

UNIVERSITY OF HAIFA  
THE ZINMAN INSTITUTE OF ARCHAEOLOGY

# CORNUCOPIA

Studies in honor of  
ARTHUR SEGAL

Edited by

MICHAEL EISENBERG and ASHER OVADIAH

[www.bretschneider.it](http://www.bretschneider.it)



GIORGIO BRETSCHEIDER  
EDITORE

XX-326 pagine con 187 illustrazioni

*Undertaken with the assistance of*

THE ZINMAN INSTITUTE OF ARCHAEOLOGY  
UNIVERSITY OF HAIFA

ISSN 0391-9293

ISBN 978-88-7689-315-5

Cover drawing - The bronze mask of Pan of Hippos. Drawn by Yannis Nakas

All rights reserved. No part of this book may be reprinted or reproduced or utilized in any form or by any electronic, mechanical, or other means, including photocopying and recordings, without permission in writing from the publishers

PRINTED IN ITALY

---

COPYRIGHT © 2019 by GIORGIO BRETSCHNEIDER EDITORE - ROMA  
[www.bretschneider.it](http://www.bretschneider.it)

## TABLE OF CONTENTS

<i>Foreword</i> . . . . .	p. XI
<i>Arthur Segal: Curriculum Vitae</i> . . . . .	» XIII
MICHAEL SOMMER – « <i>Sick not only in body...</i> ». <i>Apollo Grannus and the emperor enchanted</i> . . . . .	» 1
ACHIM LICHTENBERGER – <i>Jerusalem and beyond; Cities, Sanctuaries and centrality in the kingdom of Herod</i> . . . . .	» 15
FRANK SEAR – <i>Discrimina ordinum in theatres. The archaeological evidence</i> . . . . .	» 31
JACQUES SEIGNE – <i>Gerasa: un aperçu du développement urbain, de l'époque hellénistique à l'époque omeyyade</i> . . . . .	» 47
ASHER OVADIAH – <i>The images of the early christian church in the mirror of patristic literary sources</i> . . . . .	» 81
MICHAEL EISENBERG – <i>The propylaeum of the extra muros sanctuary at Hippos</i> . . . . .	» 95
WERNER ECK, DIRK KOSSMANN – <i>Zu inschriften der römischen führungsmacht aus Israel</i> . . . . .	» 123
AMOS KLONER, BOAZ ZISSU – <i>Hellenistic residences at Maresha (Marissa)</i> . . . . .	» 135
RONNY REICH, YUVAL BARUCH – <i>The Herodian Temple Mount in Jerusalem: a few remarks on its construction and appearance</i> . . . . .	» 157
WALID ATRASH, GABRIEL MAZOR – <i>Entertainment facilities at Nysa-Scythopolis</i> . . . . .	» 171
RIVKA GERSHT, PETER GENDELMAN – <i>Tombs and burial customs in Roman and Byzantine Caesarea</i> . . . . .	» 189
MENAHEM MOR – <i>From Shalem (Jerusalem) to Tel Shalem: Hadrian's visit in provincia Judaea</i> . . . . .	» 211
REBECCA TOUEG – <i>R. G. Collingwood: King Arthur's Round Table</i> . . . . .	» 227
YINON SHIVTIEL, MECHAEAL OSBAND – <i>A methodological perspective on the chronology and typology of the hiding complexes in the Galilee</i> . . . . .	» 237
ARLETA KOWALEWSKA – <i>The southern bathhouse of Antiochia Hippos of the Decapolis</i> . . . . .	» 261
CHAIM BEN DAVID – <i>The Boundaries of Hippos-Sussita during the Roman and Byzantine periods</i> . . . . .	» 279
SARAH GILBOA-KARNI – <i>Liberty, citizenship, fertility, elysium. Liber Pater/Bacchus in the gardens of the bay of Naples</i> . . . . .	» 293
ESTĒE DVORJETSKI – <i>'Mens sana in corpore sano'. Physical culture, sport, and leisure in the land of Israel from Biblical times to the late Roman Empire</i> . . . . .	» 307

## THE SOUTHERN BATHHOUSE OF ANTIOCHIA HIPPOS OF THE DECAPOLIS

ARLETA KOWALEWSKA\*

*ABSTRACT - A distinct bathing tradition was one of the pillars of the Roman civilization. Consequently, bathhouses were vital components of the urban landscape of any Roman town and the most common of all the Roman public buildings. The Southern Bathhouse of Antiochia Hippos fully testifies to the way of Roman bathing and its popularity in the Eastern provinces of the Empire. Over the course of ten seasons of excavations, a craftily constructed and luxurious building was revealed that had once served the sanitary as well as the social needs of its visitors.*

### *Roman Bathing Culture*

Though Roman bathing culture originates in the Greek tradition of washing after exercise, the Romans took bathing to a completely new level, unparalleled before and hardly after. Beyond their practical purposes, Roman bathhouses were transformed into centers of leisure and pleasure. The luxury of public bathing complexes exceeded that of average homes, and so a bathhouse became the place to spend time after work. Almost everyone could go there to bathe and to relax. Bathhouses were also the everyday places of entertainment that offered a wide range of amusing activities and opportunity for social encounters<sup>1</sup>.

The typical Roman bathhouse is characterized by a circuit of halls with changing temperatures – a tepidarium (tepid hall), a caldarium (hot hall), and a frigidarium (cold hall). These main halls extended into a series of other spaces, i.e. an apodyterium (changing room), a palaestra (exercise court, sometimes equipped with a natatio, swimming pool), and a destrictarium/unctorium (hall for application of oils). The halls were heated by means of a hypocaustum, a floor suspended on small pillars (pilae), which makes Roman bathhouses easily recognizable anywhere in the archeological record<sup>2</sup>.

### *Bathhouses in the Roman East*

In contrast with the West, the Eastern provinces already had developed a type of public bathing facilities before the Roman conquest, such as Hellenistic facilities in tholoi with individual hip-bathtubs. Other institutions of community culture, such as gymnasia, were also common. The presence of these facilities made Roman bathhouses less appealing and imperative for the local societies of the Roman East. The first Roman-style bathhouses appear

---

\* The Zinman Institute of Archaeology, University of Haifa.

1) FAGAN 1999, p. 12-39, 75-78; YEGÜL 1992, p. 17-21, 30; YEGÜL 2010, p. 11-19.

2) NIELSEN 1990, p. 1-8; YEGÜL 1992, p. 33-40.

with the settling of Roman citizens, funded by the State, or as private constructions that were a way of demonstrating one's connection to Roman culture, e.g. the baths in the palaces of Herod the Great<sup>3</sup>.

Eventually, the merits of a Roman-style bathhouse, and consequently Roman bathing culture, were fully acknowledged by various cultural groups of the Roman East, such as the Jews<sup>4</sup>. As from the 2nd cent. CE, Roman-style bathhouses were commonly present in cities, and soon after even in smaller towns of the East<sup>5</sup>. In some instances, the bathhouses were adapted by the local societies to suit their cultural requirements, e.g. the bath-gymnasia that emerged in Asia Minor<sup>6</sup>. In large cities, monumental thermae could be found, which on occasion came close in size and lavishness to the grandest examples from Rome itself, such as Bath C in Antioch on the Orontes or the Southern Baths in Bosra<sup>7</sup>. Most bathhouses, however, were smaller and simpler, although these balnea too strived to provide many sensory pleasures<sup>8</sup>.

The constructional design of bathhouses in the East is ubiquitous with typical Roman features including barrel vault ceilings and brick-made hypocaustum. The difference is in the use of stone as a primary building material, as opposed to brick and cement in the West<sup>9</sup>. The local stones were skillfully used in the required design of bathhouses, and magnificent constructions were erected, such as barrel vaults in ashlar masonry that spanned spaces of over 10 m, e.g. in the East Baths of Gerasa or the Museum Baths in Hierapolis<sup>10</sup>.

Roman bathing culture grew ever stronger until the moral values of Christianity began challenging the lavishness of the custom and its buildings<sup>11</sup>. Nevertheless, grand thermae continued to be constructed as well as small balnea, and bathhouses were often built as part of monasteries<sup>12</sup>. The majority of bathhouses known from the Roman East are dated to the Byzantine Period, while no new bath buildings were being constructed at that time in the West<sup>13</sup>.

Many of the bathhouses remained in use into the Early Islamic Period. Sometime during the 8th cent. CE a switch was made to the hammam as the public bathing facility; it preserved the Roman idea of communal bathing in heated halls, but expressed it with different architecture<sup>14</sup>.

---

3) HOSS 2012, p. 263; NETZER 1999; NIELSEN 1990, p. 96, 117.

4) For example: «A scholar should not reside in a city where the following ten things are not found: a court of justice that imposes flagellation and decrees penalties; a charity fund collected by two and distributed by three; a Synagogue; public baths; a convenience; a circumciser; a surgeon, a notary; a slaughterer and a school-master» (Babylonian Talmud, Sanhedrin 17b). For further information see ELIAV 2010.

5) HOSS 2005, p. 95-96; NIELSEN 1990, p. 98. For examples from Upper Galilee see ABU RAYA 2013.

6) YEGÜL 1992, p. 250.

7) BROISE 2002; YEGÜL 2000, p. 146, 150.

8) Thermae and balnea are two common terms describing a bathing complex in ancient literary sources and in epigraphy. Thermae are usually considered to be the bigger and more luxurious establishments, while balnea were smaller and simpler neighborhood baths (NIELSEN 1990, p. 2; YEGÜL 2010, p. 48-49).

9) The Roman East is generally characterized by a predominant use of stone as construction material due to its natural availability and the long-lasting Hellenistic tradition of stone masonry (WARD-PERKINS 1977, p. 263, 271, 287).

10) LANCASTER 2015, p. 48; NIELSEN 1990, p. 99-100.

11) YEGÜL 1992, p. 314-318; YEGÜL 2010, p. 201-206.

12) TZAFERIS 2014.

13) BAKIRTZIS 2008, p. 377, 381; HOSS 2005, p. 96; NIELSEN 1990, p. 117-8.

14) HOSS 2005, p. 96; NIELSEN 1990, p. 118; YEGÜL 1992, p. 339-349; YEGÜL 2010, p. 181-182.

### *Antiochia Hippos of the Decapolis and its Bathhouses*

The ancient city of Antiochia Hippos was founded upon the crest of Mount Sussita, two kilometers east of the Sea of Galilee in the south-western part of the Golan Heights. It was one of the poleis of the Decapolis, a geo-cultural region of ten cities founded by the Seleucids that flourished throughout the Roman and the Byzantine periods. As from the year 2000 the site has been excavated by an international expedition under the direction of the Zinman Institute of Archaeology, University of Haifa, Israel<sup>15</sup>.

The urban landscape of Hippos included at least two public bathhouses enclosed within the city walls (Fig. 1). One was built adjacent to the southern city wall, consequently called the Southern Bathhouse. The other was located just south of the decumanus maximus, less than 50 m east of the forum. The latter complex has not yet been excavated, but a big pool and its water supply system are clearly recognizable on the surface<sup>16</sup>. Judging from its central location, it might have been the main bathhouse of the city<sup>17</sup>. The remains visible on the surface can be dated to the Byzantine Period, but it is not possible to tell whether the Byzantine construction was its first construction phase.

Recent excavations on the western slope of the saddle ridge, outside the eastern gate of the city, brought to light the remains of yet another bathhouse (Fig. 1)<sup>18</sup>. The bathhouse was probably part of a sanctuary, as indicated by the surrounding structures and finds (a propylaeum with a bronze mask depicting the god Pan, and a theater). Moreover, the bathhouse was situated in the vicinity of the road leading from the shore of the Sea of Galilee towards the cities of Syria, and so may have served not only the people of the city, but also travelers and the inhabitants of surrounding settlements.

### *The Southern Bathhouse*

The Southern Bathhouse was discovered during an investigation of the fortifications of the southern city wall in 2005<sup>19</sup>, and has been excavated ever since<sup>20</sup>. Up until the summer of 2018, around 65% of its estimated space has been exposed.

#### *Location*

The bath complex was fitted into, and limited by, the southern slopes of the mountain and the shape of the fortifications (Fig. 2), both of which influenced its layout and the shape of its halls.

15) The results of the excavations are published in a series of seasonal report monographs, the two-volume summary of the 2000–2011 excavation seasons (vol. I – SEGAL *et al.* 2014, and vol. II – EISENBERG 2018), and a summary of the 2012–2015 seasons (EISENBERG 2016, and EISENBERG, SCHULER 2019 forthcoming).

16) SEGAL 2014, p. 75; TSUK 2018, p. 55.

17) In many cities a bathhouse is to be found adjoining the forum. For examples from the region, see SPERBER 1998, p. 58.

18) Excavated up to now is a part of one round hall filled with debris of hypocaustum, containing some plastered surfaces, and another hall with remnants of a mosaic floor. Additional halls of substantial size can be recognized on the surface.

19) SEGAL, EISENBERG 2005, p. 13.

20) Excavations were carried under the direction of Arthur Segal and Michael Eisenberg (IAA excavation permits: G-34/2005, G-17/2006, G-72/2007, G-25/2008, G-7/2010, G-11/2011, G-16/2012, G-30/2013, G-23/2014, G-2/2015, G-19/2016, G-29/2017 and G-38/2018; NPA excavation permits: 1118/05, 1245/06, 1478/07, 1636/08, 1970/10, 2546/11, 2793/12, 3009/13, 4071/14, 5113/15, 6005/16, 8014-17 and 8010-18). Excavations of the area were supervised by Ran Abramovitch and Ranin Noufi in the season of 2005, Ranin Noufi in 2006–7, Ran Vizen in 2008, Emilia Jastrzębska in 2010–2, and the author in the seasons of 2013–8.



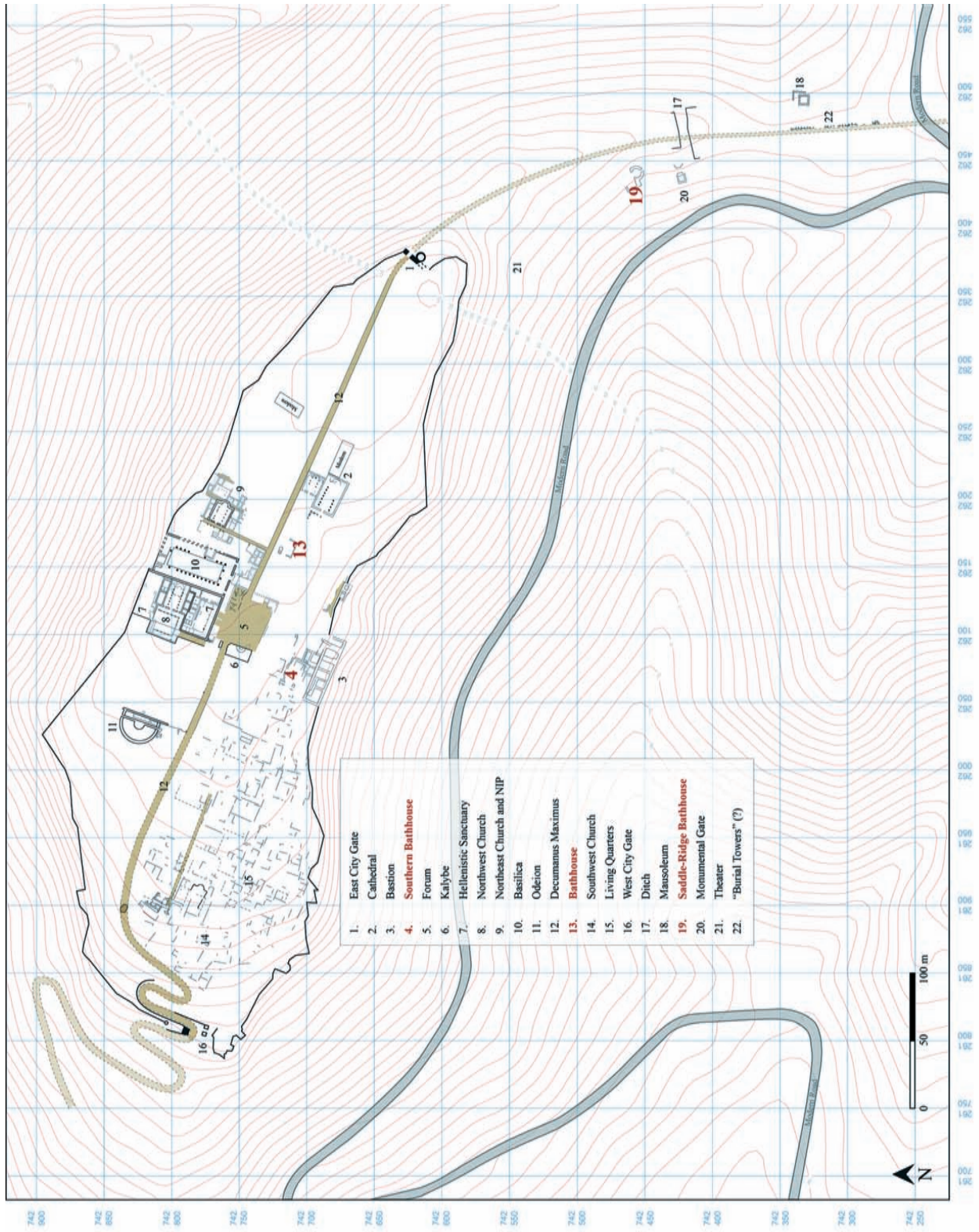


Fig. 1. Plan of the excavated areas of Antiochia Hippos. Bathhouses indicated in bold (based on Israel National Mapping Agency – SOI)

The main feature of the fortifications in the center of the southern cliffs is the bastion (a battery for housing projectiles). The bastion, 50 × 10 m in dimension and solidly built of basalt ashlar, is comprised of four vaulted chambers and two towers (Fig. 3)<sup>21</sup>. When the bastion was no longer in use, the space was rearranged, some of the chambers were filled up with rubble and cement, and a new complex was erected. The collected evidence points to the rebuilding taking place in the 2nd cent. CE.

It was not by chance that the space was reused for the construction of a bathhouse. The location of bathhouses facing towards the southwest took advantage of afternoon sunlight all year round<sup>22</sup>. The belvedere factor was taken into consideration as well by the Roman designers<sup>23</sup>. The steep southern slopes of Hippos allowed for both advantages – the sunlight exposure from south and southwest was unobstructed, and the rolling hills descending towards the Sea of Galilee provided a pleasant view that enhanced the bathing experience (Fig. 4).

The location was also convenient for the management of water. The water supply system to the bathhouse has not yet been excavated; however, it must have been coming off the main channel of the aqueduct somewhere around the forum or at some point in the course of the *decumanus maximus*<sup>24</sup>. Both of these points were situated significantly above the bathhouse and relatively close to it (50–100 m). The drainage was simply opened to the steep southern slope through a cavity in the third bastion chamber. It allowed the evacuation of the used water without any additional constructions<sup>25</sup>.

### *Identified Halls*

Up to the summer of 2018, eight halls of the complex were identified (Fig. 3). According to estimations that take into account other halls that the bathhouse must have had, it extends over at least 1050 m<sup>2</sup>, which makes it a middle-sized complex<sup>26</sup>. As the city of Hippos was small in dimensions, and consequently not as populous as some other poleis, a bathhouse of this size could have had satisfied the needs of all its dwellers<sup>27</sup>.

Four of the excavated halls were at some point equipped with a hypocaustum. Halls V and VI most probably functioned as *caldaria*, as they were heated directly. Hall I might have been a *caldarium* as well, but due to its location on the edge of the slope its walls and furnace did not survive. The small Hall III is the only one where hypocaustum was present, but could not have been heated directly. At a certain point the hypocaustum of Hall III was demolished, and a regular cement floor was constructed on top of the debris and earth filling. With or without a functioning heating system, the hall is located between the *caldaria* and the cold part of the bathhouse, so it may be interpreted as a *tepidarium*.

Three of the halls (IV, VII, and VIII) were used as *prae-furnia* – that is stoking rooms with furnaces for the hypocaustum. The furnaces are similar in construction, but the one in Hall IV is by far best preserved (Fig. 5). The space where combustion occurred was 0.5 m wide, enclosed on both sides by walls 1.5 m high made of small limestone and basalt ash-

21) EISENBERG 2014, p. 101–111; EISENBERG 2016, p. 8–10.

22) In accordance to instructions found in the writings of Vitruvius (*De Architectura* V.X.1).

23) MURPHY 2012, p. 147.

24) For the research of the water supply system of Hippos, see MESHEL *et al.* 1996.

25) SEGAL 2008, p. 22–25.

26) NIELSEN 1990, p. 105, 114.

27) If we assume 5 m<sup>2</sup> of space per bather, the capacity of the bathhouse at a given time equaled 130 people. If we assume that an average visit took 2 hours and that the bathhouse was opened all afternoon, a daily capacity equaled between 400 and 600 people.





Fig. 2. Aerial view of the southern slope with the Southern Bathhouse and the bastion. Note the forum up and behind the bathhouse, and other surrounding excavation areas. View towards north



Fig. 3. Photogrammetry of the Southern Bathhouse with excavated halls indicated





Fig. 4. The vista from above the Southern Bathhouse. View towards south-west



Fig. 5. Hall IV, the furnace for the hypocaustum of Hall VI. Note the construction of the two parallel furnace walls, the basalt arch of the wall above them and two symmetrical openings on the sides of the arch. View towards west

lars. The opening of the wall that is cut into by the furnace is almost a meter wider than the furnace itself, and is constructed as an arch of basalt voussoirs. The arch is surrounded with limestone ashlar, and on the sides of the opening some ashlar are deliberately missing in two symmetrical spots. These were possibly meant for pipes leading from the boiler, which would be located over the furnace, to the alveus, the communal pool of the caldarium, filled with warm water.

Hall II belonged to the cold part of the bathhouse. Most probably it served as a frigidarium, since in this way the halls of the bathhouse would be arranged in the expected order of the circuit. The hall was equipped with a pool  $7.2 \times 3.2 \times 1.2$  m, which is a size suitable for a piscina – communal pool for a plunge into cold water at the end of the bathing sequence. In opposition to the halls with a hypocaustum, the floor of this hall is well preserved. The marble and limestone slabs were, for the most part, found in their original place on the floor, although they show only the last stage in which the floor was used, after it had been repaired many times and was made out of scraps of revetment. Partially preserved as well are the brick marble-clad benches that surrounded the hall on all sides (Fig. 6).

### *Construction Techniques and Materials*

The bathhouse is constructed of local building materials – basalt and limestone, laid with the ubiquitous techniques of ashlar masonry. Basalt provides solid foundations for all the walls, while the lighter and more fragile limestone is used to raise up the walls and span the halls with barrel vaults. Though the vaults did not survive, their presence is indicated by a couple of trapezoidal stones found in the debris, and a vault collapse pattern noted during the excavations of Hall V and Hall VI (Fig. 7). Vaults would be an expected solution for the roofing of bathing halls, and in the region they are commonly built of ashlar<sup>28</sup>. An impressive example can be observed in the reservoir under the forum of Hippos, where the vault survives in its entirety to this day<sup>29</sup>.

The hypocaustum is made of bricks, and employs different types of pillars and construction of the suspensura (Figs. 8 and 9). The bottom floor is always made of rectangular bricks/tiles  $20 \times 20$  cm,  $26 \times 26$  cm, or  $30 \times 30$  cm, which are laid on a leveling of cement and plaster.

The pilae are either circular, square, or formed as rectangular pillars of larger dimensions. The large pillars are extremely varied and uneven, measuring from  $0.4 \times 0.2$  m to  $2.37 \times 0.8$  m. They are adjacent to the walls of the halls, possibly for a better support of the floor in this strategic place. In shallow recesses by furnaces, these pillars extend towards the middle of the hall as well. The reason for this construction might be the presence of alvei, which might have needed a steadier support being heavy with water. We are not able to prove it since the suspensura did not survive even in one place in the bathhouse, and the alvei would be situated at least partially on top of it. However, it would be expected for an alveus to be located by the furnace (over which a boiler for warming water would be located), and inside a recess<sup>30</sup>.

The small pillars were found in the center of all of the halls with hypocaustum. They are always spaced 30 cm from one other, as measured from one side of a pillar to the side of

28) LANCASTER 2015, p. 48.

29) MESISTRANO 2014, p. 158, 161.

30) NIELSEN 1990, p. 157. Examples of construction of alvei in Nysa-Scythopolis can be found in PELEG 2004, p. 62, and MAZOR 1999, p. 297. Similar construction was also observed in the Central Baths in Gerasa (BLANKE 2015, p. 87).



another. In Hall III all the known pillars are rectangular, in Hall V they are all circular, and in Halls I and VI they are mixed without any pattern, indicating repairs<sup>31</sup>.

The pillars rise to a height of around 1.25 m, at which the suspensura was constructed. In the debris of the hypocaustum, many pieces of bricks 6 cm thick were found. These were the bipedales of the suspensura, which originally measured around 50 × 50 cm. The small distance of only 30 cm between the pillars indicates that the suspensura was made of bipedales supported by the pillars in four corners. In two spots in the bathhouse brick vaults/arches were discovered (Fig. 9). This construction was an alternative way of basing the suspensura, found in many bathhouses of the region<sup>32</sup>.

The basalt walls inside the hypocaustum were tiled with bricks, as attested by many finds in situ. Some of the large pillars were also covered with tiles. Above the suspensura, the walls carried tubulation. Though long demolished, the great number of tubuli pieces in the debris strongly proves its presence in all of the heated halls. The tubuli are slab-made<sup>33</sup> and measure between 24 × 17 × 12 cm and 30 × 20 × 14 cm. All of them had vents in their side faces indicating that they were organized in multiple lines one next to the other, enabling horizontal as well as vertical air flow (Fig. 10a).

In the northeast corner of Hall VI a number of bricks that carry marks made by a finger in wet clay has been found. Most of the marks have a 'K' shape (Fig. 10c and d). Nowhere else in the bathhouse, are similar bricks to be found<sup>34</sup>.

### *Expected Halls and Layout*

The heated area is disproportionate to the cold one at the current stage of excavations, so it would be expected that some other frigidaria and/or a palaestra will be uncovered. The bathhouse of this size should also have at least one apodyterium, which is yet to be identified.

One or two additional cold halls might have been located south of Halls II and III, on top of the chamber vaults of the former bastion. The collapse of the vaults, and the poor state of preservation of the chambers on the edge of the slope, make it impossible to find traces of the halls. The location of the cold hall east of the heated halls indicates that we should look for the missing part of the bathhouse further to the east. Visitors passing through the bathhouse would then follow the circuit with a ring or a row route.

Latrinae (public toilets) were often built in the vicinity of bathhouses because of their shared drainage, however not necessarily within the bath complex itself<sup>35</sup>. The latrinae might be located to the north of the Southern Bathhouse, towards the forum. It might have been the reason for a double drainage channel that was found under Hall II.

---

31) A similar construction of hypocaustum was observed in bathhouses in Nysa-Scythopolis. The Southern Bathhouse had rectangular pilae mixed with circular ones, with anomalies by the walls (PELEG 2004, p. 63), and the Western Bathhouse had large pillars constructed by the walls, and circular pilae in the middle of heated halls (MAZOR 1999, p. 297).

32) For an example from Emmaus-Nicopolis see GICHON 1979, p. 107. For an example from Jerusalem see MAZAR 2011, p. 53–4.

33) For the characteristics of the slab-made type of tubuli see VRIEZEN, MULDER 1997, p. 330 (on tubuli from Gadara) and REEVES, HARVEY 2016.

34) A similar mark was discovered on a roof tile in the cathedral of Pella (SMITH *et al.* 1989, pl. 28). A few bricks with similar marks have also been found during the excavations on the saddle-ridge of Hippos.

35) NIELSEN 1990, p. 163.



Fig. 6. Hall II. Note the piscina, the benches surrounding the floor (covered with earth bags), the finds from the drain under the hall, and the indicated location of L.1973. View towards west



Fig. 7. View of the heated halls of the Southern Bathhouse from the northern wall of Hall VI. Note the collapsed ashlar in Hall VI and the pattern of collapsed vault in Hall V. Main photo view towards south, side photo towards west





Fig. 8. Hypocaustum in the south-eastern part of Hall VI. View towards east



Fig. 9. Hypocaustum with brick arches supporting the suspensura, a. in the western side of Hall VI, view towards north, and b. in the western side of Hall V, view towards north



Fig. 10. Ceramic building materials found in the Southern Bathhouse

### *The Construction Phases*

At least two construction phases can be distinguished in the history of the bathhouse, as evidenced by a number of visible alterations. The heated halls underwent a series of repairs indicated by the differences in the shape of the pilae, various types of tubuli, and the presence of marked bricks in one spot only. A major change occurred in Hall III, where the hypocaustum was demolished, and a new concrete floor was constructed. In Hall II an additional supporting wall was constructed at one point in time.

The latter is the only one that gives a date to the changes/repairs. The narrow space in between the two walls (L. 1973) was filled up with debris before being closed off (Fig. 6). The fill consisted of a rich assemblage of broken ceramic vessels, including fragments of over 150 oil lamps. The assemblage can be dated precisely to the middle of the 3rd cent. CE<sup>36</sup>.

### *Decorations*

L.1973 produced not only ceramic material useful for dating, but also an indication as to the decorations of the bathhouse in its first phase. Amongst the rubbish, pieces of plaster were found. One of them is a relief in stucco (B.2943, Fig. 11a) that shows a mythological figure clothed in lion skin (Heracles?)<sup>37</sup>.

The only other figural art found in the bathhouse are two pieces of statues in white marble. The first is a fragment of a leg of a muscular body (B.7227, Fig. 11b). The second is a



Fig. 11 a-b) Figural art from the Southern Bathhouse

36) EISENBERG, JASTRZĘBSKA 2010, p. 47.

37) EISENBERG 2016, p. 11-13; ERLICH 2018.



small fragment of a hand holding a rod (B.5048). Both the fragments do not carry enough attributes to recognize the figures they portrayed. The very presence of this kind of art in imported stone attests to the influence of the Roman culture and the cosmopolitan connection of the patrons, and through them, the local inhabitants who frequented the bathhouse<sup>38</sup>.

The floors and walls of the bathhouse were covered with revetments of imported marble and limestone of many different types, some smooth and some with moldings. The smooth slabs measure  $140 \times 60$  cm, as attested by some found in situ in Hall II. The debris of the hypocaustum contains many small pieces of the slabs, the ones that were not considered worth removing in later times (Fig. 12). The revetment was held to the walls by means of clamps, a number of which have been recovered as well.



Fig. 12. Examples of fragments of marble and limestone slabs recovered from the heated halls

---

38) FRIEDLAND 2003, p. 414.

The excavations of the pool of Hall II produced a curiously sculpted piece of limestone, a block cut in half on the diagonal by a stepped slope (B.7246, Fig. 6). It was probably a decorative water inlet to the pool, which provides another hint as to the interior design of the bathhouse.

### *Evidence of the Function of the Bathhouse*

Under the floor of Hall II, a double channel has been partially excavated. It produced a substantial number of finds, such as coins, dice, and oil lamps<sup>39</sup>. A few dice and coins were also found inside the cracks of the floor of Hall II. A highly surprising find from inside the lower channel was a modern pull-off beer cap of Tuborg, recovered from the part of the channel that was sealed completely with a layer of Roman cement (Fig. 6). Besides giving evidence that the channel must be open to the elements at some point further up the hill, the beer cap is a proof of social life going on at the site in our times. Similarly, the other finds provide a glance into the activities taking place in the bathhouse in its last phase of use.

The high number of coins and dice points to entertainment and social interactions taking place in the bathhouse. A bathhouse as a social spot for gaming and gambling finds attestations in numerous written sources as well as in field research of other buildings, e.g. Caerleon or Augusta Raurica<sup>40</sup>.

Some researchers suggest that the study of spatial relations, of the area taken up by pools in comparison to the area for benches, indicates consideration for space for socializing. The ratio of 50% to 50% has been established as the usual one applied when the bathhouse is mainly designed for bathing. A distortion of this ratio is supposed to indicate a consideration for non-bathing functions of a bathhouse<sup>41</sup>. In the Southern Bathhouse only Hall II has a surviving pool that enables proper calculations. The result of 35% to 65% hints at the social function of the space already implied by the artifacts.

The drain also produced parts of small ceramic and metal vessels, which may have contained oil used for the Roman way of cleaning and skincare<sup>42</sup>. No other objects connected to bathing were found anywhere in the bathhouse, although this seems to be the usual case. Objects directly related to bathing are rarely found in other bathhouses as well. They were either made from perishable materials, or were personal objects taken care of and brought back home by the bather<sup>43</sup>.

### *The Chronological Frame*

The scarce ceramic material and the observed building techniques date the construction of the bathhouse to the 2nd cent. CE. A more precise date is impossible to be obtained. A definitely dated event is the rebuilding that took place in mid-3rd cent. CE. The end of the use of the bathhouse came soon after, towards the end of the 3rd cent., or at latest at the beginning of the 4th cent. CE. The main evidence for the dating are the coins and oil

39) SEGAL 2008, p. 23.

40) WHITMORE 2013, p. 3, 140, 185, 229-230.

41) REVELL 2007, p. 234; JANKOVIĆ 2012.

42) SEGAL 2008, p. 23.

43) WHITMORE 2013, p. 252-254. The best example are finds of strigiles from Pompeii; from hundreds of finds of this inherent piece of bathing equipment, only a handful came from bathhouses. Most strigiles were recovered from cabinets at homes and from shops.

lamps recovered from the drain, which represent the last stage of the use of the facilities, after which the drain was not maintained. Additional evidence is given by the pottery from the dump in Hall IV<sup>44</sup>.

The bathhouse stood abandoned for some time, as indicated by a number of coins from the lower part of the debris of the hypocaustum (all dated to the first half of the 4th cent. CE)<sup>45</sup>, and by a burrow of a small predator excavated inside the debris as well. The decorative marbles, both statuary and revetment, were almost entirely removed.

At some point, the spaces of the bathhouse were converted for housing or industrial purposes (in addition to the already mentioned rubbish dump). The hypocaustum debris was leveled and covered with simple plaster and packed-earth floors, which were renewed from time to time. The previous openings were equipped with new thresholds, some additional openings were made, and some other simple constructions were put up inside the halls. Halls II and III seem to have been reused as they were, except for small additions, such as plastering of the walls of the pool. Some repairs of the existing walls occurred (indicated by patches of simple mortar and rubble in between ashlar). The dump in Hall IV reached a height of over 3 m, with multiple layers of organic and ceramic remains and lime coverings.

The spaces were abandoned again before the final collapse of the vaults, as evidenced by an almost total lack of objects in any of the halls. The final collapse is difficult to date due to the scarcity of finds, but the use of the halls surely extends far into the Byzantine period<sup>46</sup>. The collapse might have been caused by the earthquake of 749 CE, which brought down a number of other buildings, and constitutes a definite end to the existence of the city.

### Summary

Over ten seasons of excavations of the Southern Bathhouse revealed a middle-sized complex designed craftily to fit into the already organized space that had formerly served for military defense. Built in the 2nd cent. CE, the sturdy structure was equipped according to the general technological advances of the time, and covered with imported stones of the latest Imperial fashion. The halls not only overflowed with fresh water, but also provided a similarly pleasant view out of the windows. Whatever the reason may be, the coming of the 4th cent. CE marked the end to the functioning of the complex, and the space was changed once again.

While many details are yet to be investigated, the whole of the building is an undeniable proof of the splendor of Antiochia Hippos in the Roman Period, and the highlights of Pax Romana. Though the physical remains are scant after centuries of destruction and reuse, they do offer corroboration for the magnificence of bathhouses presented by literary sources, such as Statius' *Silvae* (I.5): «Begone Toil and Care, as I sing of the Baths bejewelled with glistening marbles! ... Come, green goddesses, and turn this way your liquid faces. Bind your glossy hair with tender clusters, as when you come out of your deep springs and torment your Satyr lovers with the sight». The vividly described appeal of the nymphs can be imagined without too much effort for the Southern Bathhouse of Antiochia Hippos.

---

44) SEGAL 2008, p. 23; BERMAN 2008, p. 146–149. The coins found in the drain date between 198 and 350 C.E. The dating of the pottery from the dump of Hall IV was obtained from personal communication with Michael Osband, and it closes between the end of the 3rd cent. CE and the beginning of the 4th cent., definitely predating the earthquake of 363 C.E. that destroyed a number of buildings in the city.

45) C.10715–10723, C.10727–10728.

46) The date is evidenced by ceramic vessels fragments and coins from the multiple floors, e.g. B.10356, B.10788, and C.10759–10761.



## BIBLIOGRAPHY

- ABU RAYA R., *Kabul (A), Excavations and Surveys in Israel* 125 (electronic edition).
- BERMAN A. 2008, *Coins Catalogue*, in A. Segal, J. Młynarczyk, M. Burdajewicz, M. Schuler, and M. Eisenberg, *Hippos-Sussita Ninth Season of Excavations (June-July 2008)*, Haifa 2008, p. 143-162.
- BLANKE L. 2015, *Washing the Masses, Washing the Self: an Architectural Study of the Use and Development of the Central Bathhouse in Gerasa*, «Syria» 92 (2015), p. 85-104.
- BROISE H. 2002, *Les thermes sud*, in J.-M. Dentzer, P.-M. Blanc, and T. Fournet, *Le développement urbain de Bosra de l'époque nabatéenne à l'époque byzantine: bilan des recherches françaises 1981-2002*, «Syria» 79 (2002), p. 93-98.
- EISENBERG M. 2014, *Military Architecture*, in Segal et al. 2014, p. 87-127
- 2016, *Hippos-Sussita: From a Polis in the Decapolis to a Declining Town*, *Qadmoniot* 151 (2016), p. 2-17 (Hebrew).
- 2018, *Hippos-Sussita of the Decapolis: The First Twelve Seasons of Excavations 2000-2011*. Vol. II, Haifa 2018.
- EISENBERG M., JASTRZEBSKA E. 2010, *The Southern Bathhouse*, in A. Segal, M. Schuler and M. Eisenberg, *Hippos-Sussita Eleventh Season of Excavations (July 2010)*, Haifa 2010, p. 44-48.
- EISENBERG M., SCHULER M. (forthcoming) *Hippos-Sussita - Four Seasons of Excavations: 2012-2015*, Haifa 2019.
- ELIAV Y. Z. 2010, *Bathhouses as Places of Social and Cultural Interactions*, in C. Hezser (ed.), *The Oxford Handbook of Jewish Daily Life in Roman Palestine*, Oxford 2010, p. 605-622.
- ERLICH A. 2018, *Stucco Relief Depicting Mythological Figures*, in EISENBERG 2018, p. 320-327.
- FAGAN G. G. 1999, *Bathing in Public in the Roman World*, Ann Arbor 1999.
- FRIEDLAND E. A. 2003, *The Roman Marble Sculptures from the North Hall of the East Baths at Gerasa*», «American Journal of Archaeology» 107/3 (2003), p. 413-448.
- GICHON M., *Roman Bath at Emmaus. Excavations in 1977*, *Israel Exploration Journal* 29/2 (1979), p. 101-110.
- HOSS S. 2005, *Baths and Bathing. The Culture of Bathing and the Baths and Thermae in Palestine from the Hasmoneans to the Moslem Conquest* (BAR International Series 1346), Oxford 2005.
- 2012, *From Rejection to Incorporation. The Roman Bathing Culture in Palestine*, in R. Kreiner and W. Letzner (eds), *SPA Sanitas Per Aquam. Tagungsband des Internationalen Frontinus-Symposiums zur Technik- und Kulturgeschichte der antiken Thermen, Aachen 18.-22. März 2009*, Leuven 2012, p. 259-264.
- JANKOVIĆ M. A. 2012, *The Social Role of Roman Baths in the Province of Moesia Superior*, in M. Żuchowska (ed.), *The Archaeology of Water Supply* (BAR International Series 2414), Oxford 2012, p. 27-39.
- MAZAR E. 2011, *The Bathhouse in Area VII*, in E. Mazar, *Temple Mount Excavations IV*, Jerusalem 2011, p. 11-83.
- MAZOR G. 1999, *Public Baths in Roman and Byzantine Nysa-Scythopolis (Bet She'an)*, in J. DeLaine and D. E. Johnson (eds), *Roman Baths and Bathing. Proceedings of the First International Conference on Roman Baths, held at Bath, England, 30 March-4 April 1992* (JRA Supplementary Series 37), Portsmouth 1999, p. 293-302.
- MESHEL Z., TSUK T., FAHLBUSCH H. and Peleg Y. 2014, *The Water-Supply System of Sussita*, Tel Aviv 1996.
- MESISTRANO V., *Forum*, in Segal et al. 2014, p. 149-163.
- MURPHY D. 2012, *A Bathhouse in Rural Lycia*, in R. Kreiner and W. Letzner (eds), *SPA Sanitas Per Aquam. Tagungsband des Internationalen Frontinus-Symposiums zur Technik- und Kulturgeschichte der antiken Thermen, Aachen 18.-22. März 2009*, Leuven 2012, p. 147-150.
- NETZER E. 1999, *Herodian Bath-houses*, in J. DeLaine and D. E. Johnson (eds), *Roman Baths and Bathing. Proceedings of the First International Conference on Roman Baths, held at Bath, England, 30 March-4 April 1992*, Portsmouth 1999, p. 45-55.
- NIELSEN I 1990., *Thermae et Balnea. The Architecture and Cultural History of Roman Public Baths*, Aarhus 1990.

- PELEG M. 2004, *A Late Roman–Byzantine Bathhouse at Bet She’an*, ‘Atiqot. «English Series» 46 (2004), p. 55–81.
- REEVES M. B., HARVEY C. A. 2016, *A Typological Assessment of the Nabataean, Roman and Byzantine Ceramic Building Materials at al-Ḥumayma and Wādī Ramm*, «Studies in the History and Archaeology of Jordan» XII (2016), p. 443–475.
- REVELL L. 2007, *Military Bath-houses in Britain - a Comment*, *Britannia* 38 (2007), p. 230–236.
- SEGAL A. 2008, *Bathhouse Adjacent to the South Wall (SWL-I)*, in A. Segal, J. Młynarczyk, M. Burdajewicz, M. Schuler, and M. Eisenberg, *Hippos-Sussita Ninth Season of Excavations (June–July 2008)*, Haifa 2008, p. 22–25.
- SEGAL A., EISENBERG M. 2005, *Excavation along the South Wall (SWL)*, in A. Segal, J. Młynarczyk, M. Burdajewicz, M. Schuler, and M. Eisenberg, *Hippos-Sussita Sixth Season of Excavations (July 2005)*, Haifa 2005, p. 13–14.
- SEGAL A., EISENBERG M., MŁYNARCZYK J., BURDAJEWICZ M., SCHULER M. 2014, *Hippos-Sussita of the Decapolis. The First Twelve Seasons of Excavations 2000–2011 Vol. I*, Haifa 2014.
- SMITH R. H., DAY L. P. 1989, *Pella of the Decapolis. Final Report on the College of Wooster Excavations in Area IX, the Civic Complex 1979–1985 Vol. II*, Wooster 1989.
- SPERBER D. 1998, *The City in Roman Palestine*, New York 1998
- Statius, *Silvae* (trans. D. R. Shackleton Bailey, Harvard University Press, London and Cambridge, Mass. 2003).
- TSUK T. 2018, *The Water Supply System of Hippos-Sussita*, in Eisenberg 2018, p. 44–55.
- TZAFERIS V. 2014, *New Archaeological Finds from Kursi-Gergesa*, ‘Atiqot. «English Series» 79 (2014), p. 175–197.
- Vitruvius, *De Architectura* (trans. M. H. Morgan, Harvard University Press, Cambridge, Mass. 1914).
- VRIEZEN K. J. H., MULDER N. F. 1997, *Umm Qais: The Byzantine Buildings on the Terrace. The Building Materials of Stone and Ceramics*, «Studies in the History and Archaeology of Jordan» VI (1997), p. 323–330.
- WARD-PERKINS J. B. 1977, *Roman Architecture*, New York 1977.
- WHITMORE A. M., *Small Finds and the Social Environment of the Roman Baths* (unpublished PhD thesis) University of Iowa 2013 (accessed on <http://ir.uiowa.edu/etd/1797>).
- YEGÜL F. K. 1992, *Baths and Bathing in Classical Antiquity*, New York 1992.
- 2000, *Baths and Bathing in Roman Antioch*, in Ch. Kondoleon (ed.), *Antioch. The Lost Ancient City*, Princeton 2000, p. 146–151.
- 2010, *Bathing in the Roman World*, Cambridge 2010.

## ILLUSTRATIONS REFERENCES

- Fig. 1: Based on Israel National Mapping Agency - SOI.
- Fig. 2: Photo M. Eisenberg.
- Fig. 3: Photo M. Eisenberg, photogrammetry M. Peleg, computer graphics A. Kowalewska.
- Figs. 4–7: Photos M. Eisenberg.
- Fig. 8: Photo A. Kowalewska.
- Fig. 9: Photos M. Eisenberg.
- Fig. 10: Photos A. Kowalewska, computer graphics A. Regev-Gisis.
- Fig. 11: Photos M. Eisenberg.
- Fig. 12: Photos A. Kowalewska, computer graphics A. Regev-Gisis.