools often indicated the social standing of the bathhouse (Manderscheid 1996: 110–113). One of the main attractions of the large imperial *thermae* was the open-air swimming pool (*natatio*) and the variety of heated pools. Thus, the appearance of small pools in Late Antique baths – often only large enough to accommodate one person at a time – was considered an unmistakable sign of the decline of the bathing culture. It would be tempting to interpret these small pools as the personal pools of the rich proprietor, who may have underlined his higher social status in this way. However, not every communal pool seems to have been accompanied by a single-person pool. Furthermore, some of the more luxurious semi-private baths did not have single-person pools, e.g. the baths of the House of Venus in *Cuicul*. Therefore, several alternative explanations can be put forward to explain the introduction of these small pools.

The most popular theory explains the small size of these pools as the result of a breakdown of the water supply systems during Late Antiquity, as the destruction of aqueducts obliged baths to depend solely on wells or rainwater, resulting in a direct reduction in the size of the pools (Nielsen 1990: 116). However, it can be observed that most of the small pools in the North African examples were added to the total number of pools rather than replacing larger communal pools. This is the case for the villa baths of Oued Athmenia (Fig. 6) and the baths of Sidi Ghrib (Fig.

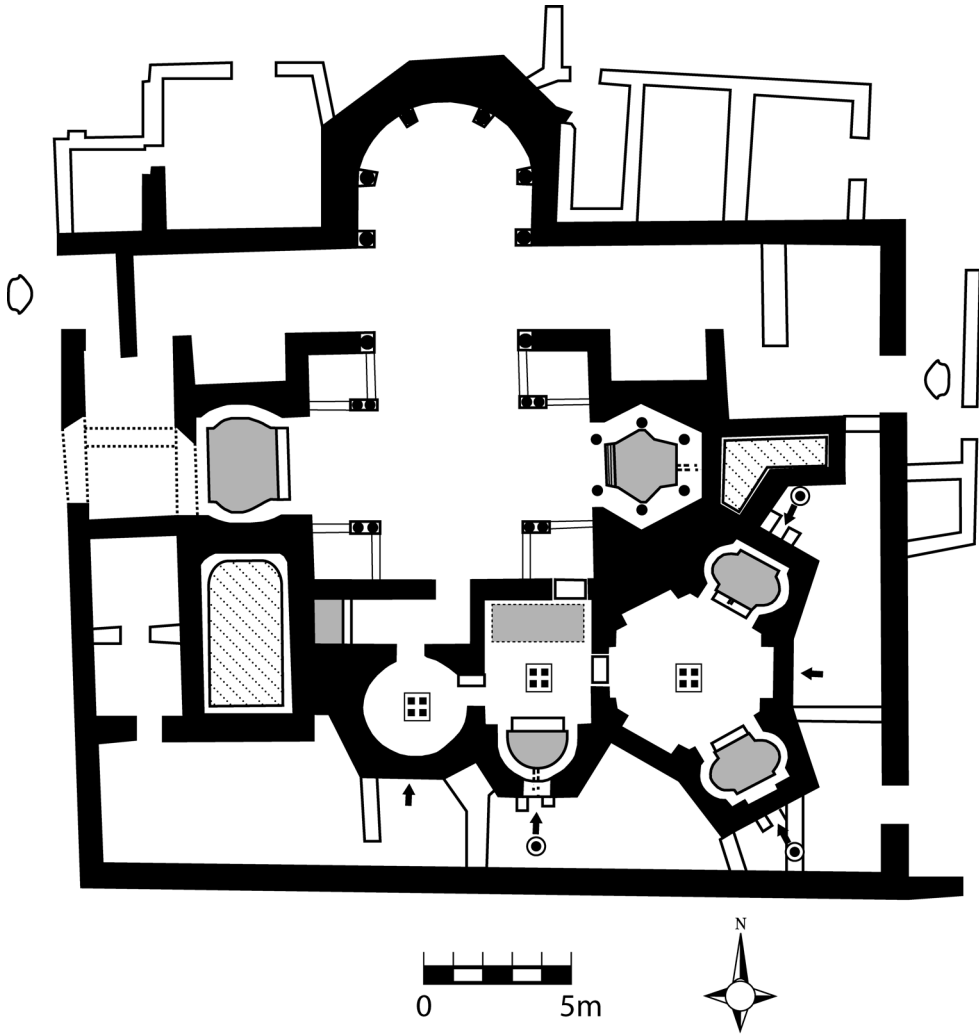


Figure 5: The baths in Sidi Ghrib (after Ennabli 1986: 3, plan).

5) mentioned above, but also for the smaller semi-private baths, such as the early fourth-century baths in the House of Asclepeia in *Althiburos* (Henchir Medeina, Tunisia – Ennaïfer 1976: 88–92) as well as the fourth-century baths in Henchir Safia in Tunisia (Lassus 1959) (Fig. 7). It is also interesting to note that in some cases a small pool was added to the original Imperial-period ground plan, as in the Winter Baths of *Thuburbo Maius* (Henchir Kasbat, Tunisia – Drappier 1920). The *frigidarium* of these third century public baths was equipped with an oval single-person pool during a restoration phase (Drappier 1920: 60). This addition was dated to the fifth century by an inscription that commemorated the restoration of the baths and mentioned the pool in particular (Thébert 2003: 496, nr. 52). In the Late Antique phase of the Large Baths in *Sufetula*, possibly commemorated by an inscription dated to the early fourth century (Duval 1989, nr. 33), the eastern *frigidarium* was remodelled by constructing two *piscinae*: one large

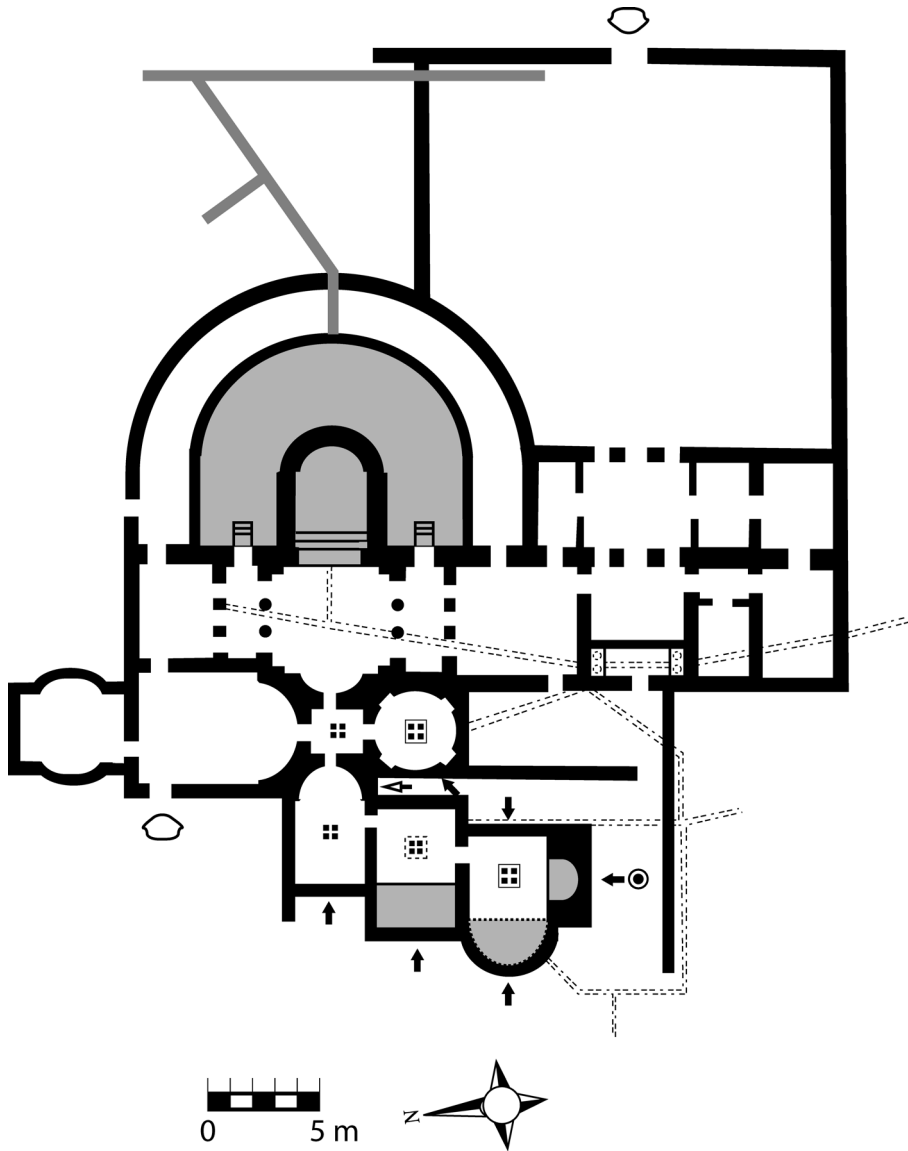


Figure 6: The baths at Oued Athmenia (after Poulle 1878: pl. XIX).

communal and one small individual (Thébert 2003: 154–155, 600, plates L2–3). This evidence from both private and public baths shows that the small pools actually added an extra volume of water to the total pool capacity, necessitating a higher water supply.

A second theory proposes that the smaller pools were constructed to reflect new Christian morals, aiming to avoid close bodily contact within the bathhouse (Yegül 1992: 461, note 88; Stassola 2002: 70). The individual pools would hence allow Christian bathers to take a bath in a pious manner, without being tempted by carnal pleasures. René Ginouvès (1955: 148–149)

already dismissed such a theory, which was based primarily on the interpretation of early Christian literature, as the Christian critique was mainly pointed towards mixed bathing (male with female) and intended for ascetics (also Synek 1998: 232–234). Furthermore, the introduction of this type of smaller pool did not occur alongside the removal of the communal pools (see above). What would be the point of taking your heated bath in an individual pool out of piety if you had to take the cold one in the communal *piscina* afterwards, or vice versa? As the alternation of a hot and a cold pool formed the core of the bathing habit, it is unlikely that one of the two would be skipped. Even if a puritan Christian belief influenced the layout of some baths, especially baths near a baptistery or in a monastery (Volpe *et al.* 2007: 233–253), they do not seem to have shaped the overall architecture of bathhouses. Indeed, the baths of basilica 2 in *Sufetula* (Duval 1971: 304–309) seem to have been built on the command of the local bishop in the late fifth century. Even if these baths were located next to a large church, they were equipped with both communal and single-person pools. More recently, Janet DeLaine wondered whether the small pools could have had a religious function, much as the *miqveh* had had for the Jewish religion (DeLaine 2006: 340). The problem here is that such a use would be very difficult to prove archaeologically. Some literary evidence, however, suggests that Christian baptism sometimes took place within a public bathhouse (Maréchal 2015). The small single-person pools would seem a perfect place for the catechumens to be baptised.

René Ginouvès proposed a slightly different theory in which the small pools would have been the result of an evolution in the tastes of the bathers (Ginouvès 1955: 150). Smaller baths would have facilitated the use of different types of water or water of a different temperature. The idea could have been picked up at the thermal baths, which used several smaller baths to cure the sick (Ginouvès 1955: 150). The water in small pools would also have been easier to refresh (Bouet 2003: 292). Chemical analysis of the calcareous deposits on the bottom of the different pools in the thermal baths at Jebel Oust (Tunisia) indeed confirmed that the different pools were filled with water of different temperatures (Broise and Curie 2014). Furthermore, similar analysis of the small pools in the Late Antique baths of Kôm el-Dikka in Alexandria (Egypt) showed similar results (Kořataj 1992: 75). We have here an undisputable proof that at least some of the small pools served a specific temperature-related function, whether they helped with specific medical treatments or simply offered more bathing experiences.

If we consider the North African evidence, we can remark that several of these small pools are to be found in the *frigidarium*, in the *caldarium* or in the first heated room of a retrograde bathing route. The location of such a washbasin for personal ablutions reminds us of the *labrum* in the Republican and early Imperial baths. The heated basin might have replaced the *labrum* as a feature for personal ablutions (Maréchal 2015). Perhaps then, the small pools in the *caldaria* and *frigidaria* of Late Antique baths could be interpreted as the successor of the *labrum*, fulfilling a similar function. It is striking that in the semi-private baths of Henchir Safia (Fig. 7), the small pool in the cold section of the baths was filled with heated water, just as some *labra* had been (Nielsen 1990: 158). Furthermore, most of these small pools did not have outlets, meaning they had to rely on the principle of overflow. This points to a continuous water supply (Garbrecht and Manderscheid 1994: 72), just as had been the case for the *labra*. In fact, the small pools at the start of the heated section could simply have been the *exit-tepidarium* pools that started to appear in the first half of the second century A.D. As most of the baths were of the row type, with a retrograde route (Thébert 2003: 353–355), the small pool stood at the beginning, but also at the end of the bathing route. These pools could then be used after a visit to the *caldarium*. It is probably not a coincidence that the *exit-tepidarium* pools start to appear at a time when the

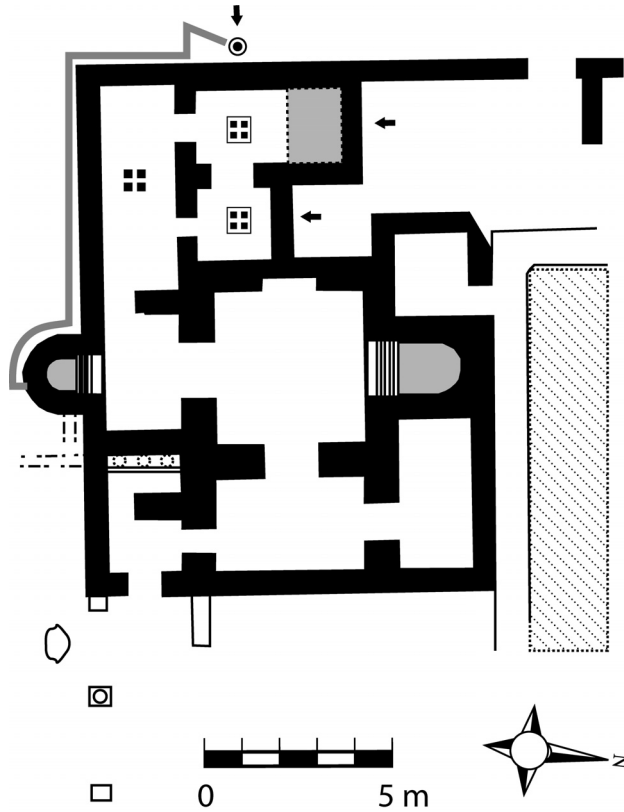


Figure 7: The baths in Henchir Safia (after Lassus 1959, general plan).

schola labri disappear in the layout of the baths (Nielsen 1990: 158). The presence of such exitepidarium pools is not only attested in public baths, such as the Baths of Basilica 2 in *Sufetula*, but also in the semi-private baths, e.g. the baths of the House of Asclepeia in *Althiburos* and the villa baths in Sidi Ghrib (Fig. 5).

To summarize, the single-person pools found in public, private, and semi-private Late Antique baths cannot be explained by one single theory. For the semi-private baths in North Africa, it seems that the addition of small pools was often a deliberate choice, necessitating an extra volume of water. They could also offer the bathers an additional service, such as a more varied or more personal bathing experience. Therefore, for the rich proprietors of semi-private baths, impressing the bathers with extra luxuries must have been worth the extra investment.

Concluding Remarks

Bathing habits in North Africa were far from extinguished in Late Antiquity. Not only is there growing evidence for continued use and limited new construction of public bathhouses (Leone 2007: 86–87, 90–93, 143–144), the semi-private baths found in some large North African houses also reveal that some kind of private euergetism continued to be channelled towards bathing. It

is remarkable then that, at least during the fourth century, the local elite still invested in secular public infrastructure, and not solely in church building and private residences. By offering fellow citizens access to their private baths, the North African elite may well have tried to tie sections of the society to their *familia*. It is probably not a coincidence that this trend seems strongest in fourth-century North Africa, where the *curia* was still functioning and accession to the local city council (hence the need to rally the support of the people) was still an important step in any political career (Lepelley 1979: 299–310; Carrié 2005: 293–294). The increasing competitiveness between an ever-growing number of wealthy citizens – a direct consequence of the political reforms of Diocletian and Constantine (Kelly 2004: 147) – might explain why families now built publicly accessible baths inside their own houses, as this enabled a more direct link between the *familia* and the public service on offer. The more luxurious the baths were and the better equipped, the more respectable the proprietor would look in the eyes of the people. The construction of a semi-public bathhouse can thus be seen within the larger framework of an increasing concentration of wealth and power.

The appearance of these semi-private baths is also important for the debate about the evolution of the Late Antique house in general. Making the private baths accessible to a larger public contradicts the paradigms that stress a growing privatisation of the house and an increasing seclusion of the elite from public life (Thébert 1987). The proprietors of these houses actually made an important (financial) effort to link the local community to the *familia*. Hence, the construction of semi-private baths fits within the theory that sees Late Antique houses reflecting a more intimate relationship between owners and guests, also recognized by the presence of new audience halls and dining rooms (Bowes 2010: 55). Furthermore, it supports the idea that some aspects of public life were absorbed into the private residences (Ellis 1988: 571), even if one should remember that some public baths were still in use, possibly as late as the sixth century (Leone 2003: 239–279).

The fact that some publicly accessible baths were no longer freestanding buildings, but part of a house, also had an impact on larger issues of urbanism. The bathhouse – an important social hub within a neighbourhood – was now located inside the house of a wealthy citizen. Houses that lay along an important traffic artery, which often featured a branch of the aqueduct and/or a sewer, and further from a large public bath, were probably more suited to be equipped with a semi-public bath. The location of these semi-public baths could then result in the creation of new patterns of movement within the city.

Architectural trends identified in these semi-private baths also allow us to question some of the general ideas that persist about Late Antique baths. In the case of the North African baths, the small heated section should be seen as a direct continuation of a regional trend, rather than interpreted as the result of fuel shortage. Furthermore, the construction of small pools does not necessarily imply the decline of the water supply network. In at least some cases, the construction of an individual tub seems a deliberate choice, possibly to offer the bathers a more personalized bathing experience. Thus, the addition of a single-person pool could increase the facilities on offer, which could possibly attract more bathers. By attracting more bathers, the rich proprietors could then expand their sphere of influence in the local community at the expense of their political rivals.

Acknowledgements

The author would like to thank Dr Nathalie de Haan (Radboud University, Nijmegen), Dr Paul Johnson (Trent & Peak Archaeology/University of Nottingham), and the TRAC editorial committee for their corrections and remarks on the earlier drafts of this paper.

Bibliography

Ancient Sources

Digesta (Translated by A. Watson *et al.* 1985). *The Digest of Justinian*. Philadelphia: University of Pennsylvania Press.

Modern Sources

- Alquier, J. and Alquier, P. 1930. Les thermes Romains du Val-d'Or (près de Oued-Athménia). *Recueil des Notices et Mémoires de la Société Archéologique, Historique et Géographique du Département de Constantine* 59: 298–318.
- Ballu, A. 1916. Rapport sur les travaux de fouilles exécutés en 1915 par le service des monuments historiques en Algérie. *Bulletin Archéologique du Comité des Travaux Historiques et Scientifiques* (1916): 165–242.
- Blanchard-Lemée, M. 1975. *Maisons à Mosaïques du Quartier Central de Djemila (Cuicul)*. Aix-en-Provence: Ophrys.
- Blonski, M. 2014. *Se Nettoyer à Rome. IIe avant J.-C. -IIe s. après J.-C. Pratiques et Enjeux*. Études Anciennes 77. Paris: Les Belles Lettres.
- Bouet, A. 2003. *Les Thermes Privés et Publics en Gaule Narbonnaise. Volume I – Synthèse*. Collection de l'école Française de Rome 320. Rome: École Française de Rome.
- Bowes, K. 2010. *Houses and Society in the Later Roman Empire*. London: Gerald Duckworth & Co.
- Brödner, E. 1983. *Die Römischen Thermen und das Antike Badewesen: eine Kulturhistorische Betrachtung*. Darmstadt: Wissenschaftliche Buchgesellschaft.
- Broise, H. and Curie, J. 2014. L'étude de travertins carbonatés du sanctuaire de Jebel Oust (Tunisie). In M.F. Boussac, S. Denoix, T. Fournet, and B. Redon (eds) *25 Siècles de Bain Collectif en Orient. Proche-Orient, Égypte et Péninsule Arabique. Balaneia, Thermae, Hammam. Actes du 3e Colloque International Balnéorient (Damas/Syrie 2–6 nov. 2009)*. Études urbaines 9.2. Cairo: Institut Français d'archéologie orientale: 573–583.
- Carrié, J.-M. 2005. Developments in provincial and local administration. In A. Bowman, P. Garnsey, and A. Cameron (eds) *Cambridge Ancient History vol. 12: The Crisis of the Empire*. Cambridge: Cambridge University Press: 269–312.
- Carucci, M. 2007. *The Romano-African Domus. Studies in Space, Decoration, and Function*. British Archaeological Reports International Series 1731. Oxford: Archaeopress.
- Christie, N. 2006. *From Constantine to Charlemagne: An Archaeology of Italy, AD 300–800*. Aldershot: Ashgate.
- De Haan, N. 2010. *Römische Privatbäder: Entwicklung, Verbreitung, Struktur und Sozialer Status*. Frankfurt/Berlin: Lang.
- DeLaine, J. 2006. Baths and Bathing in Late Antique Ostia. In C. Mattusch, A. Donohue, and A. Brauer (eds) *Common Ground: Archaeology, Art, Science and Humanities*. Oxford: Oxbow: 338–343.
- Drappier, L. 1920. Les thermes de Thurburbo Maius. *Bulletin Archéologique du Comité des Travaux Historiques et Scientifiques* (1920): 55–75.
- Duval, N. 1971. *Les Églises Africaines à Deux Absides : Recherches Archéologiques sur la Liturgie Chrétienne en Afrique du Nord. I. Les Basiliques de Sbeitla à Deux Sanctuaires Opposés (Basiliques I, II et IV)*. Paris: De Boccard.

- Duval, N. 1989. Inventaire des inscriptions latines païennes de Sbeitla. *Mélanges de l'École Française de Rome. Antiquité* 101: 403–488.
- Ellis, S. 1988. The end of the Roman house. *American Journal of Archaeology* 94 (4): 565–576.
- Ennabli, A. 1986. Les thermes du thiasse marin de Sidi Ghrib (Tunisie). *Monuments et Mémoires de la Fondation Eugène Piot* 68: 1–59.
- Ennaïfer, M. 1976. *La Cité d'Althiburos et l'Édifice des Asclepieia*. Bibliothèque Archéologique 1. Tunis: Institut National d'Archéologie et d'Art.
- Étienne, R. 1960. *Le Quartier Nord-Est de Volubilis*. Paris: De Boccard.
- Fagan, G.G. 1999. *Bathing in Public in the Roman World*. Ann Arbor: The University of Michigan Press.
- Fendri, M. 1964. Les thermes des mois à Thina. *Cahiers de Tunisie* 12: 47–57.
- Garbrecht, G. and Manderscheid, H. 1994. *Die Wasserbewirtschaftung Römischer Thermen: Archäologische und Hydrotechnische Untersuchungen*. Mitteilungen/Leichtweiss-Institut für Wasserbau der Technischen Universität Braunschweig 118. A. Braunschweig: Leichtweiss-Institut für Wasserbau.
- Gering, A. 2010. Genußkultur und Ghettobildung: Ist Ostia repräsentativ für spätantike Metropolen? In N. Burkhardt and R. Stichel (eds) *Die Antike Stadt im Umbruch: Kolloquium in Darmstadt, 19. Bis 20. Mai 2006*. Wiesbaden: Reichert Verlag: 92–108.
- Ghiotto, A. 2003. Gli impianti termali. In S. Bullo and F. Ghedini (eds) *Amplissimae atque Ornatisimae Domus: l'Edilizia Residenziale nelle Città della Tunisia Romana*. Rome: Quasar: 221–232.
- Ginouvés, R. 1955. Sur un aspect de l'évolution des bains en Grèce vers le IV^e siècle de notre ère, *Bulletin de Correspondance Hellénique* 79: 135–152.
- Heinz, W. 1983. *Römische Thermen: Badewesen und Badeluxus im Römischen Reich*. Edition antike Welt. Munich: Hirmer.
- Kelly, C. 2004. *Ruling the Later Roman Empire*. Cambridge: The Belknap Press of Harvard University Press.
- Kołątaj, W. 1992. *Alexandrie VI. Imperial Baths at Kom el-Dikka*. Warsaw: Centre d'Archéologie Méditerranéenne de l'Académie Polonaise des Sciences.
- Lassus, J. 1959. L'archéologie algérienne. Henchir Safia. *Libyca* 7: 325–343.
- Leone, A. 2007. *Changing Townscapes in North Africa from Late Antiquity to the Arab Conquest*. Studi Storici sulla Tarda Antichità 28. Bari: Edipuglia.
- Lepelletier, C. 1979. *Les Cités de l'Afrique Romaine au Bas-Empire : 1. La Permanence d'une Civilisation Municipale*. Paris: Études Augustiniennes.
- Leschi, L. 1953. *Djemila, Antique Cuicul*. Alger: Direction de l'Intérieur et des beaux-arts, Service des Antiquités.
- Manderscheid, H. 1996. Standard und Luxus in römischen Bädern. Überlegungen aus der Sicht der Hydrotechnik. In N. de Haan and G. Jansen (eds) *Cura Aquarum in Campania. Proceedings of the Ninth International Congress on the History of Water Management and Hydraulic Engineering in the Mediterranean Region*. Babesch Supplement 4. Leiden: Brill: 109–115.
- Maréchal, S. 2015. Lavacrum: just another word for baths? How the terminology of baths may have reflected changes in bathing habits, *Revue Belge de Philologie et d'Histoire/Belgisch Tijdschrift voor Filologie en Geschiedenis* 93: 139–177.
- Marzano, A. 2007. *Roman Villas in Central Italy: A Social and Economic History*. Leiden/Boston: Brill.
- Nielsen, I. 1990. *Thermae et Balnea. The Architecture and Cultural History of Roman Public Baths. I Text*. Aarhus: Aarhus University Press.
- Pensabene, P. 2010. Villa del Casale e il territorio di Piazza Armerina tra Tardoantico e Medioevo. Le nuove ricerche del 2004–2009. In P. Pensabene (ed.) *Piazza Armerina. Villa del Casale e la Sicilia tra Tardoantico e Medioevo*. Studia Archaeologica 175. Rome: L'Erma di Bretschneider: 1–32.
- Pouille, A. 1878. Le bains de Pompeianus. *Receuil des Notices et Mémoires de la Société Archéologique, Historique et Géographique du Département de Constantine* 19: 431–454.
- Rossiter, J.J. 2009. The 'neighbourhood baths' of Roman Carthage. In V. Bridoux (ed.) *Contrôle et Distribution de l'Eau dans le Maghreb Antique et Médiéval*. Collection de l'École Française de Rome 426. Rome: École Française de Rome: 177–197.

- Stasolla, F. R. 2002. *Pro Labandis Curis: il Balneum tra Tarda Antichità e Medioevo*. Tardoantico e Medioevo: Studi e Strumenti di Archeologia 4. Roma: Palombi.
- Synek, E. 1998. Christliche Badekultur. In E. Specht (ed.) *Alltägliches Altertum*. Frankfurt am Main: Lang: 227–250.
- Thébert, Y. 1987. Private life and domestic architecture in Roman Africa. In P. Veyne (ed.) *A History of Private Life I. From Pagan Rome to Byzantium*. Cambridge (MA): The Belknap Press of Harvard University Press.
- Thébert, Y. 1991. Les sodalités dans les thermes d’Afrique du Nord. In Anonymous (ed.) *Les Thermes Romains: Actes de la Table Ronde, Rome, 11.11.1988–12.11.1988*. Rome: École Française de Rome: 139–149.
- Thébert, Y. 2003. *Thermes Romains d’Afrique du Nord et leur Contexte Méditerranéen: Études d’Histoire et d’Archéologie*. Bibliothèque des Écoles Françaises d’Athènes et de Rome 315. Rome, École Française de Rome.
- Thouvenot, R. 1941. La maison d’Orphée à Volubilis. *Publications du Service des Antiquités du Maroc* 6: 42–66.
- Thouvenot, R. 1948. La maison aux travaux d’Hercule. *Publications du Service des Antiquités du Maroc* 8: 69–108.
- Thouvenot, R. 1958. *Maisons de Volubilis: le Palais dit de Gordien et la Maison à la Mosaïque de Venus*. Publications du Service des Antiquités du Maroc. Rabat: Services des Antiquités du Maroc.
- Trümper, M. 2014. ‘Privat’ versus ‘öffentlich’ in hellenistischer Bädern. In A. Matthaei and M. Zimmermann (eds) *Stadtkultur im Hellenismus Die Hellenistische Polis als Lebensform 4*. Heidelberg: Verlag Antike: 206–249.
- Volpe, G., Annese, G., and Favia, P. 2007. Terme e complessi religiosi paleocristiani. Il caso di San Giusto. In M. Guérin-Beauvois and J. M. Martin (eds) *Bains Curatifs et Bains Hygiéniques en Italie de l’Antiquité au Moyen Âge*. Collection de l’École Française de Rome 383. Rome: École Française de Rome: 217–261.
- Ward-Perkins, B. 1984. *From Classical Antiquity to the Middle Ages: Urban Public Building in Northern and Central Italy, AD 300–850*. Oxford Historical Monographs. Oxford: Oxford University Press.
- Wickham, C. 2005. *Framing the Early Middle Ages. Europe and the Mediterranean 400–800*. Oxford: Oxford University Press.
- Wilson, R. J. A. 1983. *Piazza Armerina*. London: Granada.
- Yegül, F. 1992. *Baths and Bathing in Classical Antiquity*. New York/Cambridge: Architectural History Foundation/MIT Press.