Insights into Islamic Archaeology — and Material Culture —

A CONFERENCE IN JERUSALEM

Edited by Katia Cytryn, Kristoffer Damgaard, and Donald Whitcomb

INSTITUTE FOR THE STUDY OF ANCIENT CULTURES
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Katia Cytryn, Kristoffer Damgaard, *and* Donald Whitcomb

with contributions by

Ignacio Arce, Gideon Avni, Tawfiq Daʿadli, Kristoffer Damgaard, Giovanna De Palma, Amir Gorzalczany, Michael Jennings, Anthony Lauricella, Lisa Mahoney, Gaetano Palumbo, Awni Shawamra, Donald Whitcomb, *and* Jehad Yasin

Introduction by

Katia Cytryn

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Carved stone window at Khirbat al-Mafjar, with central hexagonal motif. Photograph by David Silverman.

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ABBREVIATIONS

Add.	Additional (manuscript numbering)
AH	*Anno Hegirae*, in the year of the Hijra
AIAR	W. F. Albright Institute of Archaeological Research
b.	*bin*, *ibn*, son (of)
BAR	British Archaeological Reports
BCE	before the Common Era
c.	century/centuries
ca.	*circa*, about, approximately
CE	Common Era
cm	centimeter(s)
d.	*decessit*, died
DACH	Department of Antiquities and Cultural Heritage (Palestine)
EBAFJ	École biblique et archéologique française de Jérusalem
ed(s).	edition(s), editor(s)
e.g.	*exempli gratia*, for example
esp.	especially
et al.	*et alia*, and others
fig(s).	figure(s)
fol.	folio
GIS	global information system
IAA	Israel Antiquities Authority
i.e.	*id est*, that is
ISCR	Istituto Superiore per la Conservazione ed il Restauro
km	kilometer(s)
m	meter(s)
MS	manuscript
N	north
n.	note
NIG	New Israeli Grid
no(s).	number(s)
OSL	optically stimulated luminescence
pH	potential of hydrogen (a measure of how acidic/basic water is)
PhD	*philosophiae doctor*, doctor of philosophy (degree)
pl(s).	plate(s)
r.	*regnavit*, reigned
S	south
s.v.	*sub verbo*, under the word
THP	Tell al-Ḥassan Project
trans.	translator
USA	United States of America
vol(s).	volume(s)
WMF	World Monuments Fund

ACKNOWLEDGMENTS

This volume is the result of an archaeological seminar and workshop titled "Recent Advances in Islamic Archaeology," organized by two of the editors (Katia Cytryn and Kristoffer Damgaard). The event was held February 7–8, 2013, in East Jerusalem under the auspices of the W. F. Albright Institute of Archaeological Research (AIAR) and at the École biblique et archéologique française de Jérusalem (EBAFJ). The idea for such an event came from the then director of the AIAR, Dr. Seymour (Sy) Gitin. He encouraged Kristoffer (in town for the spring as a visiting scholar at the EBAFJ) and me (a fellow at the AIAR) to organize a three-day conference that would not only promote Islamic archaeology but also enable scholars from Israel and Palestine to meet and discuss their finds and ideas on a neutral ground. Although such an event may now seem almost naive, given the current context of conflict, for us it was a remarkable opportunity for scholarly collaboration, even amid the challenging atmosphere at the time.

Kristoffer and I embraced the idea with much passion. We had met in Chicago five years beforehand (in 2008), where Kristoffer was working on Donald Whitcomb's finds from Ayla in Jordan and I was spending a couple of months as a visiting scholar just before embarking on my archaeological project in Tiberias. In many ways Don was our "godfather," and during this period in Chicago we enjoyed exchanging ideas about our field, both during lectures and over meals and coffee. Knowing that Don would also be in Jerusalem after his season at Khirbat al-Mafjar in Jericho, it was clear that this endeavor could only be a success.

I believe it was Don who suggested the name "Recent Advances in Islamic Archaeology" for our conference. Much that was happening in the field was changing long-standing paradigms: his own collaborative digs at al-Mafjar with Dr. Hamdan Taha (director general of the Palestinian Department of Antiquities and Cultural Heritage from 1994 to 2014) and in Bet Yeraḥ (al-Ṣinnabra) with Prof. Raphael Greenberg (from Tel Aviv University) and then doctoral student (today senior lecturer) Dr. Tawfiq Daʿadli (from Hebrew University); Kristoffer's doctoral research on the sea trade in the Red Sea; and my own work at the congregational mosque of Tiberias. In addition, the Italian conservation team at Quṣayr ʿAmra in Jordan, who had cleaned part of the building's frescoes and also reread the important inscription clarifying the identification of the patron, was ready to come from Jordan to Jerusalem to participate. Colleagues from the Israel Antiquities Authority (IAA) were also eager to share their results and insights, and they responded at once to our invitation. In fact, Gideon Avni, then head of the IAA's Excavations, Surveys and Research Department, was always very supportive and happy to talk about one of his many projects dealing with the early Islamic period.

The three meetings in Jerusalem were successful, despite last-minute cancellations by our colleagues from the Palestinian Authority due to difficulties traveling to Jerusalem. Their work was nevertheless well represented at the conference, and one of their papers is included in this volume (chapter 7, by Jehad Yasin and Awni Shawamra). We were honored by the presence of many students and scholars in our field, including my longtime mentor and supervisor throughout all my academic degrees—the person who first introduced me to Islamic art and archaeology—Prof. Myriam Rosen-Ayalon.

Sy Gitin greatly encouraged the publication of our meetings, including some aspects of the roundtable discussion on our last day, which among other topics dealt with the status and future of our field. Every time Sy saw me at the AIAR, he would ask how the volume was progressing. His very recognition of our field as one that should be voiced not only at the AIAR (which for many years had not dealt with Islamic archaeology) but also in the various archaeological forums apart from the American Society of Overseas Research and the International Congress on the Archaeology of the Ancient Near East provided much

motivation. At that time, it felt as though our field had finally found its way out of the "cocoon" and would fly high.

Twelve years have passed since our meetings, and our "recent advances" are no longer so recent. In the meantime, much has happened in the field of the humanities throughout the academic world, and Islamic archaeology in particular is not "flying high" as we had hoped. This situation makes our gratitude to those who did not give up on this volume even greater, first and foremost to the contributors, who have waited patiently despite the time that has elapsed since their first submissions. I owe special thanks to my good friend Amir Gorzalczany, who also actively encouraged me to keep up with the enterprise; to the editorial team in the publications office at the Institute for the Study of Ancient Cultures of the University of Chicago for their belief in the importance of this publication, especially managing editor Andrew Baumann and copyeditor Connie Gundry Tappy, both of whom ushered this volume down the last mile to its publication; to Janet Johnson, who so kindly spared time from her busy academic schedule to join me in reviewing the edited chapters, since her better half (and our dear friend and colleague, who is no longer with us and is greatly missed), Don Whitcomb, coeditor of this volume, had already limited his work due to health issues.

Finally, I would like to thank Kristoffer Damgaard for being such a wonderful academic partner, both in the organization of the conference and in the early production of this volume.

My gratitude is infinite to all of you.

Katia Cytryn
January 5, 2025

INTRODUCTION: INSIGHTS INTO ISLAMIC ARCHAEOLOGY

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What were the "recent advances in Islamic archaeology" when the special conference of this name took place in Jerusalem in winter 2013? Had the means and goals of this branch of archaeology changed significantly from those in the 1930s, 1950s, and 1980s? Were there new horizons, new paradigms, and new approaches in Islamic archaeology that were worth elucidating? Can we really offer a common academic umbrella for studies spread over so many countries, cultures, and languages, and spanning such a vast chronological framework?

Our main goal, both in the seminar and in this *recueil*, is to emphasize the increasingly synergetic and interdisciplinary approaches applied in archaeological inquiry into the Islamic period and to assess whether these characteristics serve to bind our field together or split it farther apart. As Alan Walmsley stated in his *Early Islamic Syria: An Archaeological Assessment*, "Islamic Archaeology has had to get to grips with building a working relationship with the broader field of Islamic studies, seeking common theoretical and methodological approaches with other branches of archaeology, coming to understand what Islamic archaeology—as an archaeology of historical periods—can and cannot do."[1] The time has come for Islamic archaeology to catch up with its siblings—prehistoric, biblical, and classical archaeology—in further implementing the use of and collaboration with fields in the humanities, as well as the exact and social sciences, and also to become less dependent on the historiographic and art-historical traditions from which Islamic archaeology sprang, thereby allowing new results to speak for themselves. The "new" Islamic archaeology should help create a more neutral basis for analyzing otherwise preconceived descriptions of the past.

Following our goal, we chose to take established themes and tropes and refresh their respective discussions with new views, following the trends in use today. One will find a series of new studies on old key sites and topics, researched and revised with fresh perspectives. These sites and topics include the rural palaces of Quṣayr ʿAmra, Khirbat al-Mafjar, and Khirbat al-Karak / Bet Yeraḥ (al-Ṣinnabra); Islamic cities such as Ramla; agricultural innovation in Islam; and the Islamic world's relationship with the West (here represented by the Franks).

Some of the themes under discussion show that despite a continuous renewal of approaches and research questions, certain topics have remained deeply embedded in the study of Islamic archaeology. The ongoing debates show that the field has tended over the years to focus predominantly on topics related to the effect of a nascent Muslim culture instead of aiming for a more ecumenical view of the emerging new society. This narrow view has resulted in a persistent overfocus on the search for the impact of the "conquest" according to the archaeological evidence; on the changes in urbanism and the definition of what constitutes an "Islamic city"; on the "lavish" lifestyle of the Muslim newcomers outside the city; and, notably, on the development of Islamic institutions such as the mosque. This approach derives not only from the manner of Islamic archaeology's inception in orientalist Europe of the nineteenth to early twentieth centuries[2] but also from the fact that many of the topics relating to this period have been treated by classical

1 Walmsley 2007, 15.

2 Cytryn-Silverman 2014.

archaeology, under the umbrella of Late Antique studies.[3] As a result, scholarship has continued to be widely receptive of research asking the question "What has decayed?" in the Greco-Roman world in terms of urban structure and order, architectural monumentality, and artistic "elegance."[4] Even two of Islamic archaeology's great founders—K. A. C. Creswell (1879–1974) and Jean Sauvaget (1901–1950)—engaged with this paradigm; Creswell[5] presented the architectural achievements of "primitive Islam" in the Hijāz in a clearly biased way, and Sauvaget referred to the post-Umayyad Islamic city (based on his study of Aleppo) as one resulting from "l'anarchie."[6] Walmsley has already referred to both approaches,[7] and here we propose that this negative paradigm should definitely be changed to a less judgmental, more encompassing one that asks "What has changed?" and "How do the new modes of living and organization reflect the new society in formation?" The early Islamic period, characterized by the coexistence of old cultures and systems together with newly established ones, brought together different (and dynamically changing) mentalities and lifestyles, and thus calls for a particular set of interpretative tools and framework.

Islamic archaeology has, since its first ventures, had a very close and at times strained relationship with historical and art-historical studies.[8] It has since branched out—in part perhaps to overcome its perceived dependence on history—to engage an array of other disciplines, some of which are represented in this volume. Among the important stakeholders with which Islamic archaeology in particular has had a pioneering working relationship is the field of cultural resources management and heritage studies, and today archaeology constitutes a powerful informant in implementing heritage-related strategies. The collaborative and transdisciplinary understanding that marks contemporary archaeology is reflected in this volume, where, in addition to archaeology and art history, one finds contributions in conservation and architecture.

The "Recent Advances in Islamic Archaeology" seminar's keynote lecture by Gaetano Palumbo and Giovanna De Palma (see chapter 3), on the conservation works at the bathhouse of Quṣayr ʿAmra in Jordan, offers a good example of current trends in Islamic archaeology and of the fruitfulness of fresh approaches to a building often interpreted as belonging to the formative period of Islamic rule. Thanks to the recent conservation efforts and cleaning of the foundation inscription in the western aisle of the reception hall, this remarkable building can now firmly be attributed to the patronage of al-Walīd II (before his caliphate, r. 743–44). The work has also cleaned the frescoes in the western aisle, and their motifs have been clarified, allowing new interpretations and views on the court culture of the Umayyads to be brought forth.

It is now evident how past conservation and documentation practices have shaped some of the previous views on this building's *raison d'être*. What was long seen as a late example of a classical cycle of paintings,[9] somehow matching the Late Antique paradigm of adaptations of Roman–Byzantine themes and practices, is now understood as carefully prepared artwork that drew on a rich and multifaceted visual heritage still relevant under early Islam. It demonstrates the deep roots of early Islamic visual culture in the pan-Arabian mythological ethos that the Umayyads continued to build on with the aim of validating their rule, especially in relation to the tribes of the *bādiya*.[10] It means that by understanding evidence under the framework of Islamic society and culture, one can reinterpret and recontextualize buildings and objects in an emergent Islamic worldview despite the fact that they still communicate using an essentially pre-Islamic architectural and artistic language.

Palumbo and De Palma's chapter heralds the change in paradigm in fieldwork, the handling of finds, and interpretation. It is not a traditional archaeological or art-history piece, yet the authors' technical and unbiased presentation opens new doors to a vast array of discussions.

3 Brown 1974, 189ff.

4 For a general discussion of such old perceptions of the Byzantine–Islamic transition, see Avni 2014, 11–17.

5 Creswell 1989, 3ff.

6 Sauvaget 1941, 83ff.

7 Walmsley 2007, 17–18.

8 Cytryn 2024.

9 For discussion, see Guidetti 2016, 188.

10 van Lohuizen-Mulder 1998; Fowden 2004, 259ff.; Guidetti 2016; Arce 2017 (see below).

An immediate result of this conservation effort can be found in Ignacio Arce's 2017 reevaluation of the assemblage of depictions found at the bathhouse. Through the interpretation of the newly restored paintings and their Dionysiac meaning, Arce reflects on the persisting topics that had permeated Arabian mythology long before the expansion of Islam. By comparing the cases in which the Dionysiac cycle used to be exposed and appreciated in pre-Islamic societies, and by accepting their message as one directed and understood by most visitors, he also confirms an earlier argument that these lodges were used for building political, diplomatic, and tribal alliances.[11]

The combination of scientific restoration and archaeological interpretation has allowed scholarship to move away from the romanticism that for decades camouflaged a patronizing view of the new ruling class that replaced the old classical order. Now it is clear that the frescoes from Quṣayr ʿAmra are not just "a collection of images deprived of their original sense," a view that Arce rightly wishes to refute. Yet Quṣayr ʿAmra is much more than its frescoes. In his address at the "Recent Advances in Islamic Archaeology" conference,[12] Arce discussed his 2012 excavations at the site, during which he identified quarries as well as a building that he suggests was the headquarters of the masons and workers involved in the construction of the main structures—in particular, what seems to be a workshop for glass mosaics. The new data on this complex site, which so far has mainly been approached and interpreted through the bathhouse, emphasizes the need to focus on the context of unique buildings and to think more carefully about production and building processes. By revealing some of the context "behind the scenes" of ʿAmra's erection, Arce improves our understanding of how building complexes were conceptualized and created, and also demonstrates the close relationship between architectural functionality and the surrounding environment. His project thus focused on how artists lived and worked, their materials and techniques, and understanding what the visual language and symbolism convey and mean in an early Islamic reality. This work constitutes a significant advance in our field, which, for decades after ʿAmra's initial publication by Alois Musil in 1907, still dwelled mostly on discussions about the "lawfulness" of painting in Islamic art.[13]

In the present volume, a similar and equally astounding reinterpretation of an early Islamic site is made for Khirbat al-Mafjar, whose decorative program, also rich in figurative ornamentation, has given rise to so much orientalist romanticization of early Islamic life in the Levant. Robert W. Hamilton and Oleg Grabar's 1959 publication of the architecture and ornamentation of al-Mafjar, followed by additional works interpreting the nature and dating of the site,[14] served only to encourage the perpetuation of an antiquated and erroneous historical view of the role of the Umayyad rural residences. With the posthumous publication of Sauvaget's "Châteaux umayyades de Syrie" in 1967, however, Islamic archaeology saw a shift from romanticism to a more pragmatic "agricultural model" as the background for the erection of at least some of these palatial complexes. This notion was also reflected in Daniel Schlumberger's work on Qaṣr al-Ḥayr al-Gharbī in the 1930s,[15] in that of Grabar and his team at Qaṣr al-Ḥayr al-Sharqī in the 1960s and 1970s,[16] and still reflected in Donald Whitcomb's "Periodic Palaces" in 2016. The latter summarizes and stresses that the early Muslim leaders' investment in agricultural estates was a common practice in the pre-Islamic Hijāz.[17] This view not only grounds the study of "palaces" in a pragmatic and nonromantic paradigm but also stresses the otherwise underplayed origins of pre-Islamic Arabia in the practices of early Islamic Syria, usually taken solely as a "remnant" of the pre-Islamic economic order. Since Sauvaget, many other proposals and interpretations of the palaces have been suggested,[18] and his call for a new paradigm is a landmark point from which the field of Islamic archaeology moved from passive observation and description to a more

11 King 1992; Gaube 1979.

12 See Arce 2022.

13 See Creswell 1946.

14 Hamilton 1969, 1978, 1988.

15 Schlumberger 1986.

16 Grabar et al. 1978.

17 Whitcomb 2016, 97–98.

18 They are well summarized in Genequand 2013.

functionalist and interpretative framework. Researchers, among others, have become more academically curious about the economic aspects of the Umayyad caliphate and the following period, in not only the rural but also the urban realm.[19]

The fieldwork by Michael Jennings and Anthony Lauricella at Tell al-Ḥassan near Jericho (chapter 8) is a good example of the above. Their work has exposed buildings and installations that attest to what was once a considerable settlement, and the material evidence they have uncovered offers a glimpse into a wider commercial network that brought products from around Syria-Palestine and the Mediterranean to a township in the Jordan Valley. At the same time, the authors see the lack of certain ceramic types characteristic of the eighth century as a possible shift in settlement, perhaps once the complex at al-Mafjar was erected.

Their proposal, based on data from a relatively small excavation and, as such, not clear-cut evidence for an overall abandonment of the pre-Umayyad settlement, prompts us nevertheless to rethink how Umayyad agricultural states and settlements such as al-Mafjar, Qaṣr al-Ḥayr al-Gharbī, Qaṣr al-Ḥayr al-Sharqī, Quṣayr ʿAmra, Khirbat al-Minya, and others interacted with their immediate surroundings. Were they erected to the detriment of existing neighboring settlements? Or was the opposite the case: did they function as the old settlement's agricultural hinterland—in other words, as both providers and consumers? So far, most of the archaeological data have pointed to the latter. Palmyra remained an economically relevant center despite the construction of Qaṣr al-Ḥayr al-Gharbī and Sharqī;[20] Tiberias actually flourished after becoming a provincial capital, embraced from north and south by two agricultural states—Khirbat al-Minya and Ṣinnabra.[21] This view has been developed by Arce, who shows (in chapter 6) that the Umayyads chose the location for their new settlement—of a "suburban" rather than a rural nature—following a parallactic model, that is, away from the preexisting (in this case mostly Christian) settlement. So despite the fact that this very model does not support the conclusion of a shift in settlement proposed above, and further fieldwork is needed in Jericho to establish a coherent thesis of shift or decline following the emergence of Khirbat al-Mafjar, the new evidence from Jericho reinvigorates the discussion and calls us to ask new questions related to early Islamic settlement patterns.

In fact, fieldwork at Khirbat al-Mafjar itself has revealed some unknown issues regarding the early Islamic settlement and its economic components. The archaeological finds discussed in Whitcomb's chapter on his joint Palestinian-American excavations with Hamdan Taha (chapter 5) clarify just some of the overlooked facets of the site since it was first explored in the 1930s, especially in the area to the north of the palace/bath complex.

Altogether, the chapters related to Khirbat al-Mafjar represent some very concrete recent advances in Islamic archaeology, in line with those recently made by Denis Genequand on the *quṣūr* and the surroundings to the east and west of Palmyra.[22] Whitcomb adds crucial data to our architectural knowledge concerning the site—a new gate with two stages (square and round, found symmetrically positioned in relation to the southern one excavated in the 1930s) and a monumental stairway north of the bath. The latter connects the well-known palatial complex to the northern living area, first exposed by the Jordanian expedition in the 1960s and now reassessed by Whitcomb and Taha's project.[23]

By understanding the actual dimensions, the architectural components, and their respective chronologies, al-Mafjar now seems, in settlement principle, reminiscent of what we know about the organization of Qaṣr al-Ḥayr al-Sharqī, for example. Arce (chapter 6) has shown that despite major morphological differences, both seem to follow the principle of a protourban settlement growing adjacent to an elite complex.

Finally, the discovery and analysis of a large grape press belonging to the Umayyad complex, discussed by Jehad Yasin and Awni Shawamra (chapter 7), underscores the agricultural context of the palace. Needless to say, back in the 1930s such a finding would probably have been used as an additional proof for the

19 Bessard 2013.

20 Al-Asʿad and Stepniowski 1989; Genequand 2012.

21 Cytryn 2016.

22 Genequand 2012.

23 Whitcomb and Taha 2013.

Bohemian character of its owner, al-Walīd II, and the reason for building such palaces far from the city.[24] Probably, it would have even further fueled the romanticism that characterized early research into this site instead of fostering discussion on the economics of the Umayyads. In addition to the new archaeological work, Arce (chapter 6) has added a wholly new and most important element to Mafjar's developmental history. Gone completely unnoticed since its excavation, and today widely accepted and already quoted in new researches following Arce's various presentations at conferences, is the presence of an oblong mosque along the southern wing of the palace. Arce notes that the series of rooms abutting the small prayer room, with a disproportionately large *miḥrāb* abutted from the outside by a minaret, is in fact a later refurbishment of the original broad building. This discovery raises important questions about the use of the private and public mosques of the site, especially vis-à-vis residents of the palace and visitors to the complex and bathhouse.

Still on palaces, Tawfiq Daʿadli's "2009 Excavations at al-Ṣinnabra" (chapter 4) addresses the data exposed at Bet Yeraḥ by Tel Aviv University in 2009.[25] Past excavations at this site, renowned for its Early Bronze Age structures, had exposed a quadrangular enclosure, which for many years was interpreted as a Roman-Byzantine fort. The basilical building with an outward-facing apse within this enclosure was perceived as a Byzantine synagogue.[26] It was only in 2002 that a new reading by Whitcomb suggested the identification of the site as Umayyad al-Ṣinnabra. Tel Aviv University's archaeological activities confirmed Whitcomb's thesis, thus correcting the long-standing paradigm by which many Islamic sites excavated in the first half of the twentieth century were misinterpreted as Roman-Byzantine. Such are the cases of two important sites in the vicinity of Bet Yeraḥ: the Umayyad palace at Khirbat al-Minya, also first believed to be a Roman fortress,[27] and the monumental early Islamic mosque of Tiberias, long misinterpreted as a Byzantine market.[28] Their reassessment generates not only the basis for a future regional study, not unlike that of the Palmyrene by Genequand,[29] but also the appropriate archaeological anchor and context for further finds related to the Umayyad period. It is against this background that the construction of a pipeline exposed 200 m west of Bet Yeraḥ,[30] the erection of a bridge north of this same site,[31] the foundation inscription of ʿAqabat Fīq,[32] and the two milestones found at Fīq on the Golan plateau[33] should be understood.

Salvage excavations in 2012 of sections of a terracotta and basalt pipeline supplying water from the Tiberias aqueduct to the site of Bet Yeraḥ clarified the nature of previous finds of basalt pipe blocks in this area in the early and mid-twentieth century.[34] Both pipelines, running in the same course and following Roman inverted-siphon technology to cross the Jordan River and reach the site, seem to have been laid during the Umayyad period. The explanation for this double line seems to be that the clay pipes were too narrow, so a new line made of basalt blocks of a much wider inner diameter was added. Based on their fashioning, it has been suggested that these blocks came from Hippos-Sussita on the other side of the Sea of Galilee. This suggestion could mean that this important Roman-Byzantine city got cut from a stable water supply even before the Umayyad period,[35] prompting us to analyze the change in settlement pattern in the region under a new light.

24 Hamilton 1969, 1988.

25 Greenberg, Tal, and Daʿadli 2017.

26 Reich 1993.

27 Mader 1933.

28 Cytryn-Silverman 2009; Cytryn 2016.

29 Genequand 2012; see above.

30 Alexandre 2017a.

31 Alexandre 2017b.

32 Sharon 1997, s.v. "Fiq."

33 Elad 1999.

34 Alexandre 2017a, 189.

35 Alexandre 2017a, 197.

Another salvage excavation in this region, 500 m north of the aforementioned pipeline, was undertaken from the end of 2012 to the beginning of 2013. It exposed a section of a ramp leading to a bridge crossing the Jordan River near its original outlet from the Sea of Galilee and connecting the site of Bet Yeraḥ, which otherwise was islanded between the river and the lake. The bridge should probably be dated to the Umayyad period despite the problematic dating of the pottery recovered from the stone bedding and between the stones.[36]

This roadwork seems related to further works carried on during the Umayyad period by ʿAbd al-Malik, as attested by three inscriptions. The first inscription refers to the mountain pass opened in the late seventh century (73 AH / 692–93 CE) to connect the southern tip of the Sea of Galilee with the southern side of the Golan, thereby allowing quick passage to Damascus, the official caliphal capital. The two milestones from Fīq, dated to 85 AH / 704 CE, confirm the importance of the road catered by the pass.

The foregoing data show that by cross-referencing the evidence from these related sites, our understanding of their respective roles and importance becomes far clearer, as does the picture of the whole region under the Umayyads.

The studies by Gideon Avni (chapter 1) and Amir Gorzalczany (chapter 2) focus on economy and technologies in a rural and an urban context, respectively. They present the great advantage of interdisciplinary research and the new methodologies available to archaeologists. Avni's in-depth study on developments in agricultural methods, including methods of terracing and irrigation in difficult arid environments, not only adds to our understanding of human interaction with the landscape during the early Islamic period but also provides clear evidence of intense economic activity and settlement in the Negev during this period. Gozalczany's paper, based on his thorough research on Ramla and its vicinity, elucidates some of the patterns that shaped the positioning of different industries in the urban landscape, which in turn influenced the trajectories of urban development in this important district capital. Both studies indirectly address some remaining echoes of the notion of economic decline and urban decay following the rise of Islam that still haunt some corners of scholarship today. In fact, both Avni's and Gorzalczany's works independently prove quite the opposite—namely, that this period was one of dynamic and fruitful adoptions, adaptations, and developments in both urban and rural contexts.

Lisa Mahoney's study (chapter 9) deals with similar processes of adoption and adaptation but takes the reader to a later period, in which interaction between Islam and European Christianity occurred within the historical context of the Crusades. She aims to show that "Islamic influence was abundant and pervasive." From the Islamic ivory covers of the prayer book of the queen of the Latin kingdom of Jerusalem to the discussion of iconic and aniconic architectural practices in Frankish Jerusalem in the 1140s (the Church of the Holy Sepulchre and the Church of Saint Anne, respectively), Mahoney argues that "Islam is indeed one of the most important factors determining Frankish forms" and that, by the thirteenth century, many of the Islamic conventions regarding the avoidance of figural representation in religious art had permeated Frankish church facades. Mahoney also discusses, through two richly decorated objects with figural depictions—an Ayyūbid metal canteen and a Mamlūk glass beaker—the ways in which Frankish visual culture affected Islamic manufacturing. Finally, her chapter refers to the reuse of Islamic buildings and architectural elements as a clear case of cultural adoption and adaptation through physical and symbolic appropriation. This approach is refreshing, since the East–West relationship has so far been dealt with mainly from the perspective of Crusader spolia in Islamic architecture,[37] and it constitutes a strong example of what the synergy between art history and archaeology has to offer.

The present compilation of studies is intended as a stimulus to rethink, challenge, and readdress the accepted ideas about sites and objects. Given the long-standing paradigms applied to excavations and the handling of finds in Islamic archaeology, there is still much to be exposed—both in the field and between the lines of our scientific literature.

36 Alexandre 2017a, 209.

37 Flood 2009.

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1 REVOLUTION OR EVOLUTION? AGRICULTURAL FIELDS IN EARLY ISLAMIC PALESTINE

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The publication of Andrew Watson's 1983 book *Agricultural Innovation in the Early Islamic World* was acknowledged as marking a new conceptual approach to the history of agriculture in the Near East. Watson, an economic historian from the University of Toronto, conducted his research in Aleppo, Syria, under the auspices of the International Center of Agricultural Research in Dry Areas and focused on the diffusion of new plant species in the Near East during the early Islamic period. In this book, which incorporated two earlier essays,[1] he set the tone for a "medieval Arab agricultural revolution" by proposing that the introduction of hitherto unknown plant species, together with new cultivation and irrigation methods, affected the expansion of agricultural regimes and transformed the economy and dietary habits of local populations. Watson's studies included a meticulous discussion of seventeen plant species that had been introduced to the Near East, North Africa, and Muslim Spain following the Arab conquest and the rise of Islam.[2] Some of these species were widely distributed, while others were of marginal relevance to the food consumption of local inhabitants. A few species became major ingredients of the medieval Mediterranean diet—for example, rice, sugarcane, wheat, barley, and sorghum. Less common species studied by Watson included various types of orange, lemon, eggplant, spinach, banana, mango, coconut palm, and artichoke, which had only a minor economic impact.[3] They were introduced from India and East Asia as luxury items intended to enrich the local diet and cuisine, thus attesting to the affluence of local economies of the early Islamic period.

Watson's major argument was that the introduction of new plant species and irrigation technologies triggered major innovations in local agricultural economies. While some of these species and technologies—for example, irrigation by canals and qanats—were known in pre-Islamic times, they were widely spread following the Arab conquest, hence the term "revolution" adopted in his discussions.

A reflection on Watson's thesis from the perspective of the past four decades presents two contradictory trends. On the one hand, his ideas were widely discussed and extensively quoted by historians and Islamists. Several scholars revised his views on the introduction of hitherto unknown species into the Near East and the Mediterranean by arguing that many of them were already known in Roman and Byzantine times.[4] Detailed studies in southern Spain, for example, showed that agricultural fields were common already in Roman times but were much expanded and enriched following the Islamic occupation and the introduction of new irrigation technologies.[5]

One the other hand, Watson's thesis was, somewhat surprisingly, largely ignored by field archaeologists working in the Near East. Many of them adopted traditional approaches that contended for a decline

1 Watson 1974, 1981.

2 Watson 1983, 9–77.

3 Watson 1983, 42–75.

4 E.g., see Johns 1984; Ashtor 1985; Cahen 1986; Decker 2009b.

5 Butzer et al. 1985; Glick 1996; Puy and Balbo 2013.

of rural societies following the Byzantine period.[6] This disregard is particularly striking considering numerous studies from the 1980s onward devoted to agriculture in the southern Levant in the Roman and Byzantine periods—for example, the studies by Shimon Dar in the Samaria region and Mount Carmel, Reuven Rubin in the Negev Highlands, and Yehuda Dagan in the Judaean Lowlands.[7] Most archaeological excavations in villages and farms, for instance, assumed a decline in rural settlement following the Arab conquest and labeled all sites as "Byzantine." But extensive research carried out in the past two decades reflects a dramatic transformation, induced by the refinement of the classification and chronology of pottery and glass finds. Interpretations of settlement patterns have shifted from decline to continuity, thereby showing that many sites flourished into the eighth and ninth centuries.[8] Even recently published excavation reports, however, make only minor reference to agricultural fields of the early Islamic period, as is well represented in the comprehensive survey and excavations in the Judaean Lowlands conducted in the framework of the Ramat Beth Shemesh Regional Project, for example.[9] Hundreds of wine and oil presses incorporated in a large network of agricultural fields were revealed in this region. Based on the fields' association with nearby settlements, the zenith of agricultural activity was dated to the Roman and Byzantine periods, with only little indication of continuous use during the early Islamic period.[10] Additionally, Watson's thesis on the introduction of new species to the region is completely ignored in this otherwise thorough study.

This monolithic attitude toward the rural landscapes of Palestine is represented also in studies of oil and wine production, two of the exhaustive research topics in the agricultural landscapes of Roman and Byzantine Palestine. While many researchers discuss in detail these branches of local agrarian economy, they pay only little attention to the question of their continuity beyond the Byzantine period.[11] The abatement of wine production in Palestine in the seventh century is accepted by most scholars, who have connected it with the Arab conquest and the decline of international trade in the Mediterranean.[12]

Both the historical evidence and the archaeological finds, however, attest to a continuous Christian presence in Palestine, and it is reasonable to assume that this population continued its former habits of wine consumption. While recent studies show that the large-scale production of wine for export declined already in the second half of the sixth century,[13] in many villages and farmsteads there is evidence for continuity of wine production beyond the seventh century, perhaps for local consumption.[14] Archaeological finds from various regions show that the production of olive oil continued to flourish for both local consumption and export to neighboring regions in the early Islamic period.[15] It seems that wine presses were not replaced by oil presses but continued to function within and around existing villages. Particularly intriguing is the recent discovery of a large, industrial wine press within the precincts of the early Islamic palatial complex in Khirbat al-Mafjar near Jericho (chapter 7).[16] The continuity of settlement and agrarian economies in the Levant calls for a reevaluation of Watson's thesis by extending the discussion to other aspects of early Islamic agriculture.

6 E.g., Tchalenko 1953–58; Safrai 1994; Tsafrir 1996; Hirschfeld 1997.

7 Dar 1986, 1999, 2004; Rubin 1990; Dagan 2010, 2011.

8 See the general summaries in Magness 2003; Walmsley 2007; Avni 2014.

9 Dagan 2010, 2011.

10 Dagan 2011, 319–40.

11 See, e.g., Kingsley 2001; Magen 2008; Seligman 2011.

12 Mayerson 1985; Kingsley 2001; Magen 2008; Taxel 2009, 224–27; Seligman 2011, 392; McCormick 2012.

13 Fuks et al. 2020; Avni, Bar-Oz and Gambash 2023.

14 Taxel 2009, 217.

15 On the export of oil to Egypt, see, e.g., Sijpesteijn 2014.

16 Whitcomb and Taha 2013.

TERRACED FIELDS: METHODOLOGIES OF CONSTRUCTION AND DATING

With the intensification of archaeological research on early Islamic settlements, the relevance of agricultural regimes became imperative to the reconstruction of a comprehensive picture of settlement and society in the Near East between the seventh and eleventh centuries. While Watson's study discussed mainly the diffusion of plant species, the present research focuses on the chronology and function of ancient agricultural fields. Based on extensive archaeological data from early Islamic Palestine, I address both the chronology of intensification and abatement in the use of agricultural fields and the question of revolution versus evolution of agricultural practices, irrigation technologies, and plant species.

Terraced fields form a prominent landmark in the Mediterranean landscape. In some regions, such as the Judaean Highlands and the Galilee, terraced fields cover as much as 60 percent of the terrain's hillslopes and valleys (fig. 1.1).[17] Detailed studies of terraced fields raise the question of the amount of work invested in their construction and their duration of use within the capabilities of local populations. The construction of thousands of miles of long stone walls, which transformed large areas into a landscape of hillside terracing, involved the investment of many thousands of working days.[18] A rough estimation conducted in a number of Mediterranean surroundings, particularly in Greece and southern France, concluded that a group of about twenty to fifty experienced workers can construct terraces covering approximately 6 km^2 within eight to twenty years.[19]

Figure 1.1. Terraced area in the Judaean Hills (Reifenberg 1955, fig. 18).

17 Reifenberg 1955, 47; Ron 1966; Seligman 2011, 326–31; Gibson 2015.

18 Gibson 2015; Andlar, Šrajer, and Trojanović 2017.

19 Horden and Purcell 2000, 234–36.

Agricultural fields constitute the landscape marker of agrarian societies in many ancient cultures,[20] and methodologies for dating them have been the subject of a number of studies.[21] The question of accurate dating of fields and their relation to nearby settlements has therefore been of crucial significance for the reconstruction of settlement intensification and demise. While numerous studies addressed these topics in the settled areas of the Mediterranean basin, only few targeted the arid fringe zones, in which runoff desert agriculture was practiced,[22] and until recent years almost none considered the direct dating of terraces as a reliable tool.

Earlier studies, adopting the view that the intensification of settlements outlined the zenith of agriculture, dated agricultural fields by their relation to nearby settlements. This approach was traditionally adapted for many regions and types of fields: hillside or valley terraced fields in the Judaean and Samarian Highlands, runoff desert agriculture in the Negev Highlands, and open agricultural fields in the Coastal Plain and the Jordan Valley. Apart from a few intensive surveys in which pottery sherds collected from the cultivated plots were used as chronological indicators,[23] there was almost no reference to the dating of the fields themselves. But this methodology proved to be unreliable, as most if not all of the pottery found in the fields was washed in or brought there from elsewhere and thus does not represent the fields' stages of construction and use. Some fields were dated through relative stratigraphy. This method is possible when the terraces cover earlier structures, but it provides only a *terminus ante quem* for the construction of terraced fields (e.g., at Sataf in the Judaean Hills[24]; fig. 1.2). In addition, construction techniques, architectural styles,

Figure 1.2. Terraces in Sataf (detail).

20 See, e.g., Alcock, Cherry, and Davis 1994; Marcus and Stanish 2006.

21 Davidovich et al. 2012, 193–94; Gibson 2015 and references therein.

22 See, e.g., Barker et al. 1996.

23 Gibson 2015, 305–7; Evenari, Shanan, and Tadmor 1982 for the Negev; Dagan 2010, 2011 for the Judaean Highlands.

24 Gibson, Ibbs, and Kloner 1991.

stratigraphy, and even radiocarbon dating have their own limitations in establishing a reliable chronology;[25] therefore, ancient agricultural fields could not be dated accurately through conventional archaeological methodologies.

A different approach was developed in our research of agricultural terraces in the Negev[26]—an approach that provided some detailed observations about terraced fields. The chronological framework for the construction, use, and demise of the fields was defined by optically stimulated luminescence (OSL) dating. This method measures the time elapsed since the last exposure of mineral grains to sunlight. It uses quartz grains as dosimeters (i.e., recorders of the accumulation of environmental radiation over time). A signal accumulates within the quartz as a result of the ionizing radiation; however, when exposed to sunlight this signal is reset to zero. Thus it is only after burial that the signal builds up again and is proportional to the time buried. This signal can be measured in the laboratory and converted into a burial age.[27]

The accurate dating of terraces and valley fields through OSL facilitates the reconstruction of their sequence of use and leads to a better understanding of the agricultural landscape. It also provides a more solid basis for the discussion of patterns of continuity, innovation, and decline in agricultural installations and for the dating of the introduction of new irrigation and cultivation techniques, thus addressing some of the main arguments in Watson's thesis.

CASE STUDIES

THE JERUSALEM REGION AND JUDAEAN HILLS

Agricultural hillside terraces cover large areas of the Judaean Hills and particularly spread to the north, west, and south of Jerusalem. The terraced fields were dated from Hellenistic to Byzantine times, with possible earlier beginnings in the Bronze and Iron Ages.[28] The early stages of terraced agriculture in this region were connected with the expansion of Israelite settlements in the Iron Age. It was suggested that the technological knowledge of terracing was introduced by newcomers who settled in this inhospitable region.[29] The methodology applied in the dating of agricultural terraces included stratigraphic context, construction techniques, and pottery collected on the terraces.[30] That styles of construction were used as chronological indicators suggests that different types of terraces had chronological significance; however, recent studies have shown that this methodology is not valid.[31]

The zenith of hillside terracing and valley cultivation was traditionally connected with the massive expansion of settlements during the Roman and Byzantine periods. Detailed surveys in the Jerusalem area showed that most of the pottery collected from the terraces came from these periods.[32] Nevertheless, these finds proved to be highly unreliable (as mentioned above), since the fill was brought to the terraces from other locations.

The renewed excavations at Ramat Raḥel, about 4 km south of Jerusalem, provided a good opportunity to investigate the terraced fields surrounding the site (fig. 1.3).[33] The settlement's main periods of habitation span between the eighth century BCE and the tenth century CE. The site was a palatial complex in the Iron Age and Persian period and comprised a massively built compound surrounded by extensive gardens. It was transformed into a village in the Roman period and functioned as one of the rural settlements around

25 See Davidovich et al. 2012, 193–94, for a discussion.

26 Avni, Porat, and Avni 2012, 2013.

27 Aitken 1998; Wintle 2008; Avni, Porat, and Avni 2013, 333–35.

28 Gibson and Edelstein 1985; Edelstein and Milevski 1994.

29 Stager 1985; Gibson 2001.

30 Stager 1985, 5–10; Gibson, Ibbs, and Kloner 1991.

31 Davidovich et al. 2012, 194.

32 E.g., Edelstein and Milevski 1994, 6–9.

33 See Lipschits et al. 2011 for a preliminary summary of the excavations; Davidovich et al. 2012 for the research on terraces.

Figure 1.3. Ramat Raḥel aerial view and location of terraces.

Jerusalem. After its destruction in the Jewish revolt (70 CE), it was reoccupied in the second century CE and was further developed in Byzantine and early Islamic times by means of exploiting the fields around it. The village was abandoned in the eleventh century, but the area continued to serve as the "food basket" of Jerusalem in the Mamlūk and Ottoman periods.[34]

The immediate surroundings of Ramat Raḥel consist of hillside terraces and agricultural installations hewn in the rock.[35] Following an intensive survey, several probes were made in the terraces, and a sequence of OSL samples was obtained from each probe. Most terraces were constructed on bedrock or on a thin layer of natural soil. The accumulated soil behind the terraced walls proved to be of anthropogenic nature. Several stages of terrace construction were identified through the probes and were dated by OSL samples. Three main periods of use were identified in the fields: the first phase of construction took place in the late Byzantine to early Islamic periods (sixth to ninth centuries CE); the second intermediate phase was dated to the twelfth to thirteenth centuries; and the newest fill of the terraces was formed in the Ottoman period (sixteenth to nineteenth centuries).

The results from Ramat Raḥel, which were followed by other OSL datings from nearby regions west of Jerusalem,[36] provided a new chronological framework for the use of agricultural terraces in the Judaean Hills. The early stage of their use in the Bronze and Iron Ages suggested in earlier studies[37] has not been proved by the large OSL sampling from several sites within the region. The most extensive use of agricultural terraces derives from the Mamlūk and early Ottoman periods, yet these systems were based on earlier terraces from Byzantine and early Islamic times. Related to the question of continuity or innovation, it seems that the agricultural infrastructure of the early Islamic period was based on the continuity

34 Gadot et al. 2015.

35 Davidovich et al. 2012, 195–97.

36 Gadot et al. 2015, 2016a, 2016b, 2018.

37 Gibson and Edelstein 1985; Gibson 1995, 2001.

of previously cultivated areas and used existing knowledge and methodologies of terrace construction and field cultivation.

The fields were abandoned in the eleventh century, yet cultivation was renewed after a short hiatus. The second wave of terraced cultivation—the one visible today[38]—dates to the Mamlūk and Ottoman periods, thus pointing to the intensification of settlement in the Jerusalem area during these times.

THE NEGEV HIGHLANDS

Ancient agricultural systems in the Negev Highlands cover more than 30,000 hectares of cultivated plots, dammed with stone-built terraces, alongside extensive channels designed for collecting runoff water from hillslopes and from occasional, intensive floods of wadis (fig. 1.4). Some scholars dated the early beginnings of ancient agriculture in the Negev to the Bronze and Iron Ages[39] and their vast expansion to the Nabataean/Roman period.[40] It is now agreed that the zenith of agricultural expansion correlates with the intensification of settlements in the Byzantine period.[41]

The chronological framework of the fields was traditionally established by ascribing them to nearby settlements. For example, small fields at Ramat Matred were dated to the Iron Age;[42] large, cultivated plots around ʿAvdat to the Nabataean and Roman periods;[43] areas near Reḥovot, Shivta, and Nessana to the

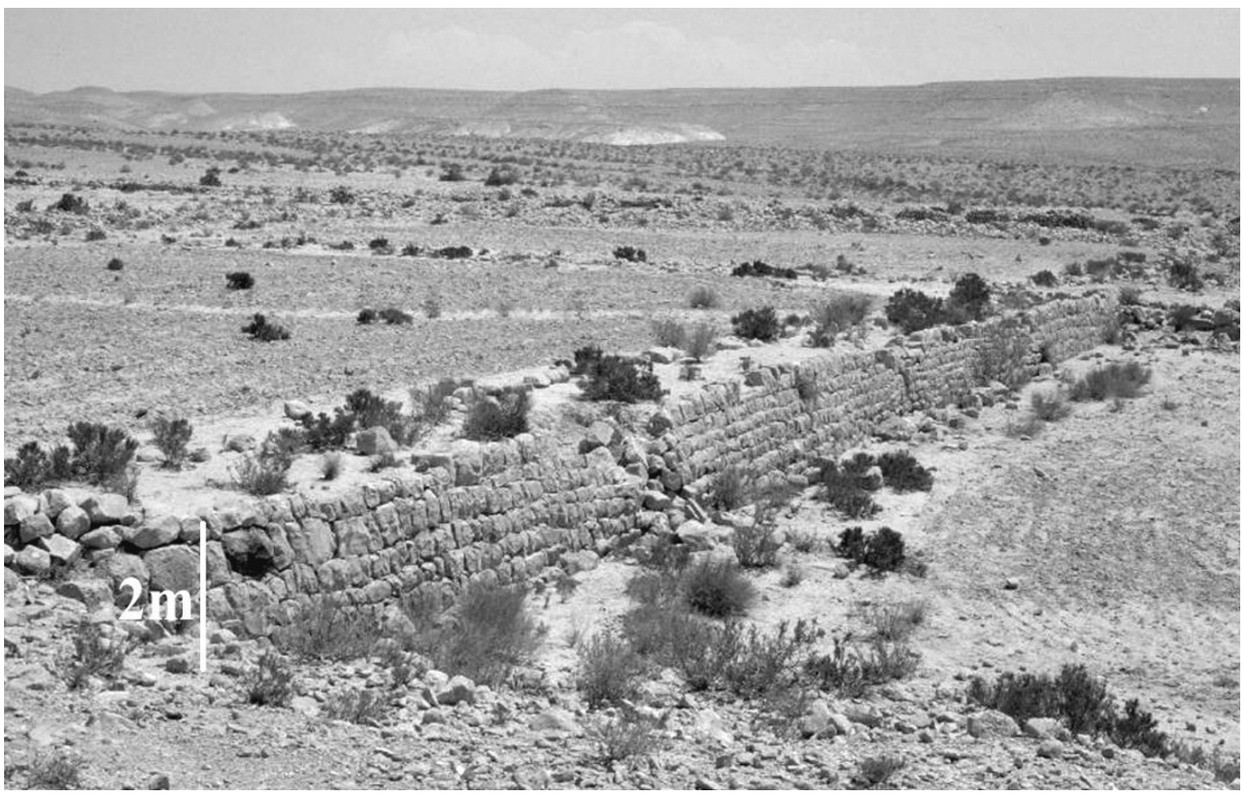

Figure 1.4. Typical terraced fields in the Negev Highlands.

38 Kloner 2003, 62.

39 E.g., Aharoni et al. 1960; Evenari, Shanan, and Tadmor 1982, 100–111.

40 E.g., Negev 1986.

41 Rubin 1990; Tsafrir 1996; and see Avni 2014, 273–74, for a summary of current research.

42 Aharoni et al. 1960.

43 Negev 1986.

Byzantine period;[44] and fields in the western and southern fringes of the Negev Highlands to the early Islamic period.[45]

The time of the demise and collapse of the settlements and the adjacent fields is debated. While some scholars suggested that the collapse occurred in the seventh century and connected it with the Arab conquest of 634–40 CE, recent research has concluded that this settlement system declined much later—namely, in the early Islamic period.[46]

The expansion of settlement into the western and southern fringes of the Negev Highlands during the sixth to eighth centuries was firmly established by surveys and excavations.[47] As in the vicinity of the main settlements, these villages and farmsteads were surrounded by extensive agricultural fields that were tentatively dated to Byzantine and early Islamic times by relying on dated finds in nearby settlements rather than on finds from the fields. The suggested time frame for the demise of settlements and fields was postponed to the mid-eighth century[48] or even later in the ʿAbbāsid period.[49]

Issues related to the intensification and abatement of agriculture include the involvement of central government in the creation and expansion of settlements and the possible impact of climatic fluctuations. Climatic determinism as a central agent influencing settlement processes in the Negev was proposed already in the early twentieth century[50] and in later studies[51] but was rejected by archaeologists working in the Negev.[52] Recent studies that measured fluctuations in the biomass as reflected in archaeozoological and archaeobotanical finds further prove that there was no significant change in environmental conditions in the Negev during Late Antiquity.[53]

An accurate dating of agricultural terraces was established by combining archaeological and geomorphologic analysis with OSL samplings, thus addressing the circumstances of the establishment and demise of agricultural systems within the local cultural and political milieu of the Byzantine and early Islamic periods.[54] Interdisciplinary research was conducted at six sites located in different surroundings in the Negev Highlands. The study of each site included microgeomorphology analyses of loess accumulation and erosion in the agricultural fields, calibrated with a number of OSL ages from accumulated loess sections and incorporated with archaeological observations on stratigraphic phases of construction, maintenance, and long-term use of the systems. The study of accumulation and erosion processes in terraces provided a basis for reevaluating the environmental and climatic conditions in the Negev Highlands during the Byzantine and early Islamic periods as compared with present conditions, thereby allowing preliminary conclusions to be drawn regarding the climatic stability of the region over the past two millennia.

The sampling sites were selected according to their regional context and their distance from nearby large settlements. Two sites are in the immediate hinterlands of Mamshit (Naḥal Mamshit) in the eastern highlands and Shivta (Naḥal Lavan) in the western highlands. Two sites are in the outer hinterland south of ʿAvdat. The last two sites represent fringe areas in which small-sized agricultural fields were constructed. The sampling strategy addressed differences in the shapes and sizes of the terraces. Two sites (Naḥal Mamshit and Naḥal Lavan) consisted of large cultivation plots in plains adjacent to wide basins, and two

44 Mayerson 1960; Rubin 1990.

45 Haiman 1995; Avni 1996.

46 Avni 2008. But see now the recent results of new excavations and research, conducted by Guy Bar-Oz and his team, pointing to a late sixth-century decline of the Negev Highlands towns (Bar-Oz et al. 2019; Tepper, Erickson-Gini, et al. 2018).

47 Avni 1996, 2008; Haiman 1995.

48 Tsafrir 1984; Haiman 1995.

49 Avni 2008.

50 Huntington 1911.

51 E.g., Issar 1998; Issar and Zohar 2004.

52 E.g., Rubin 1989; and see the discussion in Avni 1996, 67–71.

53 Vaiglova et al. 2020; Langgut et al. 2021.

54 Avni, Porat, and Avni 2013.

others (Naḥal Ṣena and Naḥal Besor) were located along secondary narrow valleys consisting of relatively short terraces.

Detailed research conducted at these sites combined archaeological analysis and OSL dating and presented a clear chronological framework for the construction, function, and demise of the agricultural fields. The fields were constructed no earlier than the third or fourth century and were used continuously until the tenth and eleventh centuries. The development of the agricultural regime in the Negev Highlands, with its sophisticated terraced-field and water-collecting systems, seems to have been a gradual process that was established independently in different regions, rather than the outcome of an organized governmental enterprise implemented within a short period of time throughout the region. As in other Mediterranean agrarian societies, the growth and expansion of agricultural systems in the Negev Highlands was connected with the economic system of the Byzantine world.[55] It is noteworthy, though, that similar agricultural fields in southern Jordan—for example, at Wadi Faynān, Jabal Hārūn, and Ḥumayma[56]—were dated to earlier periods, and particularly the first and second centuries CE. But the chronology of agricultural fields in these areas is based mostly on "circumstantial evidence" (i.e., the fields' relation to nearby dated sites and the pottery found in the fields) rather than on the accurate dating of soil deposits. The flourishing of agriculture in southern Jordan is well attested in the Petra papyri from the sixth century,[57] and it seems that, as in the Negev, its large-scale development was the outcome of intensive settlement during the Byzantine period.[58] Recent OSL and radiocarbon dating of agricultural systems around Petra shows continuity to the ninth and tenth centuries.[59]

THE ʿARABAH VALLEY

The agricultural fields in the ʿArabah Valley are fundamentally different from those revealed in the Negev Highlands in terms of both chronology and mode of operation. While the Negev Highlands show a clear pattern of continuity between the Byzantine and early Islamic periods, the ʿArabah witnessed a new type of settlement introduced into the region in the eighth century. These settlements were characterized by different architectural and technological elements.[60]

The ʿArabah sites consisted of two main types: small villages that contained clusters of simple rectangular buildings, and farmsteads that included a residential area surrounded by intensive agricultural fields. The irrigation of the fields was based on the direct supply of water from ground aquifers through long, underground water tunnels known as *qanats*.[61] These tunnels, some of them several kilometers long, are visible as lines of vertical holes dug in the ground and used as manholes when digging the tunnels. Originating around the Persian Gulf during the late second millennium BCE, qanats were later introduced to other areas of the Near East and North Africa.[62] In the ʿArabah and Jordan Valley, qanat systems are clearly associated with the new, unprecedented agricultural settlements of the early Islamic period (settlements established in the eighth century) and included extensive irrigated fields (fig. 1.5).[63]

The early Islamic settlements in the ʿArabah are concentrated in two main clusters: in the northern ʿArabah (Ḥaṣeva and ʿEin Yahav) and at the southern ʿArabah (Yotvata and ʿEvrona) as part of the hinterland of Ayla-ʿAqaba. Five large, early Islamic sites were discovered in the northern ʿArabah, and two of

55 Rubin 1990, 163–80; Erickson-Gini 2010.

56 Eadie and Oleson 1986; Barker et al. 2007; Lavento et al. 2007.

57 Frösen 2004.

58 Nasarat, Adubanh, and Naimat 2012.

59 Beckers et al. 2013.

60 Porath 1995, 2016; Avner and Magness 1998; Avner 2015; Nol 2015.

61 For general references on the origin and spread of qanats, see Goblot 1979; Lambton 1990; Lightfoot 2000; Briant 2001; Magee 2005; Charbonnier and Hopper 2018.

62 English 1968; Lambton 1990; Lightfoot 2000; Wilson and Mattingly 2003; Wilson 2006.

63 Avner 2015; Porath 2016; for similar systems in southern Jordan, see Abudanh and Twaissi 2010.

Figure 1.5. Qanats in the southern ʿArabah. Photos courtesy of U. Avner.

them were excavated. The Naḥal Shaḥaq settlement consisted of ten rectangular buildings, all built of mudbricks on stone foundations.[64] The site was inhabited between the late seventh and ninth centuries, and it seems that the livelihood of its inhabitants was based on a mixed economy of herding and agriculture cultivating the nearby arable areas of ʿEin Ḥaṣeva. Farther south, at ʿEin Yahav (ʿEin Zurayb), a different type of settlement was excavated. It consisted of a large rectangular building, perhaps a farmstead.[65] Arabic inscriptions scratched on building walls at the site were dated to the eighth century.[66] The settlement was surrounded by large agricultural areas and a network of six qanats, all dug in the alluvial ground and reaching the underground aquifer.

The settlements of the southern ʿArabah were directly associated with early Islamic Ayla, which formed a regional center between the southern Negev and northern Arabia.[67] The hinterland of Ayla comprised several villages, farmsteads, and mining sites. A typical farmstead of this type was excavated in ʿEvrona, north of Ayla (fig. 1.6).[68] The farm, evincing several stages of occupation, was established in the early eighth century and remained in use until the tenth century. It consisted of three buildings, the main one built of a central courtyard surrounded by rooms. One of the rooms, constructed in the early stage of the settlement, was converted into a domestic mosque in its second stage of use. A large reservoir was constructed near the farmstead, and an extensive system of qanats irrigated the fields, which extended to the north and south of the site. The agricultural fields around the farm, covering about 750 hectares, were irrigated by the qanats

64 Israel, Nahlieli, and Ben-Michael 1995.

65 Porath 1995, 246–48; 2016.

66 Sharon 2004b, 3:159–78.

67 Whitcomb 1994, 1995, 2006.

68 Porath 1995; 2016, 4–37; Avner 2015.

Figure 1.6. ʿEvrona, a typical early Islamic farm in the southern ʿArabah.

connected to a well, located 3 km north of the settlement. The plant remains found in the farmstead and fields included dates, olives, and peach stones, thus showing a diversity of agricultural crops. Agricultural production at the site is evidenced by an Arabic inscription from the ninth century listing the names of people and the sums paid for their labor, perhaps at the fields.

Another early Islamic agricultural settlement was revealed at Yotvata, about 30 km north of Ayla. The site, located near one of the few permanent water sources of the southern ʿArabah, was inhabited in late Roman times, when a fortress and nearby village were established at the end of the third century. The fort was abandoned in the fourth century and replaced with a small village in the Byzantine period. Settlement intensified in the seventh or eighth century with the construction of additional buildings at the site, among them a large square structure identified as a farmstead or caravanserai.[69] Large agricultural fields were located around the site, and a system of qanats, consisting of more than twenty tunnels covering an area of several square kilometers, was connected with this settlement.

Comparison of the ʿArabah Valley and the Negev Highlands shows distinct differences in the size, shape, and distribution of agricultural farms. Whereas in the Negev Highlands a clear pattern of continuity from the Byzantine period is evident and the connection with Mediterranean agricultural systems is well established, the ʿArabah settlements represented a new foundation of the early Islamic period. The incorporation of qanats as a new type of irrigation system, one that expanded agricultural capacities, is unique to this region of early Islamic Palestine.

69 Porath 1995, 249–51; Avner 2008, 1709; Davies and Magness 2008; Ayalon 2022.

POLITICAL, SOCIAL, AND ECONOMIC BACKGROUND OF AGRICULTURAL REGIMES

The updated chronological framework of ancient agricultural fields contributes to clarifying the consequences of their primary installation and constant maintenance, which required a continuous investment of resources and manpower. The massive construction of stone walls and terraces in the Negev Highlands, the building of solid dams and diversion channels, and the maintenance of the fields all required sophisticated knowledge of engineering.[70] Altogether, the cleaning out of loess deposits from water conduits, their repair, and the constant raising of terraces represented a Sisyphean and time-consuming endeavor.

Nevertheless, a comparison of the runoff desert agriculture of the Negev with the hillslope terraced agriculture in the Mediterranean areas shows that such work was within the capabilities of the local population. The regular procedure of terrace construction—from the first collection of stones on nearby slopes to the skilled construction of terraces—was probably conducted by the average farmer's family. Ongoing maintenance duties to keep the fields functional and prevent uncontrolled erosion and sedimentation were part of their routine work, particularly following intensive floods. In the Mediterranean regions, the terraces were clearly associated with local villages,[71] and their construction and maintenance were conducted by the local population, who cultivated small, family-based plots.

The gradual construction of agricultural terraces suggests that the process was a "bottom-up" one initiated at the family and village level rather than a state-sponsored initiative. The ancient agricultural systems in the Negev raise the question of their efficiency and productivity as a major source of income for local society. It seems that the types and diversity of crops grown in the fields were dictated both by environmental factors and by the market value of the agricultural products. Several high-value species—particularly vines, olives, and dates—provided the rationale for the manpower invested in the construction and maintenance of agricultural networks.

The connection between periods of prosperity and the expansion of agricultural systems into fringe areas of the desert is strengthened by the comparison of the ancient fields in the Negev Highlands and the Roman-period agricultural systems in North Africa. While both regions evidence identical methodology in the construction and operation of runoff systems, the agricultural systems in Tripolitania were erected in the first and second centuries CE within the framework of an imperial Roman effort to expand the borders of the empire and protect the rich agricultural hinterlands along the southern Mediterranean coast.[72] The Negev Highlands reveal a different pattern—one connecting the extensive construction of agricultural fields in the fourth to sixth centuries with the demographic boom and expansion of settlement into the fringe areas of the southern Levant.[73] The expansion of settlement and agriculture into the arid regions of the Negev seems to be an outcome of population growth in central and northern Palestine combined with increased demand for prime agricultural commodities. The growth of vine plantations in southern Palestine was triggered by increased demand for Palestinian wine, which was widely exported throughout the Mediterranean.[74]

While agriculture served as a major economic basis for the inhabitants of the Negev, it was supplemented by the herding of sheep and goats, as witnessed by the large number of stone cairns for herds found along the settlements, as well as by the protective walls built around the agricultural fields to protect them from grazing animals. The expansion of settlements and related agricultural installations into the marginal areas of the southern and western Negev Highlands during the sixth to eighth centuries is explained as an outcome of the disruption of mutual relationships between the permanent settlements and the nomads who

70 Mayerson 1960; Rubin 1990; Avni, Porat, and Avni 2013.

71 Hordon and Purcell 2000, 231–97; Gibson 1995.

72 Barker et al. 1996. But see Graham 1998 for a different interpretation—one relating the development of the large-scale Roman agriculture in North Africa to internal processes rather than to an outer imperial policy.

73 Tsafrir 1996; Watson 2001.

74 Mayerson 1985; Kingsley 2001; McCormick 2012; Fuks et al. 2020; Avni, Bar-Oz and Gambash 2023.

frequented this region.[75] To survive, many nomads had to settle and sustain their needs through agricultural production by imitating the runoff irrigation technologies of the permanent settlements.

The villages and farmsteads in the ʿArabah Valley show a different process—one evidencing intensive involvement of a central authority in creating a local agrarian economy through the establishment of new farmsteads and cultivated areas. Archaeological surveys and excavations show that Roman-period sites in the ʿArabah were connected to the main roads crossing the region as part of the *limes Arabicus* system,[76] while in the Byzantine period this area was inhabited mainly by pastoral nomads.[77] The expansion of settlement in the early Islamic period is connected with the development of Ayla as a focal point on the pilgrimage route from Egypt to Arabia. The establishment of well-planned farms and sophisticated agricultural systems around them, most of which introduced qanats as the main irrigation system, points to the involvement of a central authority in this process.[78]

In conclusion, it seems that the process of change in agricultural fields in early Islamic Palestine presents two patterns: the Judaean Hills and the Negev Highlands show continuity in agricultural systems from the Byzantine period, while the ʿArabah Valley witnessed a new system of farmsteads established without precedent in the eighth century and introducing qanats as their main irrigation technology.

Preliminary studies of irrigation systems in other parts of the country, particularly in the sand dunes around Caesarea and Yavneh, identified another hitherto unknown cultivation system—recently identified as the "plot and berm" system—based on the irrigation of large plots by high-level underground water. For example, square plots covering large areas to the south and north of Caesarea were identified as cultivated areas dating to the early Islamic period.[79] They resemble similar irrigation systems that were employed in the dunes south of Gaza until the twentieth century (*mawāsi*).

This detailed picture of continuity and change in agricultural technologies and fields obtained from extensive archaeological research in the southern Levant can be correlated with other regions of the Near East and particularly with the condensed network of rural settlements in the Syrian Massif and the steppe areas to its east.[80] It seems that the same correlations between agricultural areas in the Mediterranean tradition and the introduction of new technologies following the Arab conquest apply also to the northern Levant.

The question of continuity, change, and decline of agricultural fields has been investigated in other regions of the Mediterranean. The study of Roman and Islamic agricultural systems in eastern Spain, for example, has addressed similar methodological issues[81] and pointed to either an external diffusion, in conjunction with Watson's thesis, or an internal adaptation process of earlier agricultural practices. The investigation of fields was conducted at three levels—large communities or villages, a single corporate community, and a single field[82]—and looked at aspects of continuity and change at each level. This study showed that local agriculture at all levels had its roots in the Roman period and that many old fields were renovated and expanded following the Arab occupation of Spain by introducing new irrigation and canalization technologies.[83] Karl Butzer suggested that the "Islamic agricultural revolution" in Spain was in fact an evolutionary process of intensification of old structures, not the wholesale import of new agrarian systems.[84] The picture

75 Avni 1996, 75–91. An alternative interpretation suggested that the settlement expansion was indicative of a designed settlement enterprise embarked on by the Umayyad central government in the second half of the seventh century (Haiman 1995). But no substantial archaeological or textual evidence was provided to support this proposal.

76 Parker 2006.

77 Bienkowski 2006, 14–16.

78 Whitcomb 2006.

79 Porath 1975; ʿAd 2009; Taxel et al. 2018; Roskin and Taxel 2021.

80 Tchalenko 1953–58; Tate 1992; Mango 2010, 2011.

81 Butzer et al. 1985.

82 Butzer et al. 1985, 485–86.

83 Glick 1996.

84 Butzer et al. 1985, 500–504.

of intensification of agriculture in early Islamic Spain was further reinforced through the OSL dating of agricultural fields and terraces in al-Andalus.[85]

Similar continuity of agricultural systems between the second and eighth centuries (or perhaps later) was noted at the Deh Luran plain in southwestern Iran, where a mass expansion of agricultural settlements and related fields was recorded in the Sasanian and early Islamic periods.[86] Extensive surveys conducted in southern Iraq also show a mass expansion of irrigation systems in this period, suggesting direct involvement of the central government in both the Sasanian and early Islamic periods.[87]

OLD AND NEW SPECIES

The nature of crops grown in ancient fields is evidenced mainly by textual sources. Archaeological finds provide occasional information on species grown in specific sites, but comprehensive paleobotanical research on ancient fields is still to be desired. A welcome exception is a recent study of botanical remains in pigeon-dung samples at late Roman and Byzantine Columbaria, near Shivta in the Negev, which revealed eleven plant species, including figs, grapes, olives, and dates.[88] These finds complement textual sources that relate specifically to daily aspects of the agricultural activities and plant species grown in the Negev. The Nessana and Petra papyri mention a number of common crops that prevailed in the local agriculture of the Negev and southern Jordan.[89]

The main crops grown in the Negev were wheat and barley, which are mentioned as donations to the church,[90] as payment of salaries,[91] or as payment of taxes imposed by Islamic rulers.[92] Two documents mention the crops sown and the yield of fields.[93] The main garden crops were olives, vines, figs, and dates.[94] Several wine presses discovered in the Negev Highlands provide further evidence for the large-scale growth of vines in this region.

The early Islamic historical sources, particularly those of the tenth and eleventh centuries, describe a variety of crops grown in Palestine. In his description of Greater Syria, al-Muqaddasī describes numerous agricultural species in detail; he mentions olives, cotton, figs, rice, raisins, apples, and bananas as some of the main products of the local agrarian economy and specifies thirty-six products "not found together in any other land."[95] From this description and others, it is evident that the repertoire of local crops was enriched by hitherto unknown species that were introduced during the early Islamic period. The introduction of these new species occurred alongside the continuous use of common crops that had been grown in Palestine since earlier times. Many sources mention the continuous large-scale growing of wheat and barley and emphasize the predominance of barley in the drier areas of the country.[96] Rice is described by al-Muqaddasī as one of the most frequent crops around Bet She'an,[97] yet the growing of rice in this region

85 Puy and Balbo 2013.

86 Neely 1974, 2016.

87 Adams 1981, 2006; Christiansen 1993; Whitcomb 2007; Kennedy 2011.

88 Ramsay and Tepper 2010. This study is now incorporated in comprehensive research on the bioarchaeology of the Negev in the Byzantine period (Tepper, Erickson-Gini, et al. 2018; Tepper, Weissbrod, et al. 2018; Bar-Oz et al. 2019). This research provides abundant paleobotanical material. For preliminary results, see Fuks et al. 2016, 2020.

89 Kraemer 1958; Frösen 2004; Nasarat, Adubanh, and Naimat 2012.

90 Kraemer 1958, 227–34, papyri 79–80.

91 Kraemer 1958, 126–28, papyrus 40.

92 Kraemer 1958, 180–201, papyri 60–67, 69.

93 Kraemer 1958, 237–40, papyri 82–83.

94 Rubin 1990, 88–96.

95 al-Muqaddasī 1994, 180–81.

96 Amar 2000, 69–73.

97 al-Muqaddasī 1994, 180.

is known from the Roman and Byzantine periods as well.[98] The growing of rice is mentioned in the large sixth-century inscription in the synagogue of Reḥov[99] as one of the common crops of this region.

In addition to open-field crops, olive and vine plantations were spread over large areas of the Mediterranean coast, Judaean Lowlands, Central Highlands, and northwestern Negev in both hillside terraced fields and large plots in valleys and plains.[100] Olives and vines continued to form some of the most important crops in early Islamic Palestine, as evidenced from historical sources and archaeological finds.[101] Textual sources mention extensive vine plantations in the Jerusalem region,[102] and both al-Muqaddasī and Nāṣir-i Khusraw praise the Hebron area for its excellent grapevines.[103]

Other widely distributed crops came from date and fig plantations. Dates are known in the plains and deserts of the Near East from earlier times, and in the early Islamic period they were particularly widespread in the Coastal Plain and Jordan Valley. Ramla and Caesarea were described as centers of date growing.[104] The Nessana papyri mention trade in dates between southern Palestine and Egypt.[105] The Jordan and ʿArabah Valleys were also dotted with extensive date plantations, with Beth Shean, Jericho, and Ayla particularly noted for their large crops intended for both local consumption and export.[106] Fig plantations are mentioned in association with settlements throughout the country; among them are Ramla and Hebron. The dates of Ramla and its hinterland were particularly praised as having the best quality and taste in Palestine.[107] The export of dates provided a main source of economic income for the local population.[108]

The growing of cotton occupies a special position in the economies of the Near East and eastern Mediterranean, and cotton is widely mentioned in the medieval period as one of the most popular agricultural commodities.[109] Widely cultivated already in pre-Islamic times, it formed a major crop "from Sudan to Syria."[110] During the early Islamic period, the production of cotton was further intensified as a result of changes in the consumption habits of local populations particularly in Egypt and Iraq.[111] Cotton was extensively cultivated in Iran during the ninth and tenth centuries, creating a boom that triggered the spread of large cultivated areas in fringe zones and expanded the use of traditional qanat irrigation to new regions.[112] The mass expansion of cotton industries was also connected with changes in tax policy on agricultural lands in Iran and with the profitable opportunities in growing cotton as compared with other crops.[113] It seems that this "cotton boom" also affected Palestine. With the introduction of new plantations, particularly in the coastal and northern plains, cotton became one of the most widely cultivated crops in the country. It is frequently mentioned in historical sources, many of them relating to the mass production of cotton, "the clothing of the poor."[114]

98 Decker 2009b, 194–97.

99 Sussman 1981.

100 For general summaries, see Amar 2000, 100–164; Seligman 2011, 326–40.

101 Taxel 2013.

102 Amar 2000, 103–5.

103 al-Muqaddasī 1994, 172; Nāṣir-i Khusraw 2001, 32.

104 al-Muqaddasī 1994, 164, Nāṣir-i Khusraw 2001, 18.

105 Kraemer 1958, 261–85, papyrus 90.

106 Amar 2000, 182–89; Nol 2015.

107 al-Muqaddasī 1994, 164, 259; Nāṣir-i Khusraw 2001, 19.

108 Amar 2000, 165–67.

109 Mazzaoui 1981; Watson 1983, 31–41; Bulliet 2009.

110 Decker 2009b, 199.

111 Goitein 1983, 169–76; Frantz-Murphy 2007; Bulliet 2009, 42–68.

112 Bulliet 2009, 1–39.

113 Bulliet 2009, 34–41.

114 Goitein 1983, 170–71.

While all the abovementioned crops were known in Palestine in pre-Islamic times, a number of species hitherto unknown there—species that originated in China, India, and Persia—were introduced into the region following the Arab conquest. Among them were sugarcane, oranges, and bananas.[115]

Sugarcane was known in India as early as the second millennium BCE, with evidence for its extensive industrial cultivation from the fourth century BCE. Although the knowledge of production spread from India to China shortly afterward, sugarcane industries penetrated westward into Persia only in the fifth century CE. There, it was extensively developed over the next two centuries. It did not spread to other regions of the Near East until after the Arab conquest, when it then spread rapidly to North Africa and southern Spain. The first evidence for the mass growing and production of sugarcane in Palestine comes from the eighth century.[116] The knowledge and seeds for the production of sugar seem to have been brought directly from Persia as part of the diffusion of new crops, irrigation systems (qanats), and field cultivation methods that penetrated into Palestine from the east.

The rapid spread of sugarcane plantations was particularly noted in the Jordan Valley, where historical sources and archaeological finds evidence massive growth between the eighth and eleventh centuries.[117] Tiberias, Beth Shean, and Jericho are mentioned as local centers for sugarcane industries.[118] Another hub for sugar production was the northern Coastal Plain. Al-Muqaddasī mentions a "farm of sugarcane" near Kabūl in the western Galilee,[119] and a document from the Cairo Geniza relates to sugar bought at Achziv.[120] Unlike other crops, the sugar industry in Palestine was much intensified in the Crusader and Mamlūk periods, when sugar was also exported to Europe.[121]

Oranges and lemons were widely introduced in the Near East following the Arab conquest, with large crops of several subtypes.[122] The common type of orange and lemon probably spread into Palestine only in the ninth century.[123] This type is mentioned by Nāṣir-i Khusraw[124] and spread widely from the Crusader period onward.

The banana was another newly introduced crop.[125] As with sugarcane, banana plantations are known mainly in the Jordan Valley and northern Coastal Plain. Several sources mention the banana as a common fruit in the markets of Jerusalem and Jericho.[126]

In conclusion, it seems that early Islamic agricultural production in Palestine presents a diverse picture of continuity and innovation. While the major species grown reflect continuity from the Byzantine period, new species were introduced to the region from the eighth century onward. Wheat, barley, olives, and vines continued to form the main crops of the Palestinian agrarian economy and were widely cultivated throughout the country. At the same time, new types of crops—mainly sugarcane, oranges, and lemons—spread gradually over the course of several centuries. The cultivation of other species (e.g., cotton), known already in earlier periods, was much intensified during early Islamic times. The vast expansion of these species between the eighth and tenth centuries increased diversity and shifted the balance of agricultural commodities. This shift was reflected in a gradual change in the dietary habits of local populations, thus enriching local cuisine and affecting the repertoire of cooking and dining vessels.[127] The penetration of new species

115 Amar 2000; Peled 2009.

116 Amar 2000, 302–13; Peled 2009, 15–40.

117 Peled 2009, 20–22, 264–87; Sato 2015, 17–30.

118 Amar 2000, 308–10; and see Stern 2001 for an updated list of sugarcane production centers in medieval Palestine.

119 al-Muqaddasī 1994, 162.

120 Amar 2000, 306.

121 Stern 2001; Peled 2009, 96–242.

122 Watson 1983, 42–50; Amar 2000, 252–55.

123 Watson 1983, 45–48.

124 Nāṣir-i Khusraw 2001, 12.

125 Nāṣir-i Khusraw 2001, 51–54.

126 E.g., al-Muqaddasī 1994, 175, 180–81; see also Amar 2000, 259–62.

127 Magness 2010.

and the slow change in the dining habits of local populations throughout the Near East were components of a profound and significant change in local societies, which turned from a western to an eastern orientation.

SUMMARY: FROM A WESTERN TO AN EASTERN DIFFUSION

The preliminary stages of long-term research on early Islamic agriculture in Palestine aimed to identify and accurately date the phases of development and decline in agricultural fields and installations by looking particularly at technological innovations and the introduction of new types of crops. The dating methodology applied for this research shows that OSL provides a reliable tool for the identification of the "life cycles" of agricultural fields, from their time of construction through their zenith of production and on to their time of abatement and abandonment. The results obtained from agricultural fields in the Judaean Hills and Negev Highlands show that extensive terraced hillside and valley agriculture was introduced into these regions during the Byzantine period.[128] Contrary to the previous dating of agricultural systems, which suggested a rapid deterioration and abandonment of settlements and fields after the Byzantine period, continuity from the Byzantine to the early Islamic period is evident. Furthermore, it seems that in certain regions, fields were developed and extensively cultivated between the seventh and the tenth or eleventh centuries.

The study of agricultural production in early Islamic Palestine provides further data for the evaluation of cultural changes in the region following the Arab conquest. The continuity of existing agricultural systems and crops and the introduction of new species, cultivation methodologies, and irrigation techniques all dramatically changed the patterns of consumption and distribution of goods. The decline of the international wine industry in the second half of the sixth century[129] had its own effects on the changing patterns of agriculture and commerce by shifting markets from the west to the east and from the international to the local and regional levels. The introduction of new, eastern species also affected cooking and dining habits; and the development of new agricultural areas, particularly in the ʿArabah and Jordan Valleys, was enhanced by the introduction of new irrigation systems and water management technologies. It seems that these developments were part of a *longue durée* cultural change, which reflected a change in the direction of diffusion of new technologies and innovations. While in the late Roman and Byzantine periods Palestine was influenced by agricultural production and water harvesting technologies of the Mediterranean world, the opening of the borders to the east following the Arab conquest and the creation of direct contact between Palestine, Iraq, Iran, and Central Asia opened new horizons for the penetration of plant species and water management technologies that originated in Iran, Central Asia, India, and Western China.

For the thousand years from the Hellenistic to the Byzantine period (third century BCE to seventh century CE), Palestine was part of the vast "western" cultural milieu, with major agricultural innovations originating in the Roman world and North Africa. The Arab conquest triggered a profound change in the direction of influences and diffusions, as reflected in many fields. One of the most noticeable changes came in the agricultural sphere, which witnessed the introduction of new species and technologies originating in the east. The introduction of qanats as a new irrigation technique and the cultivation of sugarcane as a new, previously unknown crop are typical examples of this change.

Returning to Watson's sweeping argument for "Islamic agricultural revolution," a more balanced view is now feasible thanks to the abundant archaeological data obtained during the past three decades and the new dating of agricultural fields. At this stage of research, it seems that changes in plant species and agricultural methodologies reflect a slow, evolutionary process rather than a swift "revolution" in the agricultural regimes of the Near East. New crops and irrigation techniques penetrated gradually into the region, thereby shifting the balance of agricultural practices and the cultural and technological orientation from the west to the east.

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128 The intriguing issue of earlier agricultural systems during the Iron Age and Hellenistic and Roman periods is beyond the scope of this essay and deserves a different study—one that matches archaeological and historical evidence with the independent dating of fields.

129 Kingsley 2001; Decker 2009a. For more recent interpretations, see Fuks et al. 2020; Avni, Bar-Oz, Gambash 2023.

The main contribution of the Arab conquest to this process lay in increasing connectivity between the east and the west following the opening of the borders between the previous Byzantine and Sasanian empires. The creation of a single political and cultural entity from Central Asia to Spain facilitated the process of penetration and spread both of technologies and plant species in Eurasia.

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2 EARLY ISLAMIC INDUSTRY AND URBANISM: THE SITE OF MATZLIAH (RAMLA SOUTH) AS A CASE STUDY OF RECIPROCAL INFLUENCE BETWEEN PRODUCTION AND URBAN PLANNING*

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The city of Ramla was established as the capital of Jund Filasṭīn under Umayyad rule during the early eighth century CE by the governor of the Jund and later caliph Sulaymān b. ʿAbd al-Malik (r. 715–17). The construction was a carefully planned enterprise that included the mosque, the palace, and markets.[1] According to literary sources and archaeological research, the economic prosperity of the city was assured by the establishment of numerous industrial installations and workshops that answered to the city's demands and allowed dynamic trade.

The city of Ramla constitutes an outstanding case study for the research of early Islamic urbanism because it was established on vacant ground, with no previous developments that could have limited the planning. In contrast to other cities (e.g., Bet She'an, Tiberias), Ramla was a brand-new enterprise; therefore, the planners were not constrained by previous limitations, and they were free to establish the distribution and location of palaces, mosques, markets, and dwellings without constrictions. In this study I intend to show that a combination of production, industry, and environmental factors predominantly influenced the urban planning.

As an integral part of construction, rulers had the primary obligation of ensuring essential supplies such as water. In Ramla this problem was solved by the construction of significant features—in particular a sophisticated water system, whose most distinguishing feature was the aqueduct constructed by Sulaymān.

The aqueduct has been thoroughly excavated and published.[2] It is not my intention to focus on it again, but since one of the secondary branches seems to have conveyed water to the industrial area discussed below,[3] it seems worthy of mentioning and keeping in mind.

The early days of Ramla were described by different travelers and geographers, such as the ninth-century historian al-Balādhurī and the tenth-century geographer al-Muqaddasī.[4] Later voyagers, such as

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1 Al-Balādhurī 1866, 170; Nāsir-i Khusraw 1986, 20; al-Muqaddasī 2001, 139.

2 Zelinger 2000, 76; 2001; Zelinger and Shmueli 2002; Gorzalczany 2005; 2008b; 2011; 2014a, 78–86; 2014b; 2021; Tsion-Cinamon 2005; Toueg 2010; Gorzalczany and Amit 2014.

3 Gorzalczany 2008a; 2014a, 78–86; 2014b, 224.

4 Al-Balādhurī 1866, 170; al-Muqaddasī 2001, 139.

David Roberts (who was a gifted painter), Charles Clermont-Ganneau, and Palestine Exploration Fund researchers Claude R. Conder and Horatio H. Kitchener, also described the city.[5] An ever-growing group of researchers, including Moshe Sharon, Myriam Rosen-Ayalon, Amikam Elad, Nimrod Luz, Shimon Gat, Andrew Petersen, Gideon Avni, Katia Cytryn, Oren Shmueli, and Hagit Torgë, have contributed in different fields of research, such as geography, history, and archaeology.[6] Several of these scholars have proposed different approaches to understanding Ramla's urban planning.

One of the most discussed issues in the research of Ramla is the size and layout of the city. Al-Muqaddasī stated that the new city measured one square *mīl* (mile).[7] But researchers do not agree regarding the length of the mile used by the geographer.

Based on the different understandings of the length of the Islamic mile,[8] I have produced a tentative GIS-generated map in which the White Mosque is considered the geographic center of Ramla and colored squares represent the perimeter of the city (fig. 2.1).[9] Luz, based on literary sources, proposed a schematic rendering of the city[10] that included features such as the walls and gates, markets, mosque, palace, and House of the Dyers (Dār al-Sabbaghīn) (fig. 2.2). Based on some forty excavations published by different archaeologists, Petersen proposed an interpretation of the city's boundaries, but his description was only verbal, with no plans attached.[11] Whitcomb postulated a larger city.[12] Later, Avni proposed a more irregular perimeter than Luz's schematic one for the city limits (fig. 2.3).[13] Avni based his proposal on the results of several archaeological excavations, some of them cemeteries presumably located outside the city's boundaries. More recently, Torgë has postulated an irregular perimeter in which the city was divided into two separate wings.[14]

COMMERCIAL AND INDUSTRIAL AREAS IN EARLY ISLAMIC-PERIOD CITIES

The study of urbanism in the period of transition between the late Byzantine period and the beginning of the early Islamic period has received renewed attention in recent years.[15] In this framework, commerce, industry, and labor during the early Islamic period have been thoroughly analyzed,[16] and several studies have dealt with the question of the relationship between industrial zones and urban centers. Researchers have focused on the mutual relations between areas of work/industry and urban planning, with an emphasis on their economic and ecological aspects, as well as the nature of demographic, architectural, and economic changes that occurred.[17] Changes in the official approach to the use of lands have been identified,[18] including in certain cities a clear preference for buildings devoted to commerce, such as *sūqs* (markets), shops,

5 Clermont-Ganneau 1896, 119–22; Conder and Kitchener 1882, 269–75; Roberts 1982, 46–47.

6 Sharon 1986; Rosen-Ayalon 1993, 1996; Elad 1995, 160–61; Luz 1997; Gat 2003, 2007, 2008; Petersen 2005; Avni 2008; Cytryn-Silverman 2008, 2010; Shmueli 2009; Torgë 2017.

7 Al-Muqaddasī 2001, 139.

8 E.g., Clermont-Ganneau 1888, 211; Lagrange 1896, 306; Van Berchem 1922, 22–29; Hinz 1955, 63; Whitcomb 1995, 492; Elad 1999, 46; Gat 2003, 79; Sharon 2004b, 105–59.

9 For a more detailed discussion, see Gorzalczany 2014a, 70–73, esp. n. 24.

10 Luz 1996, 38–39, fig. 3.

11 Peterson 2005, fig. 3.

12 Whitcomb 1995, 492.

13 Avni 2008, 4.

14 Torgë 2017.

15 E.g., Kennedy 1985; Foote 2000; Avni 2011, 2014.

16 E.g., Shatzmiller 1994, 2011.

17 For a discussion, see Foote 2000.

18 Kennedy 1985.

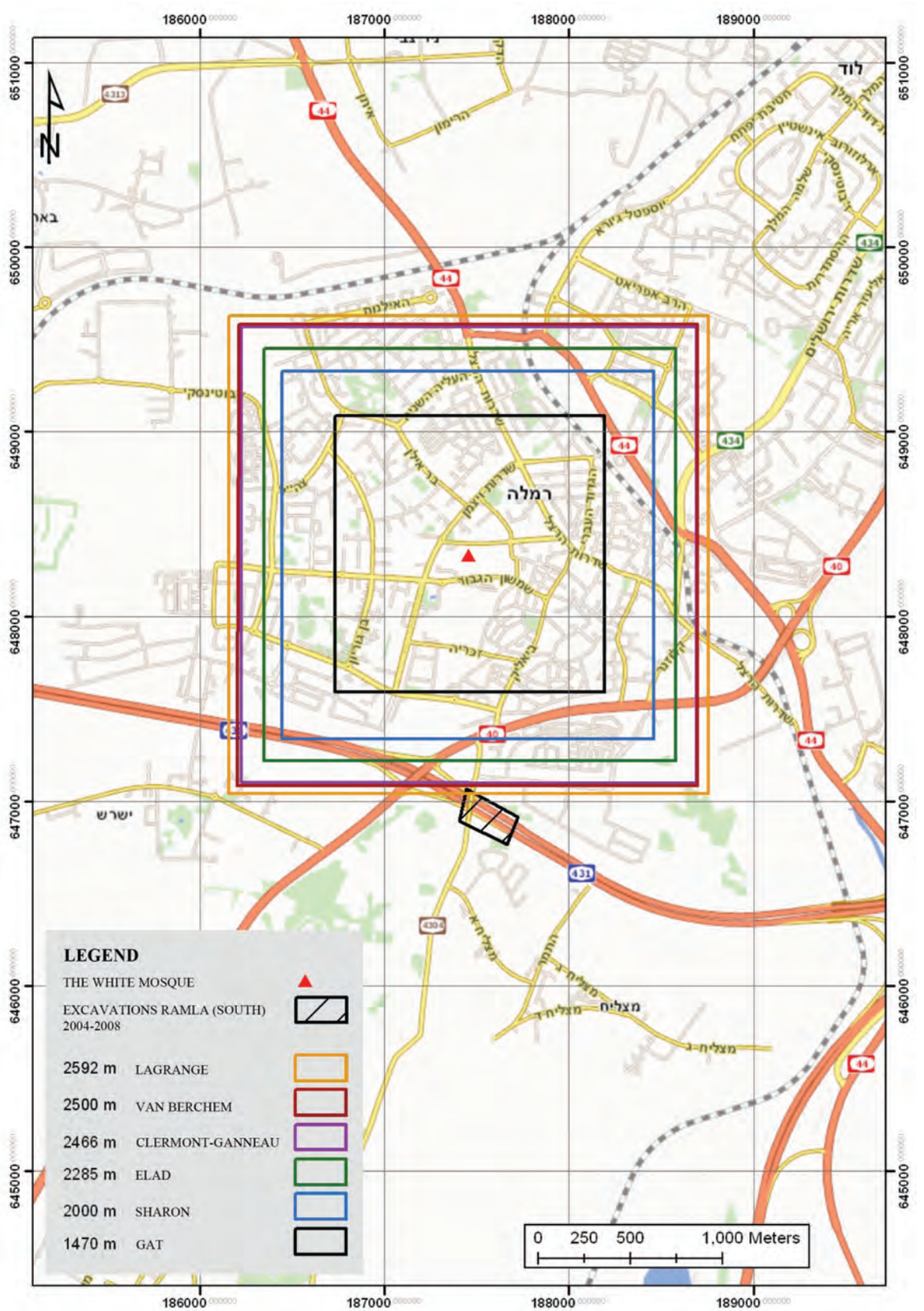

Figure 2.1. Theoretical rendering of the limits of Ramla, one square mile according to Al-Muqaddasī, following different interpretations about the length of the mile. The White Mosque is considered the center of the city.

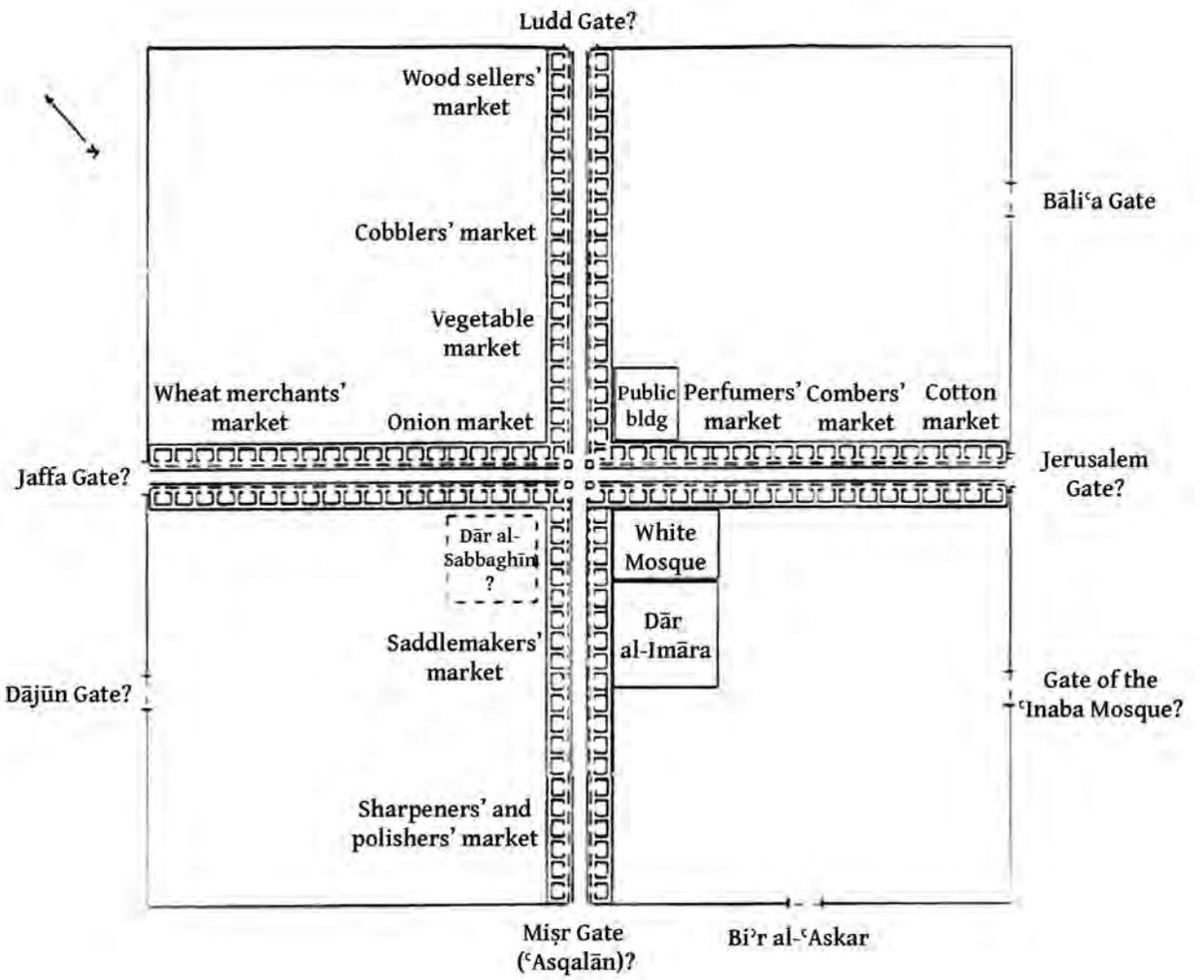

Figure 2.2. Reconstruction of the limits of Ramla by Nimrod Luz. The proposition is based mainly on the analysis of historical sources. Map courtesy of N. Luz.

and industries instead of monumental building enterprises.[19] Such is the case in, for example, Apollonia/Arsūf,[20] Scythopolis/Baysān (Bet Sheʾan),[21] Palmyra/Tadmur,[22] Sergiopolis/Ruṣāfa,[23] Philadelphia/ʿAmmān,[24] and Tiberias/al-Tabarīya.[25] These markets, large and linear, could comprise several dozen stores. Sometimes changes were expressed in the transformation of public areas such as theaters and forums into industrial and production areas, as in Baysān[26] and Gerasa/Jarash.[27]

19 See also Walmsley 2007, 344–52.

20 Roll and Ayalon 1987.

21 Khamis 1997.

22 Asaʿad and Stepniowski 1989.

23 Ulbert 1997, pls. 72–76.

24 Almagro and Arce 2001, 662, fig. 2.

25 Walmsley 2000, 280–81.

26 Bar-Nathan and Atrash 2011a, 2011b.

27 Pierobon 1986; Schaefer and Falkner 1986.

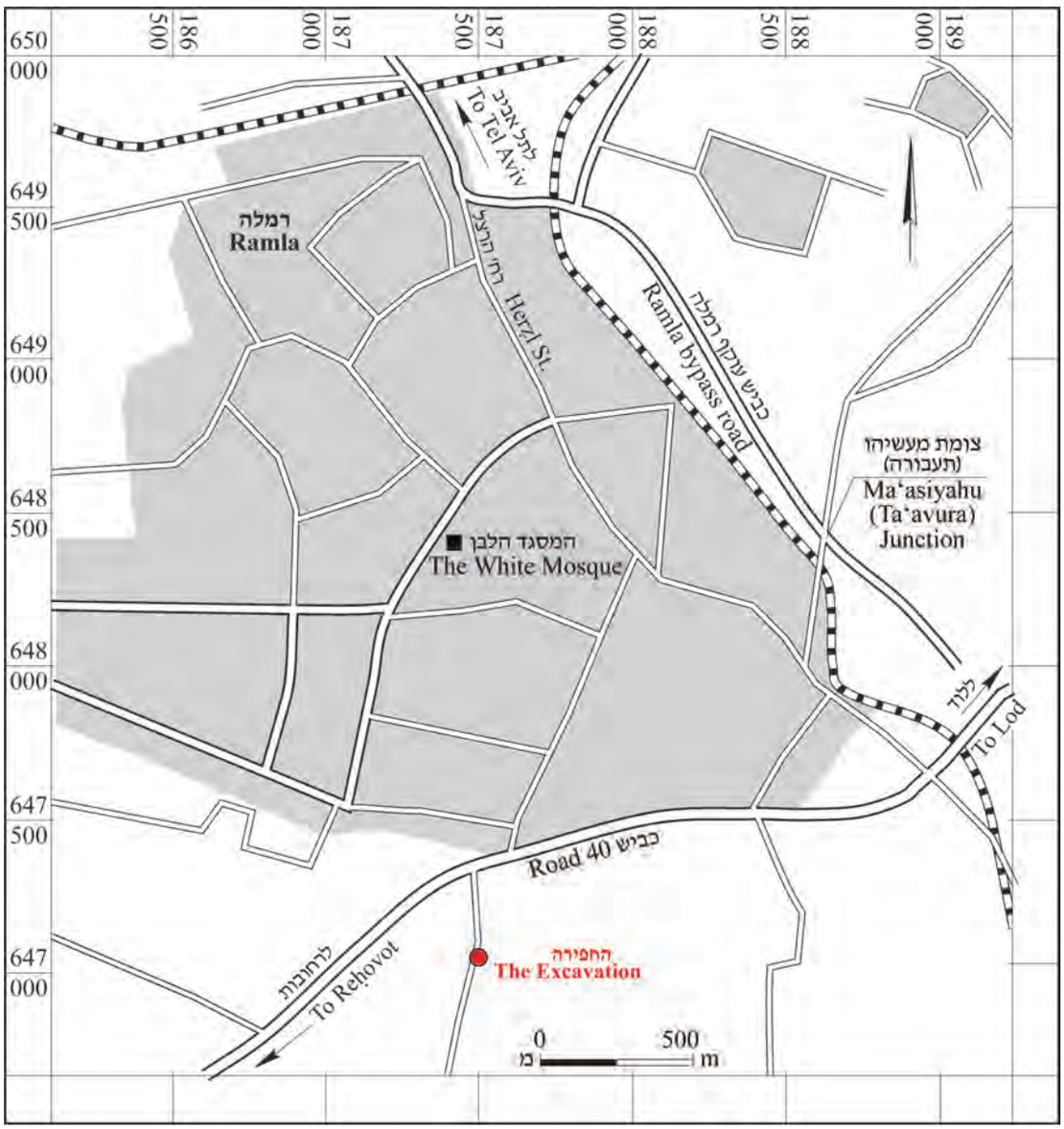

Figure 2.3. Reconstruction of the limits of Ramla by Gideon Avni. The proposition is based mainly on the result of excavations and the presence of burial grounds. Map courtesy of G. Avni.

As far as these areas are concerned, industrial quarters were exposed in different sites, such as in the capital city of Jund al-Urdunn, Tiberias,[28] Bet She'an,[29] Jarash,[30] ʿAqaba/Ayla,[31] Pella/Fiḥl,[32] and Palmyra.[33] A representative example of an industrial complex located near an Islamic city is perhaps al-Raqqa, which was the largest city in the western zone of the ʿAbbāsid Empire before Sāmarrāʾ was established.[34] This city specialized in large-scale production of pottery, glass, burned alkali plants used as flux for glass production,

28 Foerster 1993, 1472; Stern 1995; Lester 2004, 210; Stacey 2004, 81–87.

29 Bar-Nathan and Atrash 2011a, 2011b; Bar-Nathan and Najjar 2011.

30 Schaefer and Falkner 1986, 419–21.

31 Melkawi, ʿAmr, and Whitcomb 1994, 453.

32 Walmsley 1992, 347–48.

33 Walmsley 2000, 276–79.

34 Heidemann 2006.

and perhaps also charcoal.[35] The extent and intensity reached by the industrial activity of this city can be inferred from the nickname by which it was known: the huge amount of thick smoke columns produced by the active furnaces and burning installations earned the city the moniker *al-Raqqa al-Muḥtāriqa*, "the burned al-Raqqa."[36] While this city can be taken as a model for the intensity of industrial production and commercial activity around Islamic cities, there were also smaller production centers, located in the vicinity of rural villages. Recently, centers of this type have been excavated in Bilād al-Shām—for example, the pottery workshops in the vicinities of Ramla and Nes Ẓiyyona / al-Khirba,[37] or the glass furnaces and pottery workshops exposed in Khirbat Harmas[38] in the vicinity of Reḥovot. These sites, together with other minor ones that revealed evidence of agricultural exploitation (such as intricate networks of pools and irrigation channels, sometimes coupled with *antiliya* wells or sherds of vessels that hint at the presence of them[39]), can be considered part of the agricultural-industrial hinterland of Ramla, the capital city of the Jund.

PRESENT RESEARCH: THE CASE OF RAMLA

All files related to excavations conducted in Ramla and located in the IAA archive branch, many of them still unpublished, were (apart from one that is missing) thoroughly checked during the present research in the quest for every clue related to the kinds of industries exposed during the various digs. In the time since Jacob Kaplan's and Myriam Rosen-Ayalon and Avraham Eitan's pioneer excavations in the White Mosque and its surroundings,[40] some 200 additional projects have been carried out.[41] Most of these projects were small-scale salvage excavations. Nevertheless, they yielded valuable data because, in many of them, industrial installations or evidence of crafts such as pottery, metal and glass slag, and waste were recorded (fig. 2.4). Others were large projects in which extensive industrial areas were exposed.[42] Noteworthy are the excavations I and others have carried out at a site close to Moshav Matzliaḥ, slightly outside the boundaries of modern Ramla, given the name "Ramla (South)" by the IAA for administrative reasons.[43] These excavations uncovered large industrial areas incorporating various installations related to different crafts, such as pottery and glass workshops, plastered pools of a wide range of shapes and sizes, an intricate network of channels that fed these pools or water reservoirs,[44] industrial mosaic floors, working surfaces, and more (figs. 2.5 and 2.6). It has been suggested that some of these installations were related to the flax industry.[45]

Thanks to meticulous mapping carried out by the IAA, which attributed to every issued excavation license a precise reference map, it was possible to locate a substantial number of the industries' locations on GIS-generated maps. In figure 2.7, a superposition of the proposals of Luz and Avni can be seen on the background of a GIS map showing all the signs and traces of different industries in Ramla. Analysis of all the industries revealed at Ramla and their characteristics is beyond the scope of the present study and has been discussed thoroughly elsewhere.[46] In the present research, I chose to concentrate solely on one particular industry—the ceramic industry. I believe that through the study of distribution patterns of pottery workshops

35 Henderson 1999.

36 Heidemann 2006, 47.

37 ʿAd 2017, figs. 8–10.

38 Elisha 2007.

39 E.g., Golan 2008, 2009, 2010, 2011.

40 Kaplan 1958, 1959; Rosen-Ayalon and Eitan 1968, 1970.

41 For a list of 208 archaeological excavations carried out in Ramla up to November 2013 (and continuously increasing), see Gorzalczany 2014a, 203–9, appendixes 1–3.

42 E.g., Glick and Gamil 1999; Avni et al. 2008a, 2008b; Gutfeld 2010.

43 Gorzalczany 2006, 2008c, 2008d, 2009a, 2009b; Gorzalczany and Spivak 2008; Tal and Taxel 2008, 2009; Gorzalczany and ʿAd 2010; Gorzalczany and Marcus 2010; Gorzalczany, Yehuda, and Torgë 2010.

44 E.g., Gorzalczany 2014a, fig. 21.

45 Gat 2003, 141; Tal and Taxel 2008, 123–24.

46 Gorzalczany 2014a, 58–114.

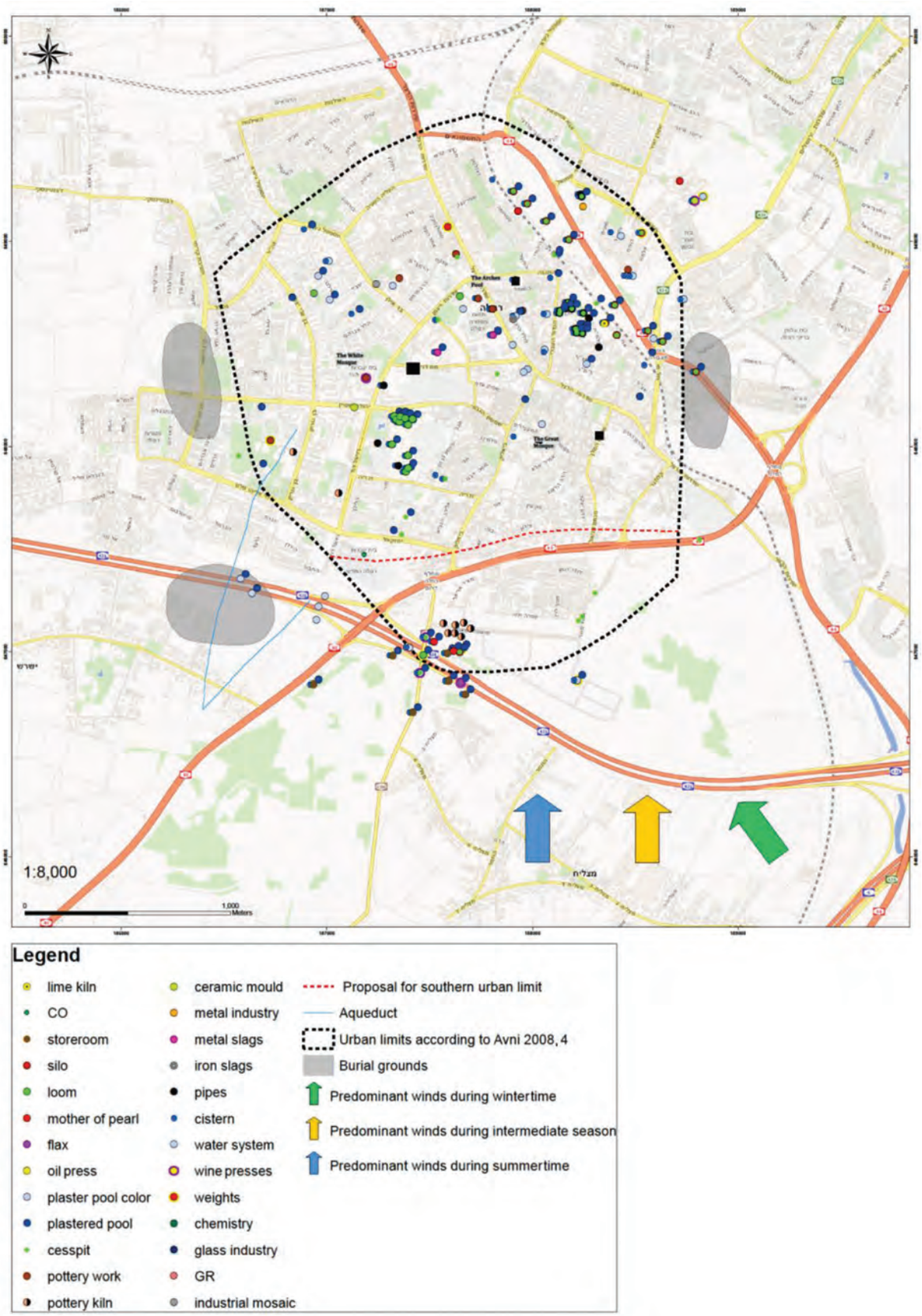

Figure 2.4. General map of all the industrial remains known in Ramla. The data were retrieved from published reports as well as from the Israel Antiquities Authority Archives Branch.

Figure 2.5. Location of the excavations in the site of Ramla (South).

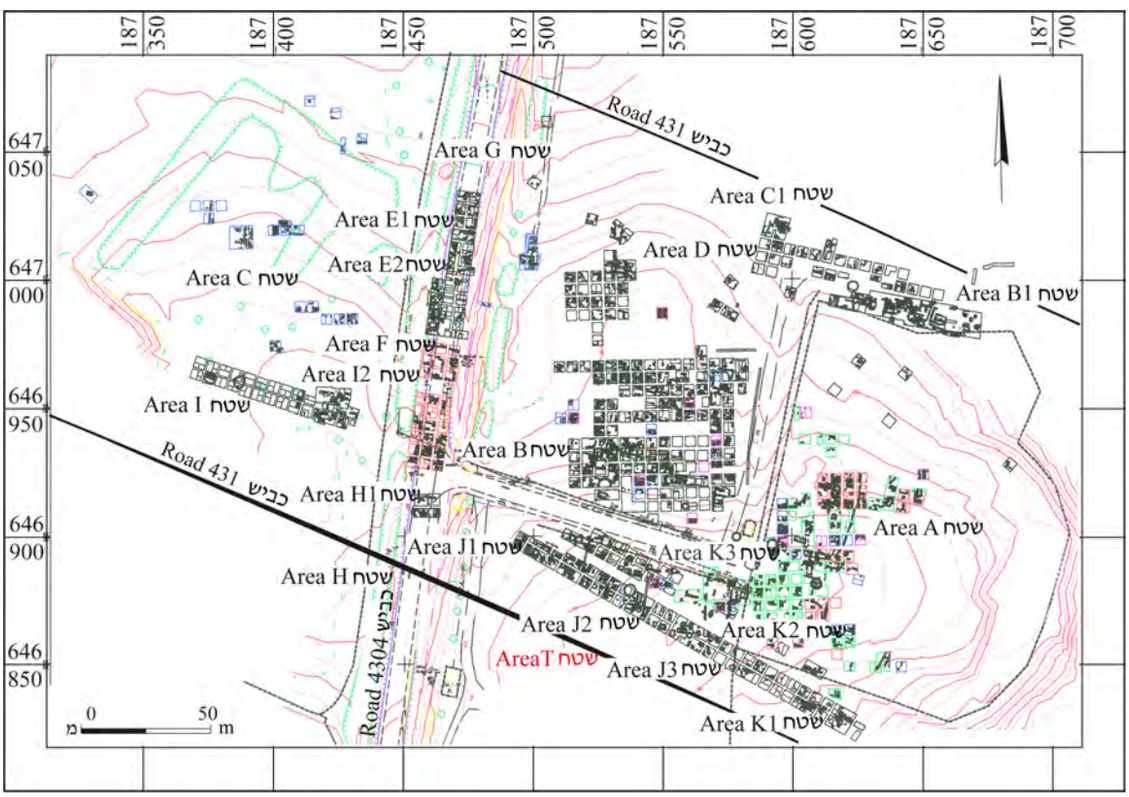

Figure 2.6. Plan of the excavations in Ramla (South) in 2004–8.

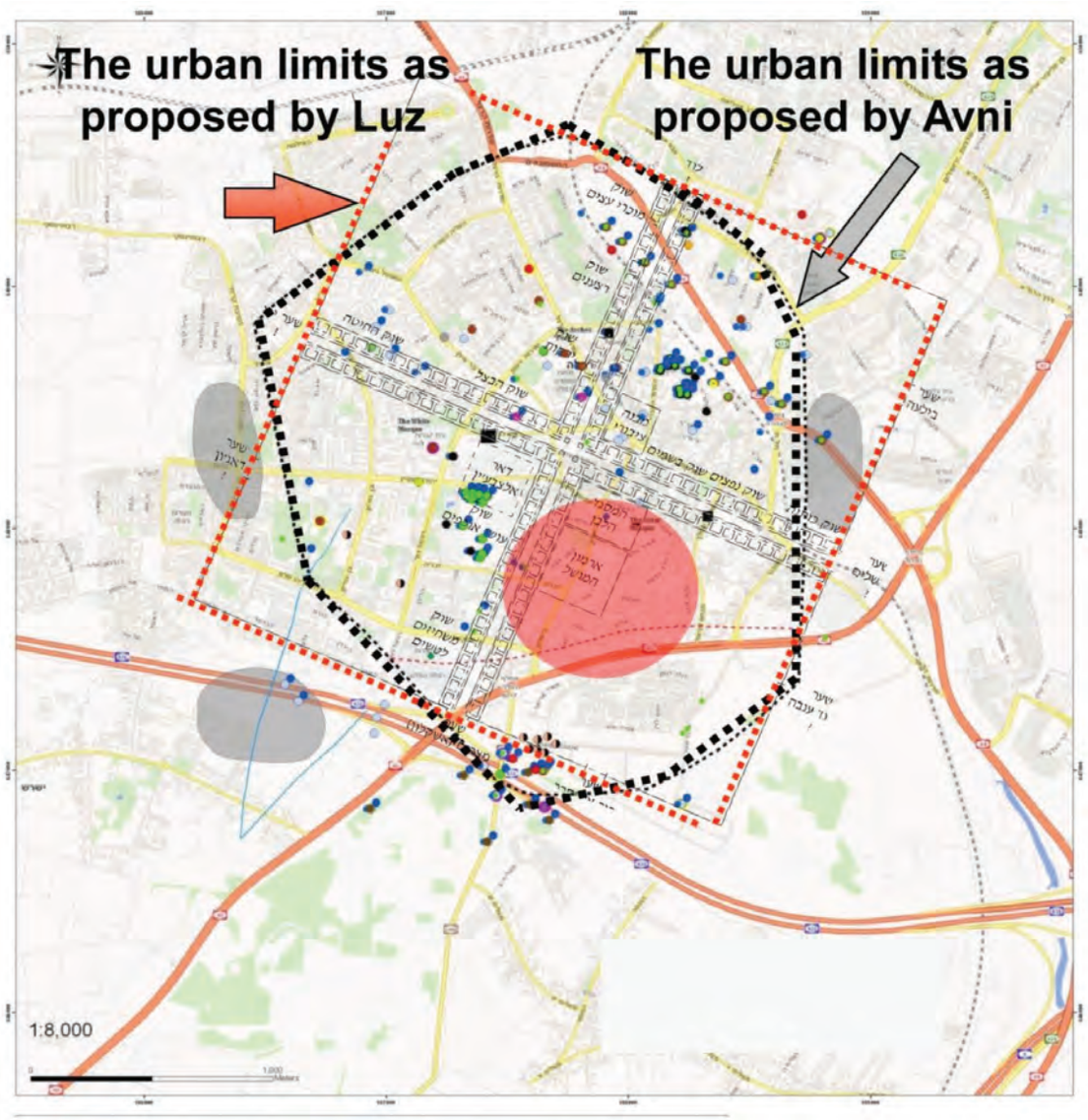

Figure 2.7. Luz's and Avni's reconstructions of the city boundaries superimposed on the background of the industries and works in Ramla. The gray areas represent burial grounds. Interestingly, the area attributed by Luz to the governor's palace (shaded in pink) appears free of industrial remains.

we can better understand the problems and difficulties the planners faced and the way they overcame them. I am also of the opinion that the spatial distribution of the remains related to this industry (see below) could also be useful for analyzing the dispersion and location of other polluting crafts performed in the city. My reasons are threefold: First, pottery kilns, workshop waste (kiln wedges, slag, and distorted vessels), ceramic molds, and even levigation pools are common finds in Ramla. Second, pottery is relatively easy to date (even if it provides only wide chronological ranges), so variability can be identified through time. Finally, pottery workshops constitute an ecological disturbance. Therefore, given the opportunity, any city planner would have taken them into consideration when undertaking a large enterprise.

When we examine the distribution pattern of the pottery workshops in Ramla (fig. 2.8), two main, discrete clusters become evident.[47] The first is located south of the city within the excavated site of Ramla (South). Pottery retrieved from these kilns dates them to the fourth to eighth centuries (fig. 2.9).[48] The

47 Gorzalczany 2014a, figs. 11, 32.

48 See also Oren, Gorzalczany, and ʿAd 2012, figs. 8–12.

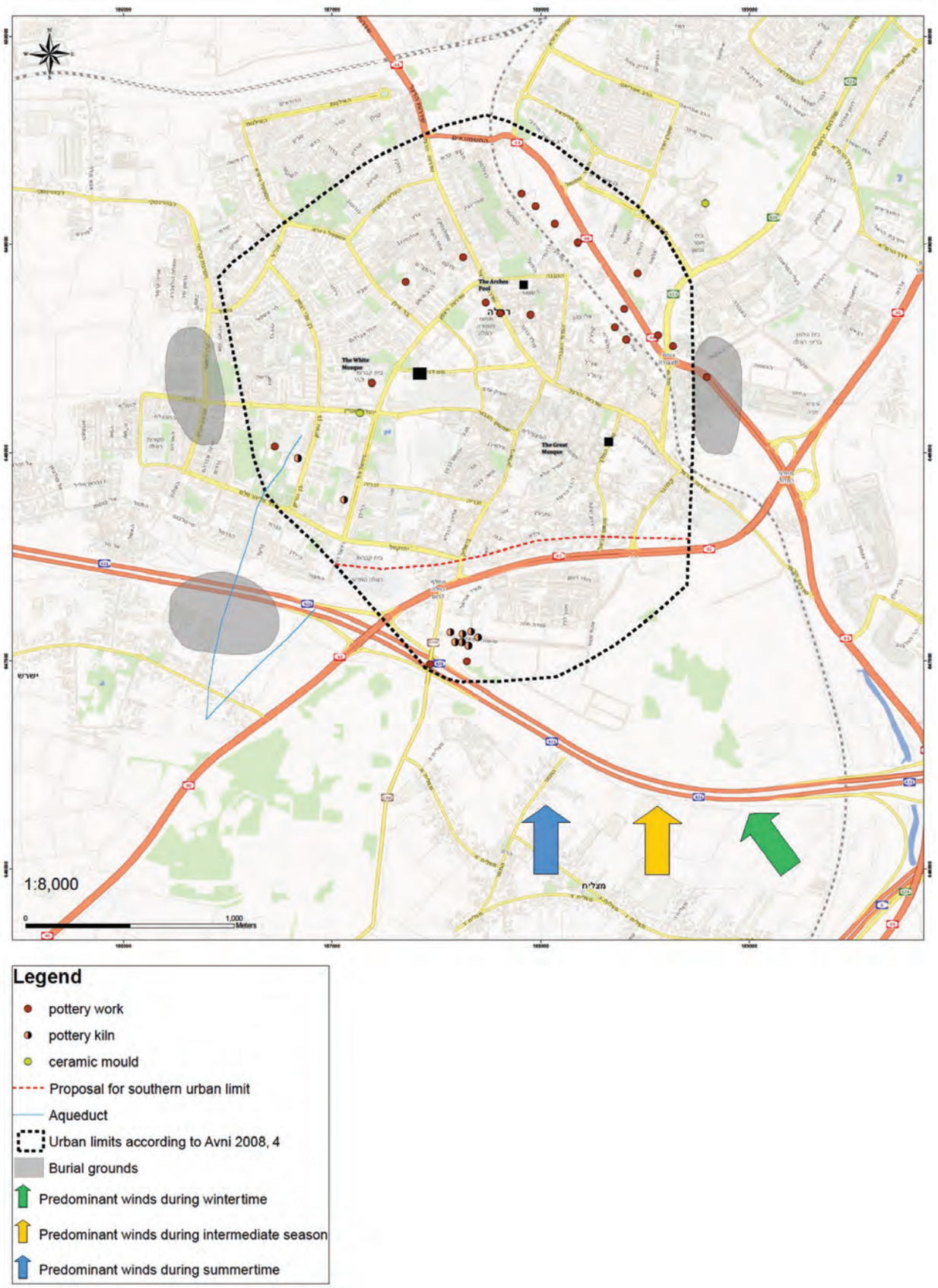

Figure 2.8. Location of known pottery workshops in Ramla.

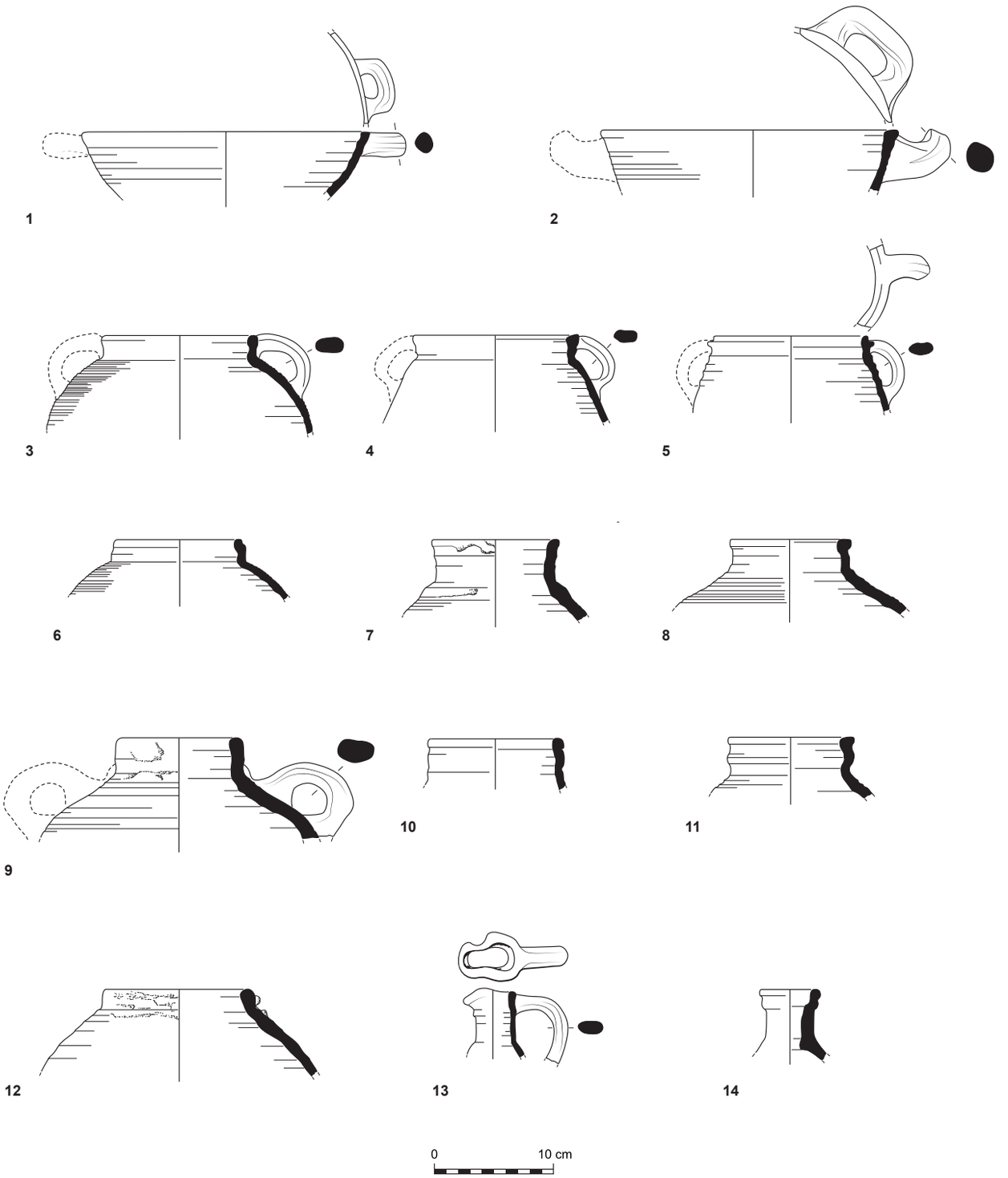

Figure 2.9. Selected vessels from pottery workshops unearthed at Ramla (South). Courtesy of Yulia Gottlieb, Institute of Archaeology, Tel Aviv University. *1–2*, casseroles (4th–5th c. CE); *3–5*, cooking pots (3rd–4th c. CE); *6*, cooking pot (5th–7th c. CE); *7*, bag-shaped jar (no later than 7th c. CE); *8–10*, bag-shaped jars (5th–6th c. CE); *11*, bag-shaped jar (5th c. CE); *12*, "Gaza jar" (late 4th–7th to early 8th c. CE); *13*, late Roman juglet (3rd–4th c. CE); *14*, pilgrim flask (mid-6th to mid-8th c. CE).

assemblage is rather homogeneous and consists of common vessels well known from household and commercial contexts, such as jars, cooking pots, and juglets. No decorated or glazed vessels were retrieved. The vessels are wheel made; their matrix is levigated, generally with small white grits; and they are hard fired, with a color ranging from orange to dark red. As we are dealing with rather familiar types of pottery, the vessels will be presented and discussed briefly here so as to establish firmly the dating of the workshops.

Vessels 1 and 2 in figure 2.9 are casseroles familiar from most Byzantine sites, especially in the Jerusalem area[49] and Caesarea.[50] Some examples from Khirbat Niʿana close to Reḥovot (NIG 64230/18800) have been published,[51] and they, together with the Ramla examples, seem to represent a regional variant. The vessels are dated to the fourth and fifth centuries CE. Vessel 3 is a cooking pot with no close parallels known from sites in Ramla. Nevertheless, similar vessels in Jalame / Khirbat ʿAsafna were dated to the third and fourth centuries.[52] Vessels 4 and 5 represent a local cooking pot variant. Similar vessels were retrieved in the IAA excavations at Nes Ẓiyyona, which uncovered several pottery workshops dated to the third and fourth centuries.[53] Vessel 6 is a cooking pot that belongs to Magness type C4[54] and is dated in Jerusalem from the fifth to the early seventh centuries. Vessel 7 is a bag-shaped jar with a short neck and folded rim that belongs to one of the more common groups in the Byzantine period, dated no later than the seventh century.[55] This form is ubiquitous in Israel; examples have been found in Jerusalem[56] as well as Beʾer Shevaʿ,[57] for instance. It is also known as type C in Reḥovot-in-the-Negev, Northern Church.[58] It is worth mentioning that this type was also found in Egypt (Kellia, type 186) in a workshop dated to the transitional phase between the seventh and eighth centuries.[59] It has been found close to Ramla in the excavations at Khirbat Niʿana and dated to the Byzantine and transitional Byzantine-Islamic periods.[60]

Vessel 8 in figure 2.9 is a jar dated from the fifth to sixth centuries and well known in Caesarea, where it was labeled type 1B/Y,[61] as well as in Ramat HaNadiv.[62] It is known in Shiqmona, close to Haifa,[63] where it is dated to the seventh century, as in Reḥovot-in-the-Negev.[64] This vessel was retrieved in Khirbat Diran (Reḥovot), Level III; Miriam Avissar dated it up to the ninth century.[65] In Ramla it does not appear in ninth-century contexts, and in our excavations in Ramla (South) it is common in earlier assemblages.

Vessels 9 and 10 in figure 2.9 are variants of storage jars dated to the fifth and sixth centuries in Caesarea[66] and Ramat HaNadiv,[67] in the Ramla area in Khirbat Niʿana,[68] and in Reḥovot.[69]

49 Magness 1993, 211–13.

50 Magness 1992, pl. 60.1–3.

51 De Vincenz and Sion 2007, 22, fig. 2.1–3.

52 Johnson 1988, 188–203.

53 Peter Gendelman, personal communication, October 12, 2021.

54 Magness 1993, 219–20.

55 Calderon 2000, 127–29.

56 Tushingham 1985, fig. 28.25.

57 Ustinova and Nahshoni 1994, fig. 4.4–5.

58 Rosenthal-Heginbottom 1988, 84–85.

59 Egloff 1977, 117–18, pls. 19.4, 60.4.

60 De Vincenz and Sion 2007, fig. 3.7–8.

61 Riley 1975, 28, nos. 1–3.

62 Calderon 2000, pls. 6.7–10, 17.11–15, dated to the sixth to seventh century.

63 Calderon 2010, 198, fig. 8.76.

64 Rosenthal-Heginbottom 1988, pl. 2.90.

65 Avissar 2007, 97*, fig. 4.2–4.

66 Riley 1975, 28, figs. 1 and 2.

67 Calderon 2000, pls. 6.7–10, 17.11–15.

68 De Vincenz and Sion 2007, fig. 3.8.

69 Avissar 2007, fig. 4.2.

Vessel 11 in figure 2.9 is somewhat earlier. The jar belongs to a group widespread in the coastal area—a group known as group 62 according to Peacock and Williams[70] and type 1A in Caesarea dated to the first and second centuries.[71] It is known as group 13A in Macheronte/Machaerus (Qalʿat al-Mishnara, Jordan)[72] and Herodion.[73] And it also appears in small rural sites, such as Horbat Bizʿa, in western Samaria (NIG 20190/50710).[74]

Vessel 12 in figure 2.9, nicknamed "Gaza jar" and thoroughly published and discussed, constitutes one of the most common vessels during the Byzantine period. Common in the Coastal Plain of Israel, especially in the south, where many workshops have been documented,[75] it has been found as far away as England and throughout the Mediterranean basin and is traditionally linked to the wine trade.[76]

Vessel 13 in figure 2.9, a juglet, was recorded at several sites, including Beʾer Shevaʿ,[77] and dated to the late Roman period following Ramat HaNadiv.[78] Vessel 14 in figure 2.9 is a pilgrim flask dated to the mid-sixth to mid-eighth century following Ramat HaNadiv[79] and Reḥovot-in-the-Negev.[80] Close to Ramla, a similar vessel was retrieved at Khirbat Niʿana.[81]

The second group of kilns is sparsely distributed along an arch-shaped area that follows roughly the supposed northern boundaries of the city. In sharp contrast with the previous group of workshops, it is clear that the pottery produced in this northern area is different. The assemblages include different ceramic families, such as buff ware, glazed ware, and most of the typical components of the well-known Ramla pottery industry. This difference should not surprise us, since all the kilns in the northern area were dated in different excavations to the eighth century and onward.[82] The components of this second cluster were published in different reports and dated by numerous excavators over the course of years of research[83] from the eighth to the eleventh centuries. Since all the excavations in the northern workshops were carried out as small salvage projects, the vessels commonly found in these workshops or related to them were not discussed in depth.[84]

I believe the development of this northern layout is due to the predominant winds in the area of Ramla. Climatic data in Israel (precipitation, wind, humidity, and barometric pressure) can be obtained online from the Meteorological Service of Israel with a ten-minute interval of resolution.[85] In Israel, there are twenty-six weather stations at which climatic data are gathered and monitored. The stations relevant to this research are located at Bet Dagan (ca. 11 km from Ramla) and at the Ben-Gurion International Airport (ca. 10 km from Ramla). Analysis of the average data from both weather stations shows that the predominant winds

70 Peacock and Williams 1986, 215, fig. 135.

71 Riley 1975, 26; Blakely 1988, 39–40.

72 Loffreda 1996, 46–49, fig. 16.1–8.

73 Loffreda 1996, fig. 54.62–73; Bar-Nathan 1981, 54, fig. 2.1–6.

74 Gendelman 2012, 34*, fig. 1.6.

75 Israel 1993.

76 Majcherek 1995, pl. 3.3–4, 7–8; Calderon 2000, 119–26.

77 Nahshoni 2007, 88–89, fig. 13.2.

78 Calderon 2000, pl. 3.45.

79 Calderon 2000, 111, pl. 9.56.

80 Rosenthal-Heginbottom 1988, pl. 3.140–41.

81 De Vincenz and Sion 2007, fig. 5.7.

82 For terminology regarding archaeological phases during the Islamic period, I follow Whitcomb 1992, 113, table 2.1, as do other researchers (e.g., Cytryn-Silverman 2010, 98).

83 E.g., Brosh 1970, 22; Rosen-Ayalon and Eitan 1970 (a glass workshop); Kletter 2000, 57*; Buchennino 2008; Avni et al. 2008b; Vitto 2005, fig. 1; Toueg 2006; Avissar 2007; Zelinger 2007; Sion 2009a, fig. 9.7–10; 2009b, fig. 4.6–10; Masarwa 2010; ʿAzab 2011, fig. 14.10; Haddad 2011, figs. 5.12, 6; Torgë 2005; 2008; 2009; 2011; 2012, fig. 4.20.

84 For a thorough discussion regarding most of the wares represented in Ramla, see Cytryn-Silverman 2010 and Torgë 2017, 14–126, with abundant parallels and bibliography in both resources.

85 Bitan and Rubin 1991.

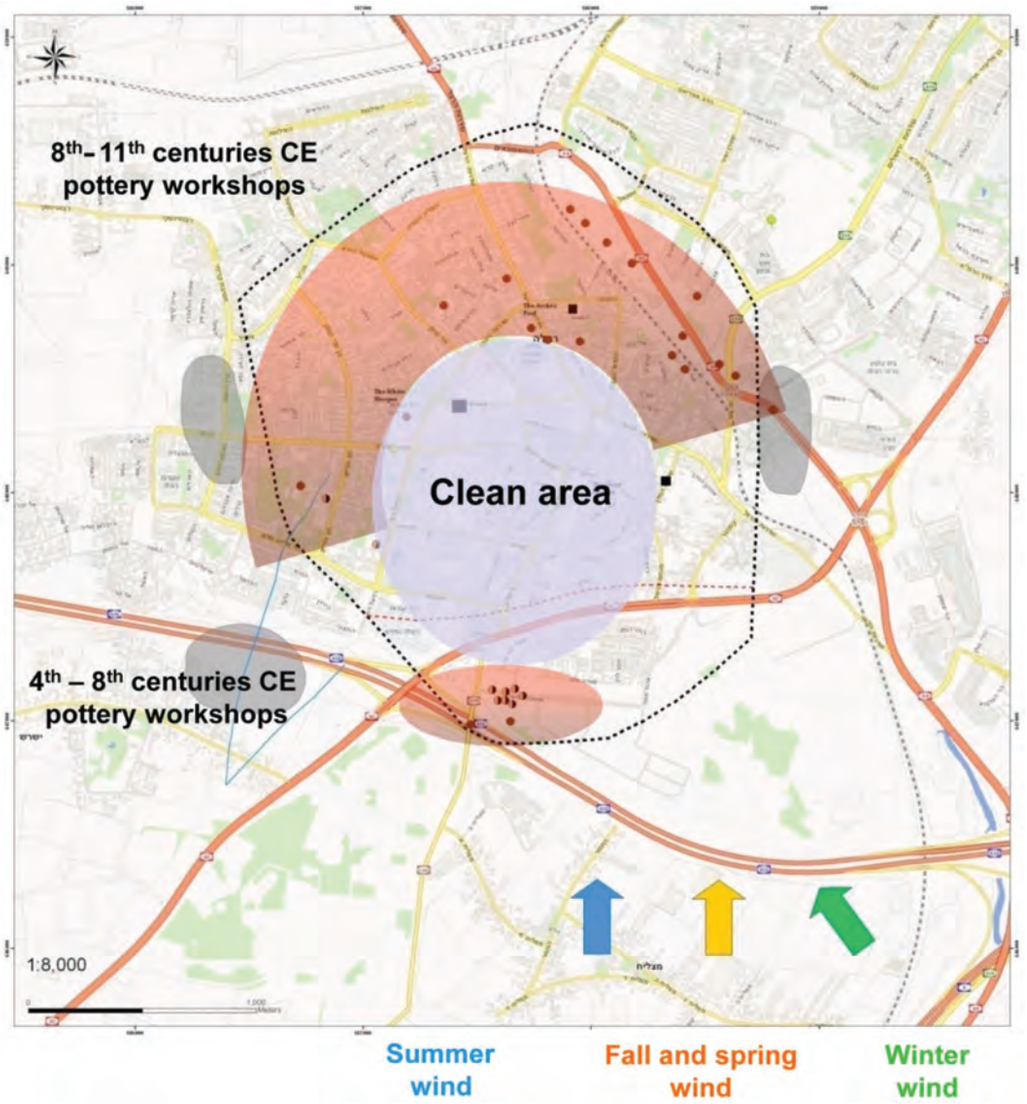

Figure 2.10. Breakdown of Islamic and pre-Islamic pottery workshops taking into consideration the principal direction in which winds blow in the Ramla area. The gray areas represent burial grounds.

throughout the year in Ramla vary slightly but always blow from the south. Therefore, smoke produced in an industrial area located at the site of Ramla (South) would have been carried northward by the winds and bothered no one, since the Ramla area was still unsettled. But with the construction of Ramla, the pottery workshops suddenly became a nuisance.[86] So it seems no coincidence that during the eighth century the pottery workshops at Ramla (South) came to an end. The pottery industry was relocated to the northern periphery of the city, where the wind would blow the smoke away without affecting daily life in the city (fig. 2.10). Interestingly, other industries involving firing, smoke, and other ecological disturbances—such as the glass industry (fig. 2.11) and metalworks (fig. 2.12)—appear to have followed a relocation pattern similar to that of the pottery workshops. It should be stressed that the spatial distribution of the sites related to metallurgy and glassmaking in Ramla was studied, and the scenarios show striking similarities.[87]

86 Gorzalczany 2014a, fig. 21.

87 Gorzalczany 2014a, 96–100, figs. 33, 34.

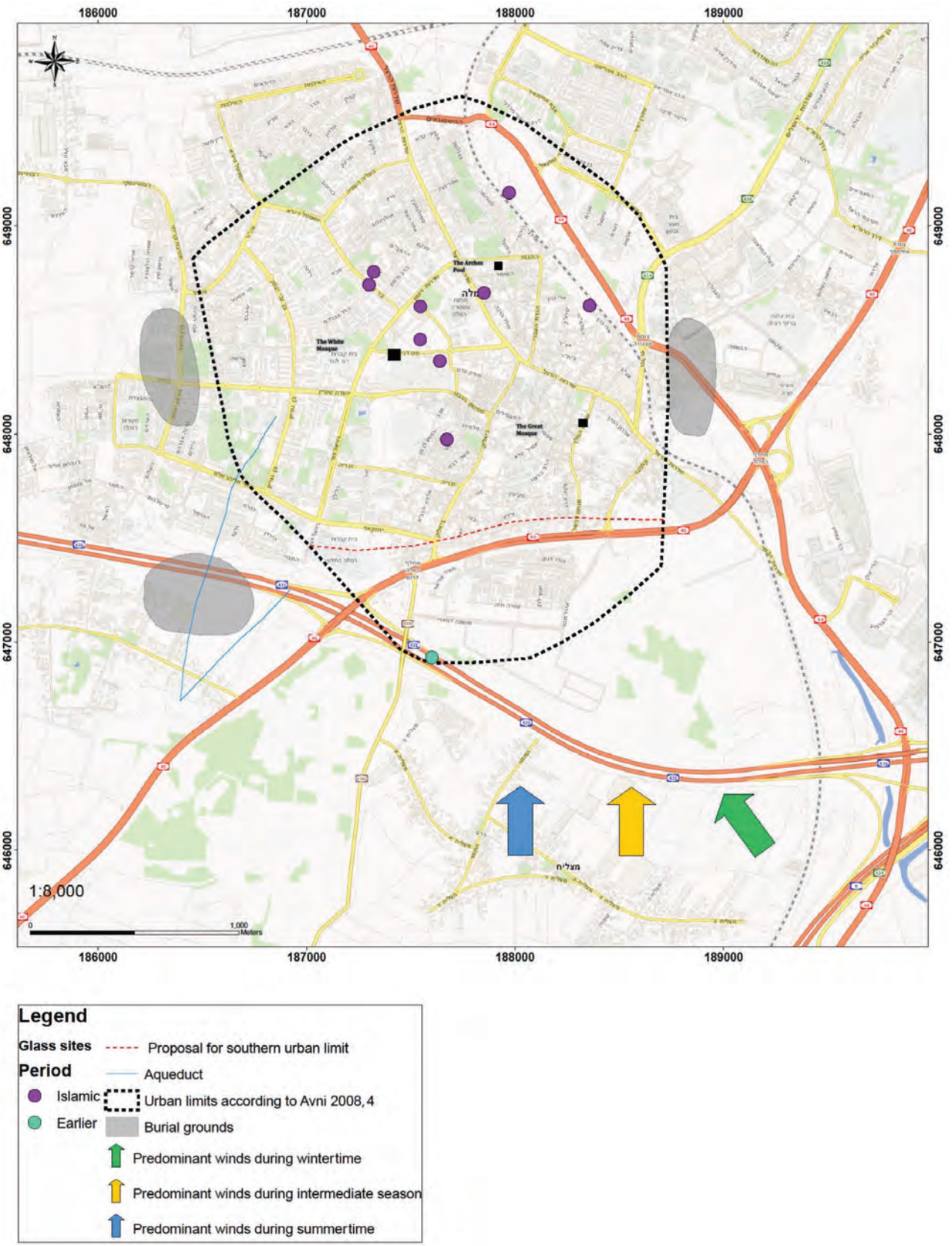

Figure 2.11. Location of known glass workshops in Ramla.

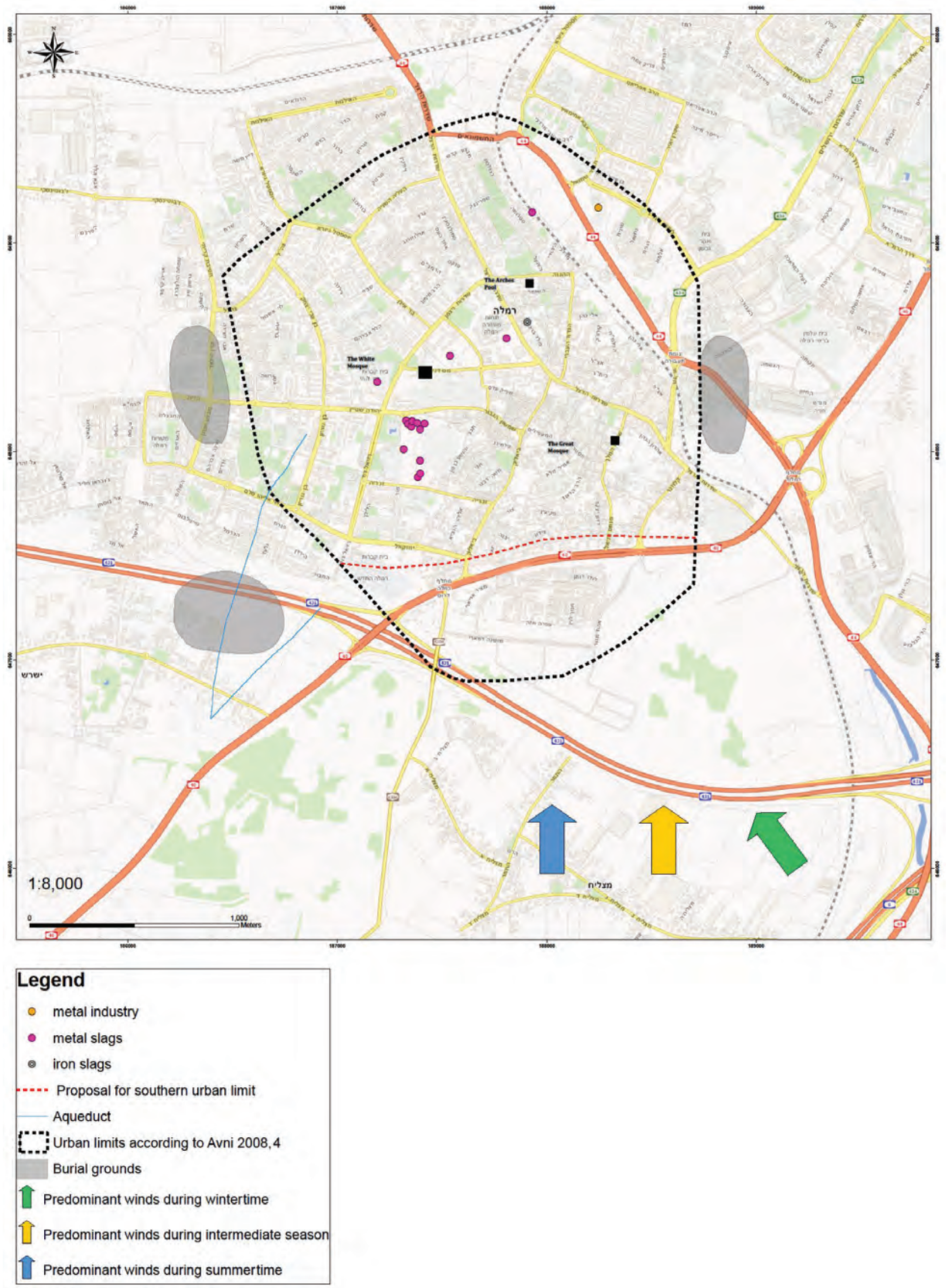

Figure 2.12. Distribution of metalworks in Ramla.

One could ask whom the Roman and Byzantine industry south of Ramla supplied, since it predates the foundation of that city. Circumstantial evidence found in the excavations indicates that the target market may have been farmsteads or monasteries located nearby. Finds with ecclesiastical characteristics (e.g., chancel screens, baptismal basins, and altar parts) found in different areas of the excavations in Ramla (South) may attest to the existence of monasteries in the area (fig. 2.13).[88] The church revealed in the nearby Nesher Quarry should be pointed out within this context.[89]

Figure 2.13. Spolia from a church or monastery unearthed at Ramla (South). Photo by A. Gorzalczany.

During the early eighth century, the pottery workshops in the southern periphery of the city ceased to exist. On the other hand, the pottery industry flourished simultaneously in the northern area and continued to do so through Umayyad, ʿAbbāsid, and Fāṭimid rule. This shift seems to be coordinated, and perhaps compulsory, and is probably related to regulations linked to ecological considerations that arose with the establishment of the city.

At the same time, the former industrial area south of Ramla was not neglected. It continued to be active, but major changes were introduced in it. The place was now incorporated into the economic structure of the new city, albeit never included within the urban limits; it remained a separate neighborhood, with no territorial continuity. Instead of the smoky and malodorous annoyance caused by pottery workshops (and probably by other similar industries, such as glassmaking and metallurgy), we witness the establishment of new industries better fitting the new economic needs and based on water conveyed to numerous plastered pools, sometimes constructed atop the derelict kilns. These pools are also common in other parts of the city, but in Ramla (South) they were discovered in unprecedented numbers. Their increase in number takes place simultaneously with the construction of the Umayyad aqueduct (see above), because the new industries needed large amounts of water. Another point to consider is the outsized number of cesspits simultaneously constructed in the area. These septic pits, dug into the *ḥamra* soil and the sand, are common finds in every Islamic city, including Ramla. But in the industrial area at Ramla (South) their size and number are remarkable, and in some cases several installations are lined up together. This fact seems to fit the needs of a particularly active industrial zone coupled with remarkable ecological concern.

To sum up, the city of Ramla, because of its characteristics, offers a good case study for learning about the reciprocal influence of industry and urban planning. Other Islamic cities were built close to or within previously existing settlements, such as in Bet She'an or Tiberias, so the new settlers were not able to plan urbanization patterns freely.

88 See also Gorzalczany 2014a, figs. 15, 16.1.

89 Zelinger and Di Segni 2006.

In Ramla's case, it seems that concurrently with the city's founding, the activity of workshops that caused pollution and nuisance was stopped. These industries—pottery, glassmaking, and perhaps metallurgy—were relocated in an organized manner to the northern periphery of the city, thus creating an arch-shaped zone in which they could supply the city's needs and rendering a clean central area in which the inhabitants could carry out their activities free of environmental nuisances. The new location for these industries was not chosen randomly; rather, it took into consideration ecological and climatic factors, specifically the direction of the wind. The planners were aware of the climatic conditions in and around Ramla.

In the meantime, the southern industrial area was not completely closed. On the contrary, it remained productive as it was incorporated into the economic system of the new city. But major changes took place. After the polluting industries were removed, "cleaner" manufacturing processes were introduced.

The new industries were water based. Thanks to the construction of the new aqueduct, a branch of which presumably conveyed water to the southern industrial area, numerous plastered pools were constructed. An intricate network of pipes, channels, and cisterns was also uncovered in this area. The strip between the industrial area and the southern boundary of the city was carefully checked by the IAA by means of surveys[90] and excavations.[91] It seems that the strip of land was devoted to agriculture and burial, and a gap remained between the city and the industrial neighborhood. The southern industrial neighborhood was never physically integrated into the city, and the area between them remained in use for agricultural plots and burial grounds. The excavations carried out by the IAA in these areas uncovered mostly tombs and field irrigation pools, pipes, and channels. The new industries in Ramla (South) may have included flax manufacturing (as proposed by Oren Tal and Itamar Taxel), dyeing and coloring activities,[92] or both. All these possibilities are viable and attested in historical sources, the dyeing industry by al-Balādhurī and the flax industry by the Egyptian scholar and secretary of chancery Ibn Ẓāfir in the twelfth century,[93] the geographer al-Ḥimyarī in the thirteenth and fourteenth centuries,[94] and the Jerusalemite historian Mujir al-Din al-Hanbali in the very late fifteenth century.[95] Other possible water-related industries cannot be ruled out.

Besides these industries, other minor enterprises were also carried out, such as bone carving, works on mother of pearl, chemistry, and perhaps alchemy, in what can be considered the equivalent of today's "high-tech" industries (i.e., clean industries using new technology imported from abroad, probably with know-how kept secret). At least one previously unattested installation probably related to chemical arts was uncovered;[96] more were probably exposed in the past, in Ramla and elsewhere, but not recognized as such.[97]

Despite the strong economic link created between the city and the industrial zone, a territorial gap remained between them, and it seems that they were separate entities. Therefore, I believe that Avni's rendering of the southern limit of the city can now be modified, excluding the area close to Moshav Matzliaḥ, and that the southern boundary of Ramla was located approximately where Road 40 is today (the dotted red line in figs. 2.4, 2.8, 2.11, and 2.12). The point should be stressed that this view accords with most of the previous renderings of the city's limits. Even the proposals based on the longest length of the mile, such as those of Lagrange[98] and Clermont-Ganneau,[99] would have located the site of Ramla (South) outside the city

90 E.g., Shmueli and Kanias 2007.

91 E.g., Parnos and Nagar 2008; Talmi 2010; Yihya 2010; Masarwa 2011; Shmueli 2011, 2012.

92 The art of textile dyeing seems to have been developed in the area earlier—for example, in Lod; see Gorzalczany and Rosen 2020.

93 Ibn Ẓāfir 1972, 35.

94 Al-Ḥimyarī 1980, 268.

95 Al-Hanbali 1973, 68.

96 Gorzalczany and Rosen 2010, 2023; Gorzalczany 2014a, 78–86, figs. 41–46.

97 Gorzalczany 2014a, 86–89.

98 Lagrange 1896, 306.

99 Clermont-Ganneau 1888, 211.

(fig. 2.1). Torgë's proposal,[100] though it includes the site of Ramla (South) as an integral part of the city, still accepts the existence of a geographic gap between the different parts of Ramla.

In conclusion, given the right conditions (namely, freedom to plan) the Islamic builders, foreseeing challenges and difficulties such as the delivery of water and ecological concerns, were able to plan in advance. As the only city built by the Islamic rulers in Bilād al-Shām, Ramla holds valuable research potential. I believe that excavating and exploring Ramla will better our understanding of early Islamic urbanism.

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3 QUṢAYR ʿAMRA WALL PAINTINGS CONSERVATION PROJECT

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Quṣayr ʿAmra is a residence and bathhouse built during the Umayyad period in the eighth century CE. The site is located 85 km to the east of ʿAmmān, and it is one of the so-called "desert castles," built by Umayyad princes and caliphs in the *bādiya* of Palestine, Jordan, and Syria.

The extant structure consists of a rectangular audience hall, a bath complex, and hydraulic structures (fig. 3.1). The main hall has three rooms along its south side; the baths are located on the east side and are connected to a *sāqiya* (a well with a water wheel to serve the necessities of the bathhouse and irrigate the gardens). The interior of the building is decorated with an extensive cycle of mural paintings, which are extraordinary and unique in their style and representations.[1] Although mural paintings existed at other sites, and some fragments have also been found, Quṣayr ʿAmra is the only site where the paintings are legible and largely preserved. They depict court scenes, including an enthroned prince (now identified as Walīd Ibn Yazīd, later to become caliph Walīd II, r. 125–26 / 743–44) with other kings before or during his time, among them the Byzantine emperor, the Sasanian *shāh*, and King Roderic of Spain. The paintings also depict hunting and bathing scenes, music players, dancers, and craftsmen at work. The dome of the *caldarium* illustrates constellations and zodiac signs, and it is the earliest known representation of the zodiac on a nonflat surface.

The wall paintings represent the transition between Byzantine culture and the new Islamic era and are also heavily influenced by Sasanian art and iconography. Finally, two rooms are decorated with floor mosaics embellished by glass tesserae.

PREVIOUS INTERVENTIONS

The site was "discovered" in 1898 by Alois Musil, a Czech traveler and scholar, who in a second trip a few years later brought with him the Austrian artist Alphons Mielich, who proceeded to record the paintings.[2] Since they were covered by thick layers of soot, Mielich unfortunately applied large quantities of chemical products, which allowed him to see the paintings in bright colors before they started to flake off and disappear before his eyes. These first activities also mark the beginning of 100 years of attempted and not always successful conservation interventions at the site. The most important of them, in 1971–74, was the intervention of a Spanish team, who consolidated the building—especially on its western side, where an armed concrete beam was inserted near its top—and cleaned most of the paintings—especially in the main hall, with its three bays, and in the so-called throne room.[3]

*Affiliation at the time of the conference; currently an independent cultural heritage consultant.

1 Ettinghausen 1962, 29–33; Vibert-Guigue, Bisheh, and Imbert 2007.

2 Musil 1907.

3 Almagro et al. 2002.

Figure 3.1. General view of Quṣayr ʿAmra.

During cleaning, the Spanish team intervened extensively by retouching and in some cases repainting images and scenes. These interventions are not documented in the short reports made at the time by the team but were discovered in 1989–95, when a Franco-Jordanian project carried out by Claude Vibert-Guigue and Ghazi Bisheh documented the paintings at a scale of 1:1 on plastic sheets and subsequently published them.[4] In the meantime, in 1985 the site was inscribed on the World Heritage List and enjoyed some improved protection, including fencing; but in 1994 a disastrous flood affected the building. Subsequent works sponsored by the French government included the construction of a protective wall and berm to avoid a repeat of the flooding and a flagstone pavement inside to diminish the threats caused by dust rising from the movement of visitors inside (the original marble slab pavement was lost in antiquity, except in two small rooms where mosaic pavements survive). The *sāqiya* was also partially reconstructed and a wooden element added to show how it worked in antiquity. A visitors' center was built 200 m north of the building.[5]

Unfortunately, earlier conservation outside the building included the application of concrete in the gaps between the stones and on the extrados of the vaults to try to stop the infiltration of water. These interventions were not only aesthetically unpleasant but also counterproductive, for they exacerbated the problems of water infiltration. Fixtures such as windows and small portholes were also damaged—their glass was broken, allowing birds and animals to enter the building. Bird droppings and water leaks damaged mural paintings in several areas, especially near the windows.

The site, although guarded, also suffers from vandalism in the form of graffiti and scratches left by visitors that have substantially damaged the site. And it was clear that the products applied on the surface of the paintings in the early 1970s were affecting the stability of the paint layers: the main product used was shellac, which has not only altered the color balance of the original paintings but also affected the stability of the painted surfaces, which are detaching from their support.

4 Vibert-Guigue, Bisheh, and Imbert 2007.

5 Morin and Vibert-Guigue 2000.

Outside, in addition to the issue of the deteriorated vaults' allowing water to penetrate, it was found that the flood of 1994 had completely eroded the mortar joints at the base of the building, which was thus resting on a mass of unconsolidated stones (kept together by the weight of the structure above) and was at risk of catastrophic collapse. Finally, the site is not an isolated building but a complex archaeological structure with multiple ancillary buildings and other features. This character of the site was not taken into account in previous protective strategies, and the buildings and features are now suffering from encroachment, erosion, and incompatible activities, such as the construction of roads, electrical lines, water reservoirs, and vandalism.

THE CONSERVATION PROJECT: METHODOLOGY AND IMPLEMENTATION

In 2007 the Department of Antiquities of Jordan requested support from the World Monuments Fund (WMF) to document and find solutions for the decay of the wall paintings. The WMF and the Italian government provided financial support for a project that since 2009 has included the participation of experts from Italy's Superior Institute for Conservation and Restoration (ISCR), the Department of Antiquities of Jordan, and the WMF. These first exploratory missions included the collection of previous documentation (including early photographs in archives in Jordan, France, Spain, the Czech Republic, the United Kingdom, Australia, Israel, Italy, and the United States), condition assessments, sampling, laboratory analyses, and the installation of monitoring devices to record temperature and moisture variations in the sole standing building. In this first phase, the Spanish archaeological mission also contributed with high-resolution photography and the development of three-dimensional models to be used by the conservators in subsequent phases of work. A fundamental element of a comprehensive approach to the conservation project was to carry out constant consultation with French, Spanish, and Jordanian scholars previously involved in research concerning the building.

Following the signing of agreements, conservation work at the site began in early 2011 with a training course for masons and mural painting conservators, followed by the preparation of a thermal analysis of the building, which revealed the position of the cut-stone blocks below the paint layers as a means to identify possible associations between detachments and problems of water infiltration. To discuss approaches and priorities, workshops in 2011, 2012, and 2014 gathered most of the scholars and conservators who had previously worked on the monument. In spring 2011, fieldwork included the repair of wall mortars and stones gravely damaged by the 1994 flood, especially at the base of the walls, and a cleaning test on the wall paintings of the south wall in the western aisle. These tests revealed the existence of original Umayyad paintings under the heavy restoration and repaintings made in the 1970s with the unexpected presence of brilliant colors (especially lapis lazuli blue). The conservation team has returned to the site for one or two campaigns every year since 2011 (normally in the spring and fall) to complete the application of lime mortars on the extrados of the vaults after removing the cement applications of the past thirty years, to conserve the *sāqiya* and *praefurnium* (central heating chamber), and to install new windows and glass covers. Inside, the team completed the cleaning and consolidation of mural paintings in the eastern and western aisles of the main hall and in the *apodyterium* (changing room) by removing the thick shellac and soot layers, thereby revealing original mural paintings below the repaintings and aging chemicals of the earlier conservation attempts.

WALL PAINTINGS CONSERVATION PROJECT

Following the review of source documents, inspection of the pictorial cycles, and results of the first scientific analyses, conservation started on the wall paintings of the Reception Hall's western aisle. These paintings presented multiple issues and problems representative of other situations found elsewhere in the monument, especially related to the use of some peculiar conservation techniques and materials in past conservation projects.

Figure 3.2. *a*, Western aisle, south wall. *b*, Inscription above window.

The decoration on the investigated walls is divided into several bands: four on the south wall and three on the west wall. Before conservation treatments, the following could be observed on the south wall:

1. In the area above the window an undecipherable Arabic inscription was present. On both sides of the window, two unidentified human figures were represented in profile and seated with their backs toward the window (fig. 3.2).
2. The main scene of the composition portrays a central figure, lying on a sofa and protected by a curtain or net, and four lateral figures, one to the left and three to the right of the composition. Above the curtain/net is a representation of two peacocks under two Greek inscriptions: APA (Ara) and NIKH (Nikē) (fig. 3.3a–b). In past scholarly work,[6] the characters were interpreted as a servant attending a woman

6 Fowden 2004, 184–85.

lying on a sofa, perhaps the mother of Walīd II's heir; two children (one of them identified as al-Ḥakam, designated heir of Walīd II, and the other his half-brother ʿUthmān); and the caliph Walīd II himself, represented standing behind the two children. On the ground in front of the central figure, a brazier is represented in a perspective view.

3. Right below the figurative scene is another inscription inside a *tabula ansata* with dark outlines. Before conservation, its meaning was undecipherable, but Imbert hypothesized a *basmala* type of inscription (fig. 3.3c).[7]
4. On the lower band, the decoration with imitation marble and stylized plant patterns connects the south wall to the other pictorial cycles of the Reception Hall.

EXECUTION TECHNIQUE

Paintings were executed on a plaster base applied right on the stone. On the south wall of the western aisle, raking-light inspection has revealed three plaster-spreading phases (*pontate*), from top to bottom, which roughly correspond to the levels of scaffolding mounted against the wall. The upper *pontata* is divided in two *giornate* (the left one overlapping the right one). This wall was clearly plastered before the vault and side walls.

Another element of the pictorial technique is represented by the preparatory drawing performed right on the rendering; it can be glimpsed in the lacunae of the painted layer. Wide traces of red and yellow paint can be seen near the lateral figures' garments and should be assigned to this preparatory phase. The sequence of pictorial levels appears to be complex. A first draft of the figurative scheme may have been traced when the preparatory layer was still drying and may have allowed cohesion between the pigments and plaster. Blue backgrounds especially can be assigned to this phase.

In this phase, the characters' complexions and probably their hair (now missing), as well as other pictorial details, were completed. Among these details are white circles and highlights on the folds of the main character's garment, the furniture, the peacocks' plumage, and the Kufic Arabic inscription at the top of the lunette.

The *tabula ansata*, in particular, shows two spreading phases of blue paint. In the first phase the *fresco* technique was used, whereas the second, thicker application was performed on dry walls, where the binder caused cracking (*cretto*). On this surface ochre letters were outlined in red and aligned by means of a blue horizontal line painted in relief on the letters' upper edges. The palette that was chosen reveals a liberal use of precious pigments, such as lapis lazuli, which was spread on the background even if it was to be covered by more layers of paint. According to the analysis of pigments, elements such as lead and arsenic (white lead and orpiment), natrojarosite, calcium hydroxide (*bianco Sangiovanni*), ochre, lapis lazuli, minium, and cinnabar are part of a complex and variegated palette of natural and synthetic pigments, some of which may have been difficult or very expensive to obtain.

STATE OF CONSERVATION

The state of conservation of the area and its history conspired remarkably to alter the original look of the mural paintings housed in the monument. The constant use of the area as a shelter by local tribes and its remote location caused the loss of large portions of plaster. This loss was due to incisions and graffiti affecting not only the lower part of the walls but also the upper area, including delicate details such as the characters' faces.

Since the rediscovery of the monument in the late nineteenth century, surface-cleaning efforts—even though not always appropriately performed—allowed better visibility, on the one hand, and accelerated the deterioration of the constituent materials, on the other hand. A large portion of the pictorial film applied on dry plaster (the *secco* technique) was also lost as a result of aggressive cleaning methods, which completely

7 Imbert 1996.

depleted the binders and damaged the plaster in most exposed areas. As a consequence, surfaces appear to be more opaque than they probably were previously and are widely incomplete.

Lead-based pigments underwent major alterations in turning from white to dark-gray tones. Some of the substances used to perform aggressive cleaning in the past may have caused the alteration and change of some original pigments.

Furthermore, the building's lack of adequate closure allowed desert dust and birds to enter it and effect deterioration, as testified by traces of carbonate and oxalate concretions caused by the percolation of water polluted by animal waste identified below the windows. These concretions are combined with large soot residues and yellow substances.

In the mid-1970s, the monument was subjected to an extensive restoration intervention aimed at preserving the masonry and plaster and, at the same time, reintegrating the paintings. At that time, the detachment of the west wall from the south one was filled with rubble and cement mortar. Detachments of the preparatory layer from the masonry were then secured with vinyl resin. The edges of the widest lacunae or the lacunae themselves were sealed with cotton soaked in that same resin—without performing any other filling—and covered with a yellowish tempera, which at some points was applied on exposed stone walls and parts of the original pictorial layer.


a

After partial cleaning, the paintings throughout the building were, with few exceptions, covered with a layer of natural resin (shellac). The glossy substance, more suitable for use on furniture than for protecting mural paintings, must have been applied to modify the refractive index of fading colors made irreversibly opaque by previous interventions. At the time it was applied, the shellac was more transparent, but over the course of forty years it acquired a strong amber color, worsened by several layers of fine atmospheric particles due, among other factors, to dust transported into the building by visitors and wind. In addition, the shellac layer now shows signs of contraction and is causing the pictorial layer underneath to lift. This shellac layer has extensive repaintings in non-water-soluble color overflowing in some of the lacunae. These repaintings have in some cases substantially altered the original aspect of the paintings, as has now been revealed by the deeper cleaning performed on them. Traces of an additional, older, brown shellac layer—a residue of previous interventions—was also found.

Figure 3.3. *a (opposite page)*, Western aisle, south wall, after conservation. *b*, Detail of main scene. *c*, Inscription below main scene.

Large traces of coal residuals and coherent particles (silicoaluminates) found in saline concretions of a different nature—concretions that were never removed—prevented the correct reading of some of the composition's original details. So the objective of reintegration by the Spanish team was to outline with dark colors the characters and other figurative elements still visible. Some parts of the drapery, zoomorphic elements (peacocks), and geometric/decorative patterns (squaring, tent) were repainted more freely. Natural and man-made causes affected the pictorial film by widely scratching and whitening the surface. Some figurative details of the characters' profiles disappeared or fell away. Countless lacunae can be found throughout the whole pictorial layer. When the present project began, therefore, the paintings on the south wall in the main aisle were scarcely visible. Their colors were severely altered, and their iconography was affected by the interpretation given by the Spanish conservators.

Large and small lacunae reaching down to the masonry are found throughout the monument. Being easily accessible, the lower band of the paintings, with its faux marble decoration, is the most affected by widespread and deep scratches. The pictorial film and the plaster also show intentional damage, such as graffiti and incisions. The detachment of mortar from the walls caused large lacunae reaching the lower part, once covered with marble slabs. There are also traces of burning from fires and inscriptions in black ink that can be dated to the fifteenth and sixteenth centuries. These inscriptions are important witnesses to the fact that the monument was occasionally visited by Arab travelers, perhaps on their way to Mecca.

Even the faux marble area was subjected to interventions during the restoration campaigns in the 1970s. Rough repainting of the geometric patterns and veins is visible under the yellow shellac layer. In the lower band, moderate adhesion faults were detected between the rougher layer of mortar, the bedding mortar of the marble slabs, and the masonry. In the upper band, medium and large detachment areas were identified between the preparatory coat of rendering and the wall structure.

Some stylized images of animals and symbols carved by Bedouins living in the *bādiya* are historical and of palaeographic interest.[8] These carvings were classified and analyzed; yet they threaten the preservation of the paintings, for graffiti represent a discontinuity in the plaster and weaken its compactness.

In addition to what was detected by Vibert-Guigue's investigations, further small-sized plaster losses were found. Medium-extent cohesion faults in the layers of rendering were noticed, in particular along the perimeter of the lacunae, together with several cracks and fissures. Widespread abrasions and losses of pictorial film due to previous inappropriate cleaning interventions were detected.

DOCUMENTATION

Graphic and photographic documentation was conducted, including ultraviolet and infrared photography, with interesting results that show details poorly visible or not at all visible to the naked eye. A thermographic survey of the entire complex was conducted by Dr. José Luis Lerma (Universidad Politécnica de Valencia) in February 2011 to visualize thermal discontinuities in the walls of the building. Dr. Ignacio Arce, director of the Spanish Archaeological Mission in Jordan, undertook high-resolution photography, orthophotos of exterior elevations, and three-dimensional reconstructions of some of the interior spaces. Finally, the Department of Antiquities of Jordan conducted a new topographic survey mapping the entire complex and a laser scan of the main building for the purpose of producing a highly accurate three-dimensional model of the site. This model will be used in future phases of the conservation project, as well as for presentations and educational purposes.

Following the installation of sensors throughout the building, environmental monitoring has been carried out since 2010 to measure variations in temperature and relative humidity in the structure. These measurements are particularly useful now that the installation of new windows and covers has effectively "sealed" the building. Comparing the data with the measurements taken for one year preceding the installation of the new windows will aid in understanding the effect of this intervention on the stability of the environment inside the building.

8 Betts 2001.

THE CONSERVATION PROJECT

The cleaning operations were complex and articulated in various phases—particularly because of the presence of the shellac layer, since shellac becomes irreversible with age and its removal required progressive treatments and particular care to respect the original pictorial layer. Before cleaning, Portland cement filling the joints was mechanically removed where necessary.

Since the very stiff and nontranspiring cotton filling of the lacunae had weakened the plaster, its removal also required particular care. The cotton was softened with a mixture of demineralized water, acetone, and ethanol, and care was taken not to affect the painted surface. Once the cotton surface layer had softened, it was cut away in small pieces. This operation was repeated until its removal was complete. At the end of the operation, the borders were consolidated and filled with a weak mortar.

Adhesion faults between the plaster and the masonry were restored using a low-pressure injection of low-salt, ready-mixed hydraulic mortar. Emulsion acrylic resin was used to reattach small-sized detachments and adhesion faults on the pictorial film. Before and after the cleaning, the painted surface was subjected to pH and electrical-conductivity measurements.

The cleaning consisted of removing overapplied substances: shellac, repaintings, older shellac traces, and a gray-brown layer of an organic nature. Shellac was made soluble and completely removed using a mixture of organic solvents included in the solubility area of natural and synthetic resins. The solutions were thickened with gel to allow better cleaning control, extend the time exposure, improve the contact surface, limit solvent penetration, and delay its evaporation. The gray-brown layer of an organic nature was removed using the same pH 6 gel chelating buffer solution. Furthermore, carbonate and oxalate concretions and soot stains were reduced by applying a chelating buffer solution using different time exposures.

Afterward, the surface was treated with Japanese paper compress soaked in 10 percent pH 6 ammonium citrate and covered with the same agent in Carbopol for a five-minute exposure time. The surface was then carefully washed with deionized water. After cleaning, electrical conductivity tests and pH measurements were carried out to verify the complete removal of the saline solution.

TREATMENT OF THE LACUNAE

The reintegration of the pictorial text aimed to reestablish its formal and chromatic features for its correct legibility. Pictorial reintegration is a critical act. The decision to integrate a pictorial text depends on its state of preservation and its damage. The aim is to reconstruct logical threads of the image to enable its comprehension, legibility, and potential unity without erasing or hiding its conservation history.

Maintaining a subtle balance between aesthetic desires and historical remains is vital. Following aesthetic desires alone could lead to false interpretations, while the exclusive prevailing of historical remains could lead to a misunderstanding of the original image and its historical value. The methods used and their legitimacy have been clearly explained by Cesare Brandi, the founder of the ISCR.[9] The integration aims to reduce the visual disturbance caused by lacunae and inhomogeneous parts of the surface by considering the needs of both aesthetics and philological interpretation. Furthermore, the integration must be recognizable and reversible according to the criteria expressed in Brandi's *Theory of Restoration*.[10] Materials must respond to the following characteristics: reversibility, transparency, chemical and physical stability of pigments and binders, and reduced alterations due to aging.

Pictorial film losses and preparatory layer abrasions were treated with a light, transparent watercolor glaze to reduce optical interference. The color shade was chosen according to the original one. The color intensity for the graffito engravings considered of historical interest was softened by watercolor glazes.

9 Brandi 2005.

10 Brandi 2005.

Lacunae That Could Be Reintegrated

After long consideration, in agreement with the project's management, and following Brandi's theory, the identification of restorable lacunae was determined through careful examination of the pictorial composition. After cleaning, the lacunae in the preparatory layers that it was thought possible to reintegrate (because the reconstruction was not hypothetical) were filled to surface level using aerial mortar (binder–charge ratio 1:4), then reintegrated using *tratteggio*. This hatching technique was introduced for the first time by ISCR conservators and codified by Brandi.[11]

Small lacunae on the preparatory layers were filled. The deepest ones were filled with a first layer of mortar. Filling was performed selectively so as not to erase historical incisions or to go too far in reintegrating severely damaged areas, particularly in the lower part of the wall.

Lacunae That Were Impossible to Reintegrate

Lacunae in the preparatory layers showing masonry and interstitial mortar were not integrated, because this intervention would have been hypothetical. In this case, the stone and original interstitial mortar were cleaned. Losses in the original interstitial mortar and unevenness in the stone were fixed with a mortar chosen after multiple tests were run on samples to ensure it would be distinguishable at close range from the original mortar and not interfere with the constituent materials. This small intervention allowed a clear understanding of the status of conservation and the different preparatory layers.

ICONOGRAPHIC DETAILS

The cleaning and conservation of the mural paintings revealed new, surprising details, which in several cases have forced us to reinterpret the composition in contradiction to widely recognized assumptions.

LUNETTES: HUMAN FIGURES

The iconography of the two figures in the lunettes beside the window of the south wall in the western aisle has changed completely after the cleaning intervention (fig. 3.2a). Before intervention, one of the arms of the figure on the left, joining his knee to his face, appeared extraordinarily long. The other arm, leaning against his hip, was out of proportion. In the same manner, the garments outlined an unintelligible leg position. The removal of repainting and cleaning revealed a more proportional left arm compared with the rest of the body. One of the sleeves follows the elbow profile and is raised from the figure's chest, while the right arm—completely misunderstood in the previous intervention—is actually bent, supporting the figure's head. The legs, once crossed, now appear close together, and both feet are visible even though they are fragmented.

The change in iconography is also clear on the right-hand side of the lunette. The original scene showed a figure joining his fingers around his knees, with one arm in the foreground and the other hidden behind his chest but outlined by the sleeve. This interpretation proved itself wrong when cleaning revealed an arm bent behind the figure's head, which rests on a pillow not visible before intervention.

The two characters—usually considered allegoric figures—provided us with two more details that were unexpected, given the state of the painting's conservation: two Greek inscriptions painted on the blue background on dry plaster (*secco* technique). The letters I and C (or O?) are legible on the left side of the lunette, and ONAC is visible on the right. The latter inscription suggests the character's possible identification as the prophet Jonah (IONAC in Greek, Yūnus in Arabic), mentioned in both the Bible and the Qurʾān. Such a hypothesis is confirmed by several representations of the prophet lying under a tree, which God miraculously provided for him as a shelter after his encounter with the inhabitants of the city of Nineveh. The image of Jonah sleeping under a tree with his arm bent behind his head is acknowledged since the second century and often depicted on Christian sarcophagi, mosaic decorations, and catacomb mural paintings

11 Bentivoglio and Oteri 2005.

both in the area around Rome and in its provinces.[12] Moreover, the fact that the figure on the right is male is confirmed by the discovery of traces of a beard.

The curve of the lunette is further marked by representations of trees, foliage, and flowers. As mentioned above, the tree may have direct significance for the interpretation of the right-hand figure as Jonah.

As for the other character, the inscription IO makes us think the prophet represented may be the same Jonah represented in a pensive pose. Further confirming the presence of Jonah in this painting is the discovery on the opposite wall (north wall of the western aisle) of another representation of Jonah, with his Greek name, this time related to the story of the marine monster's swallowing him and returning him to a beach three days later.

DEDICATORY INSCRIPTIONS AT THE TOP OF THE LUNETTE

At the top of the lunette, above the window, an inscription was visible but illegible because of the wall's conservation conditions. During a previous restoration, using the usual treatment with shellac, this area was repainted, but only a few letters were revealed. The rest of them and the text as a whole remained obscure. The frame around the inscription, outlined in black, was identified as a repainting and removed.

After this area was cleaned, three lines of text consisting of half-preserved words were identified (fig. 3.2b). Their white / light-yellow color is similar to the pigment used for the Greek inscriptions relating to the two characters painted at the sides of the window. The epigraph was clearly painted on a blue background and foliage (barely visible) during the last phase of decoration in this area.

The loss of pictorial film left clear marks and allowed almost complete identification of the missing letters. The words are in Kufic script, without diacritical marks. This fact and the poor state of preservation of some letters make the reading and interpretation quite difficult.

According to a preliminary reading presented by Imbert,[13] the text explicitly mentions the name "al-Walīd b. Yazīd." The text doubtless had a propitiatory value: to attract God's grace toward al-Walīd. Of course, the mention of the name al-Walīd b. Yazīd helps date the inscription to the Umayyad period.[14]

However, the text is not a construction text. It does not give a date concerning the building of the bathhouse of Quṣayr ʿAmra, or even the date of painting or completion of the paintings.[15]

In its present state, which is still very tentative, we should not venture to suggest a fixed date for this epigraphic text. Even though al-Walīd is clearly mentioned, the inscription does not explicitly date the paintings to his reign as caliph. This leads us to believe that the text refers to Prince al-Walīd b. Yazīd during the long years of the reign of his uncle Hishām b. ʿAbd al-Malik and before his accession to the throne. This hypothesis may date the text, but not necessarily the building, to the years of Hishām's reign, between 723 and 743 CE. Moreover, this interpretation would be in line with the already-proposed reading of the inscriptions painted over the representation of the person seated on the throne on the back wall of the throne room, which mentions a "crown prince of the Muslim men and women [*walī ʿahd al-muslimīn wa'l-muslimāt*]"; it also agrees with the text in the eastern aisle that mentions a prince.[16]

SOUTH WALL INTERMEDIATE BAND: CENTRAL SCENE

The main scene of the composition portrays a central figure lying on a sofa and sheltered by a tent (fig. 3.3b). Other figures stand by his sides. The central figure, considered a female by previous scholars, turns out to be a bearded male. It is probably a portrait of the man who commissioned the building, whom we now suppose

12 Milburn 1988, 62–64.

13 De Palma et al. 2012; Imbert 2016.

14 The identification of Quṣayr ʿAmra's patron as al-Walīd b. Yazīd was suggested by Fowden (2004, 142–74) based on the various themes appearing in the paintings and the inscriptions legible at the time.

15 Imbert 2016.

16 Imbert 2007.

to be Walīd II—perhaps when he was still a prince, given the short duration of his reign (fourteen months). Unfortunately, the figure's face is severely damaged, and large, deep lacunae reach the stone beneath.

On the left, a female character (possibly a servant) was previously interpreted as holding a pole ending inside the tent. The removal of repainting from the tent above the central figure's head revealed a *flabellum* decorated with peacock feathers and waved by the woman. Over the *flabellum*, the lower edge of the tent above the characters' heads is bordered by a piece of deep-blue sky.

The pictorial film of the *flabellum* pole appears to be incomplete, even though its mark is visible on the lapis-lazuli background. Repainting during the 1970s intervention lengthened the pole and hid its original head. The hair of the maidservant holding the *flabellum* appears similar to that of the two women painted under the arch of the eastern aisle. It can be seen where the most superficial pictorial layers have fallen away, leaving a mark on the blue background. The preparatory drawing of the hands, strengthened by previous repainting, is now visible as it was originally. After cleaning, fragments of pink pictorial film on the left side of the bed's leg were identified as belonging to the lower edge of the maidservant's dress.

Beneath the altered repainting, the tent revealed a richly detailed fabric, a square-patterned weave crossed by diagonals from left to right and from top to bottom. Careful observation revealed that the weave was composed of two units instead of a single basic one. Both units are formed by black rectangles containing a different number of smaller red ones. The vertical lines of the tent converge at the central top, which unfortunately is lost.

Cleaning revealed a certain level of conservation of the blanket, rich in legible details that, unfortunately, lost most of their original three-dimensional tones. The heavy outlines were removed and replaced by thinner ones. The original decoration consists of an orange background, on which lozenges with white arrows pointing upward in the center were painted. The perimeters of the lozenges are decorated with alternating blue and white elements.

After cleaning the main character's legs, a blue garment decorated with white circles and little inverted-V decorations was discovered. The legs are quite three-dimensional and cast a shadow on the mattress below, giving the image an unexpectedly naturalistic perspective.

Complete cleaning of the two characters on the immediate proper left of the central figure was also carried out. They seem to be male figures who are pointing their right hands at the central character in a specific gesture. Because of a medium-sized lacuna, it is difficult to understand the attitude of the rear figure. He is wearing a Phrygian headdress, and his raised forefinger and deep-blue garment are still clearly visible. The character standing behind them and to the right had been interpreted as a man almost joining his hands on his chest with half-open fingers. Cleaning revealed the real position of the hands: he holds a stylus in his right hand and is using it to write on an open scroll in his left hand. Close to his left hand, a round object, probably an inkpot or a pen-and-ink case, was discovered. His garment shows rich decorations similar to those on other figures. This character certainly represents a scribe—and an important one, given his position beside the main character (Prince al-Walīd?) represented on this wall. The presence here of a maidservant and a scribe is curious. It leads us to think that we may be looking at an episode in the life of Prince al-Walīd reported by al-Iṣfahānī in his *Kitāb al-Aghānī* (*Book of Songs*)—one that also ended up being included among the *One Thousand and One Nights* stories: "How Yūnus the Scribe Sold His Slave-Girl."[17]

The question, then, is how to interpret this representation. If the scene depicts a real episode in Walīd b. Yazīd's life, why is it given so much prominence, and what is the meaning of the other representations found in the building? Only the cleaning of the rest of the mural paintings will help answer this question.

INSCRIPTION IN THE *TABULA ANSATA*

The *tabula ansata* (fig. 3.3a, c) is located between the main figurative scene and the band decorated with wheels and plants. It is rectangular and framed by perspective dentils. It did not undergo repainting during previous interventions, even though a thick shellac layer hindered its full understanding. Cleaning has clarified the initial part of the first two lines and revealed many fragments of the letters on the rest of the

17 al-Atlidi 1873; "Yunus the Scribe and the Caliph Walid Bin Sahl" in Burton 1897, 5:302–6.

tabula. Its conservation status has been very jeopardized and prevents complete reconstruction of the text, even though fragments seem to coincide with the letters of the *basmala* formula.

This inscription is, in fact, the most prestigious one in the bathhouse. It faced the entrance door, and one can imagine that this large, painted, monumental inscription was one of the first things a visitor would see when entering the place. The inscription, visible from afar, reminded the visitor that he entered a building belonging to a Muslim noble. The text consists of traditional Islamic formulas, such as those commonly found in Arabic inscriptions from the Umayyad period (661–750). The only word that can be read without difficulty is the name of God (Allāh), which is repeated at least three times in the text.[18]

The inscription on the *tabula ansata* is nothing other than a monumental inscription dating to the Umayyad period, and the most important element to note is that the inscription is painted, not engraved or in mosaic. Very few inscriptions of this type are known in the Islamic world. The only other known specimens (of which there are two) were found in the Jordanian steppe, east of ʿAmmān, in the audience hall of the bathhouse of Ḥammām al-Sarrāḥ, and in Kharāna (painted in black ink on the wall in 710 CE). The concentration of painted texts in palaces and bathhouses in the *bādiya* shows the important role this region played in the process of development of the Arabic script, especially during the Umayyad period.

INVESTIGATION OF THE LOWER BAND'S FAUX MARBLE

The entire western aisle of the Quṣayr ʿAmra reception hall is decorated with stylized patterns on the lower band (fig. 3.3a). Under the *tabula ansata*, bordered with a colorful, 4 cm high modillion pattern, there are 7.5 cm wide monochromatic linear dividers with an ornate, 22.5 cm high band with joined circular phytomorphic volutes, each one different from the next. The largest part is simply painted as faux marble. The imitation of Proconnesian marble stands out with raking and specular shaded veins, alternating with red porphyry pilasters surmounted by Corinthian capitals. The pilasters frame an insert with a yellow *marmornumidicum* (*giallo antico*) background and a circular inlay with a *sectilia* (marble mosaic) of different colors in the center.

The discovery of many marble fragments of the monument's wall and floor covering allowed identification of the types of lithoid materials that inspired the painters' composition.

The circle- and flower-patterned decoration on the frame running from the side walls up to the vault is of the same imitation marble. After the intervention, it proved to be very similar to reliefs found inside other Umayyad palaces, such as Khirbat al-Mafjar (so-called "Hishām's Palace").

WEST WALL AND VAULT

With the completion of the cleaning and conservation of the south wall of the western aisle, the west wall of the same aisle was tackled, including the vault and the spandrels and top of the arch that separates the western aisle from the central aisle.[19] This wall is the largest painted surface in the building and is divided in three registers (fig. 3.4). The top register depicts a hunt: horsemen and dogs are in pursuit of a group of wild donkeys (onagers), which are running along one line of people holding flags and torches toward a net, where the donkeys will be trapped and killed. Because of the configuration of the net and the nature of the hunt, it is logical to imagine that another line of people holding flags and torches existed to create a sort of funnel to force the animals toward the bottom of the net.[20] The Spanish conservators, however, must have thought that nothing existed in that area and covered the upper register and the vault with yellow paint spread directly on top of the thick layer of soot found there. Conservation work revealed instead that the scene is well preserved, allowing a complete reading of it. This register is approximately 2 m tall.

The middle register, also approximately 2 m tall, is divided into three scenes. The one on the left represents six kings paying respect to the prince, depicted on the south wall lying on a couch.[21] The scene in

18 See also De Palma et al. 2012.

19 De Palma, Palumbo, and Shhaltoug 2013.

20 Fowden 2004, 85ff.

21 Fowden 2004, 197ff.

Figure 3.4. Western aisle, west wall, after conservation.

the center represents a seminude woman standing at the edge of a pool and observed by multiple characters standing under the arches of a structure. The scene on the right represents a group of characters wearing only loincloths and playing a game or doing some kind of gymnastics. The lower register, similar to the one found on the south wall, represents false marble. This register is also approximately 2 m tall.

The cleaning of the scene with the kings revealed that, contrary to the representations left by the Spanish conservators, all the kings were bearded (fig. 3.5). They also possess much more delicate features and details than the scene interpreted during the 1973–75 intervention. These details include the crown of the Sasanian king "Khusraw" that now shows the small "wings" observed by Musil and Mielich in 1902 but subsequently "lost" at the time of the Spanish intervention.

The cleaning of the hunting scene revealed previously unknown details, such as the representation of small plants. Moreover, as mentioned earlier, eliminating the yellow paint and soot layers on top of the scene allowed the complete reconstruction of the hunting scene, including the full figure of the character falling from his horse and the presence of flag- and torchbearers on top of the hunting device set up to capture the wild donkeys. The top of the vault also showed a previously unknown frieze of rosettes and architectural/geometric elements in a perspective view, while the conservation of the decoration of the spandrel allowed better appreciation of the shape and details of the tree, which shows extraordinary similarities with the trees represented (in mosaic) in the courtyard of the Umayyad mosque in Damascus. The top of the spandrel and arch also revealed a new scene under the yellow paint and soot layer: this scene represents a man, wearing only a loincloth, extracting a woman from the water with his left arm around her back. She has long hair, and she grabs the man by the bicep of his extended right arm, while putting her other hand around his neck (fig. 3.6).

The theme of water seems to be a recurring feature in the decorative elements of Quṣayr ʿAmra, with the lavish use of lapis-lazuli blue. The correct interpretation of this scene is still being investigated and will be the subject of a separate study.

Figure 3.5. Detail of the six kings, after conservation.

Figure 3.6. Western aisle, vault, scene found under a modern yellow paint layer.

NORTH WALL

As mentioned earlier, the north wall depicts another part of the Jonah story, in which he is swallowed by a marine monster and then returned to a beach three days later. The presence of a marine monster was put forward by Vibert-Guigue[22] but without the Jonah now revealed by the conservation work. Below, the central scene is now more visible, with a nude Naiade swimming in a sea or lake full of fish (fig. 3.7). The Naiade has the same features and curly hair as the woman embracing a bearded male figure, discovered on the vault of the same aisle. Below her, the representation of a fishing boat in which several fishermen pull up a net full of fish is now much more visible than previously.

Figure 3.7. Western aisle, north wall. *a*, Before conservation. *b*, After conservation.

22 Vibert-Guigue 2007.

APODYTERIUM

The *apodyterium* was conserved by means of a grant from the Ambassadors Fund for Cultural Preservation (USA).[23] The conservation included the lower part of the walls, where cement repairs were removed and stones cleaned, as well as the barrel vault and the two lunettes, which are plastered and painted (fig. 3.8). While the sides of the vault, with representations of animals and humans inscribed in a lozenge pattern, were relatively visible before the conservation intervention, the two lunettes and the intrados of the vault were barely understood because of the presence of graffiti and heavy layers of soot. Conservation of these elements allowed the discovery of a scene in the western lunette to be interpreted as Dionysus observing Ariadne sleeping on the beach in Naxos, a well-known myth with very similar iconographic representations from the Roman period onward, while the vault displayed three portraits: one of a young man, one of a woman, and one of an old man. The eastern lunette shows the nude figures of a sitting man, a woman, and a *putto*.

Figure 3.8. *Apodyterium*'s vault, after conservation.

ARCHAEOLOGICAL INVESTIGATIONS

Work in the areas surrounding the building conducted with the Department of Antiquities of Jordan experts included a complete revision of the topographical plan of the entire archaeological complex and a three-dimensional laser-scan survey of the building, as well as a new archaeological survey that has identified new sites and features from the Paleolithic and Umayyad periods and emergency soundings that may have identified a service building connected to the use of Quṣayr ʿAmra. This building, according to preliminary investigation,[24] seems to be a long structure with a series of adjacent rooms with well-plastered floors. One of the rooms has a small oven in it, while another was probably dedicated to the cutting of glass tesserae to be used in the decoration of the *caldarium*, where some such tesserae are still found attached to the mortar of the pendentives and apses of the room, and in the decoration of the mosaic floors in the alcove rooms.

An accurate archaeological survey has also permitted the identification of prehistoric sites, dated between the Lower Paleolithic and Epipalaeolithic periods, and of the quarries and debris resulting from the extraction and dressing of the stones to be used in the construction of the main building and the other numerous ancillary structures found on-site.

23 De Palma and Palumbo 2016.

24 Arce 2022.

CONCLUSIONS

The objective of the project was to achieve the complete conservation of the paintings, but in the course of pursuing it we realized that the conservation also led to this monument's rediscovery. The painstaking work of eliminating contemporary additions to the monument (cement plaster, improper treatment of lacunae, repaintings hampering the legibility of the iconographic text, and application of chemical products that have altered the chromatic balance of the mural paintings and affected their conservation) are allowing the original painted layers finally to be visible and better understood. The extreme care taken to execute the details and the beautiful proportions of the portraits lead us to believe that the artists who worked on these compositions were true masters, certainly members of groups of artists at the service of the Umayyad court. We may have to start referring to these artists as the "Quṣayr ʿAmra Masters," given the high technical standard of their compositions and techniques.

Our conservation efforts were supported by the development of a holistic site management plan that fulfills a requirement of the World Heritage Committee to provide the site with a legal tool for its protection. The planning process was conducted in consultation with multiple institutional stakeholders and representatives of civil society, and with the participation of the local community.

The objective of the plan was not only to provide the Department of Antiquities of Jordan with an operational tool for the conservation of the site but also to recommend strategies for its improved interpretation and presentation, including a strong educational component. With other, similar activities taking place in the country, the active participation of the Jordanian public and civil society in the protection and conservation of the country's cultural resources should be encouraged.

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4 THE 2009 EXCAVATIONS AT AL-ṢINNABRA*

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Arab historians name al-Ṣinnabra as a place at the southern end of the Sea of Galilee in which a number of Umayyad caliphs—among them the first caliph, Muʿāwiya—resided from time to time.[1] Despite its many mentions, it has long eluded certain identification in modern topography, and material evidence for its specific location has been slow to appear.

In 2002, a brief communication by Donald Whitcomb pinpointed the location of al-Ṣinnabra on the well-known Early Bronze Age mound of Bet Yeraḥ, or Khirbat al-Karak, in an area to the north of the mound excavated extensively between 1945 and 1953.[2] Tel Bet Yeraḥ / Khirbat al-Karak is situated 6 km south of Ṭabariya, the Umayyad capital of Jund (plural *ajnād*, i.e., "military province") al-Urdunn, "Province of Jordan," which replaced Scythopolis (Baysān / Beth Shean), the previous provincial capital of the Byzantine *Palaestina Secunda*.[3] It lies on the southwestern shore of the Sea of Galilee, where the Jordan River exits the lake (fig. 4.1). The principal post–Bronze Age structure exposed on the site comprises a fort enclosing a basilical building, with a bathhouse attached to the fort's south wall. The fort was initially dated to the Roman or Byzantine period, while the basilica was identified as a synagogue because of its southward-facing apse and the discovery of a column base with a menorah carved on it.[4] Another building that was uncovered around the same time (in 1952–53) was excavated by Pinhas Delougaz and Richard C. Haines on behalf of the Oriental Institute (now Institute for the Study of Ancient Cultures) of the University of Chicago. Named the "Arab Building," it was built above a Byzantine church about 50 m north of the fort.[5]

Whitcomb suggested that the building originally identified as a synagogue, and later as a Roman or Byzantine enclosure, is actually the Umayyad palace referred to in historical sources, while the Arab Building, to its north, was an auxiliary residence. Based on Whitcomb's suggestion, the Tel Aviv University expedition at Tel Bet Yeraḥ set out in 2009 to recover possible palace contexts not compromised by the massive earlier excavations conducted in 1950–53 by Pesach Bar-Adon and P. L. O. Guy.[6] These excavations

*Editor's note: In the time since this chapter was first submitted, the author has published an encompassing report. For technical details of the excavations, see Daʿadli 2017.

1 Mayer 1952.

2 Whitcomb, who was the first person to identify the excavated fort at al-Karak with al-Ṣinnabra, reexamined the plans of the fort, excavated in 1945–53; the bathhouse, excavated in 1945; and the so-called "Arab Building," uncovered to the north of the fort in 1952–53. The fort and bathhouse were identified in Whitcomb's reexamination as a *qaṣr* with attached *ḥammām*, two essential units in a palatial complex, while the building to the north was described as a *dār* (Whitcomb 2002, 2012).

3 Syria-Palestine was divided into five military provinces: Palestine, Jordan, Damascus, Ḥims, and Qinnasrīn (Walmsley 2007, 74, fig. 7).

4 This identification was challenged by Reich (1993).

5 Delougaz and Haines 1960, 4–6, 59.

6 Bar-Adon 1956, 54. During the second season of the Jewish Palestine Exploration Society excavations at Khirbet el-Kerak/Tel Bet Yeraḥ in 1945–46, part of the al-Ṣinnabra fort—its south wall, one corner tower, and a gateway flanked by two towers—as well as its external bathhouse were first exposed. The results of this season were published in a preliminary

established a seventh-century *terminus post quem* for the central fortified structure and an eighth-century *terminus post quem* for the bathhouse.[7] Later research on the earlier excavations corroborated the date for the fortified enclosure and further Umayyad remains related to the water system, and the approaches to the mound from the west were revealed in recent salvage excavations, thus adding decisive weight to Whitcomb's identification. The following discussion, therefore, recapitulates the historical sources related to the site and attempts to integrate the results of both earlier and recent excavations.

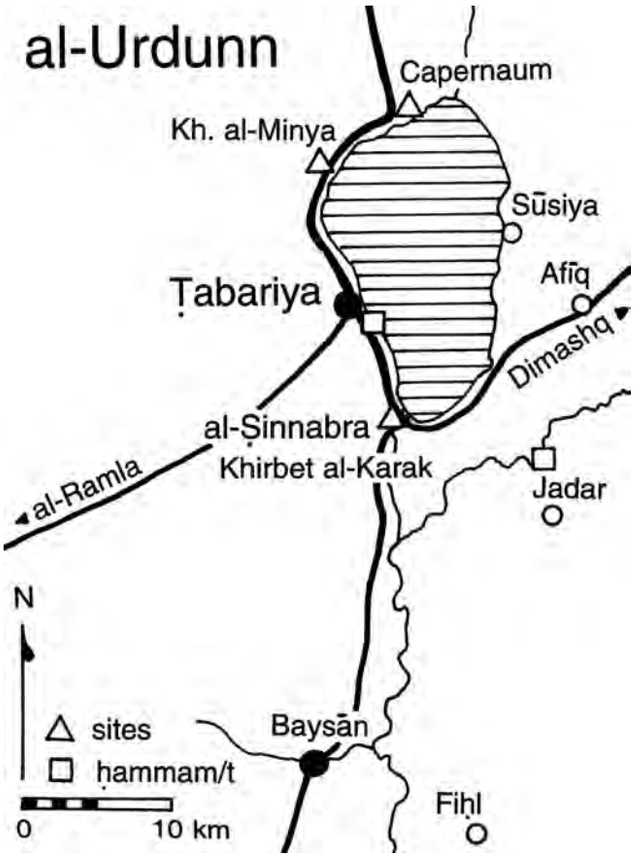

Figure 4.1. Map showing the location of al-Ṣinnabra (after Whitcomb 2002, fig. 4).

LOCATION AND HISTORICAL RECORDS

The medieval geographer Yāqūt al-Hamawī (1179–1229) refers to al-Ṣinnabra in his *Muʿjam al-Buldān*: "A place in the Jordan district, opposite ʿAqabat Afīq, a distance of three miles from Ṭabariya. Muʿāwiya spent the winters there."[8]

Two points emerge from Yāqūt's brief account, the first one about the location of the site and the second one about its date. Afīq/Fīq has been identified on the eastern side of the southern part of the Sea of Galilee; therefore, al-Ṣinnabra should be located on the opposite, southwestern side of the lake, as Whitcomb suggested.[9] Furthermore, it seems that the main road, which once connected the district capital, Ṭabariya, and the main capital of the Umayyad dynasty, Damascus, went around the southern tip of the Sea of Galilee, ascended to ʿAqabat Fīq on the eastern side of the lake, and continued north to Damascus.[10]

Caliph Muʿāwiya b. Abī Sufyān (r. 661–80 CE), referred to by Yāqūt, succeeded his brother Yazīd b. Abī Sufyān (d. 649) in his dual role as military commander of the Muslims and governor of the province of Damascus after the latter's death in the Plague of ʿAmwās,[11] suggesting that Muʿāwiya had governed the region at least twenty years before his appointment as caliph in 661. So "the place where Muʿāwiya used to spend the winter" was built either prior to his appointment as caliph, when he was governor, or during his caliphate. The royal residence at al-Ṣinnabra could therefore have been built at any time between the years

report that contains a detailed description of the bathhouse but only a brief reference to the fort (Stekelis and Avi-Yonah 1947; Maisler, Stekelis, and Avi-Yonah 1952; Paz 2006, 53).

7 Greenberg and Paz 2010. The results of Bar-Adon and Guy's excavations were recently fully published (Daʿadli 2017). Moreover, in February 2018 a new scientific collaboration between Donald Whitcomb, Tawfiq Daʿadli, and Raphael Greenberg conducted a first season of excavations to search for the mosque of the palace. The Max van Berchem Foundation (Switzerland), the Institute for the Study of Ancient Cultures of the University of Chicago, the Institute of Archaeology of Tel Aviv University, and the Hebrew University of Jerusalem supported these excavations.

8 Yāqūt 1990, 3:482.

9 Whitcomb 2002.

10 Elad 1999, 78–79.

11 Humphreys 2006, 45–50.

639 and 680. Evidence for Muʿāwiya's interest and possible settlement in the region during his early days as caliph could be gathered from his renovations of the installations in the hot springs at al-Ḥamma (Ḥammat Gader). In a dedicatory inscription written in Greek and dated December 5, 662, it is said that "in the days of Abdallah Muʿāwiya, the commander of the faithful, the *clibanus* of the [baths] here was cleared and renewed."[12] The location of this monumental inscription, in a central niche inside one of the main halls of the bath complex, could hint at the scope of the work. But the more significant site connected with Muʿāwiya, which served as his capital until he assumed the caliphate, is al-Jābiya in the Jawlān (Golan), situated not far from al-Ṣinnabra.[13]

Another reference to Muʿāwiya's use of or stay in al-Ṣinnabra is provided by Ibn ʿAsākir (1106–75 CE), who relates a story about Muʿāwiya with a long chain of *isnād* (i.e., transmission), beginning with ʿBāda b. Nusay [ʿUbāda b. Nusayy b. Sinān al-Sakūnī al-Kindī, Abū ʿUmar, note by the editor]:[14]

> He said: Muʿāwiya was preaching to us in al-Ṣinnabra and he said: in the battle of Ṣiffīn[15] three hundred friends of the prophet fought beside me and not one of them is beside me [now]; this refers to my end, [because] when a man's friends expire, he expires too . . . ; and it was the last meeting with him.[16]

The next caliph referred to in connection with al-Ṣinnabra is Marwān b. al-Ḥakam (r. 684–85 CE), of whom it is said in Yaʿqūbī's (d. 897/98 CE) *Tārīkh*:

> When Marwān, on his way from Egypt, reached al-Ṣinnabra, which is in the Jordan district, he learned that Ḥassān b. Baḥdal[17] had sworn an oath of allegiance to ʿAmr b. Saʿīd.[18] He summoned him and said: I have learned that you have sworn an oath of allegiance to ʿAmr b. Saʿīd. He [Ḥassān] denied the charge, and then he [Marwān] ordered him to swear an oath of allegiance to ʿAbd al-Malik. He swore to ʿAbd al-Malik and to ʿAbd al-ʿAzīz b. Marwān after him.[19] And Marwān did not leave al-Ṣinnabra until he died.
>
> The cause of his death was his marriage to ʾUm Khālid b. Yazīd b. Muʿāwiya: He [Marwān] cursed him [Khālid] twice; angered, Khālid went to his mother and told her about the curses. She then said: I swear by Allāh he shall never take a cold drink [he will never drink again]! Then she poisoned his milk, and when he came to her she offered him the drink. And others say: she smothered his face with a pillow till he died. And others say: he died at Damascus and was buried there.[20]

Ibn ʿAsākir, too, refers to the death of Marwān at al-Ṣinnabra on his way back from Egypt, but he also mentions al-Ludd and Damascus as possible venues for that event.[21]

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12 Di Segni 1997, 239; Green and Tsafrir 1982, 94–96; Hasson 1982, 97–101. Besides the inscription, the excavators of al-Ḥamma were archaeologically able to identify renovations made during the Umayyad period (Hirschfeld 1997, 144–62).

13 Shahīd 2002, 100–102.

14 ʿBada b. Nusay [ʿUbāda b. Nusayy, note by the editor] Abū ʿUmar al-Kindī al-ʿUrdunnī is referred to by al-Dhahabī as the *qāḍī* "judge" of Ṭabariya and the governor of al-Urdunn during the reigns of ʿAbd al-Malik and ʿUmar b. ʿAbd al-ʿAzīz (al-Dhahabī 1982, 323–24; 1990).

15 The Battle of Ṣiffīn occurred during the first Muslim civil war. It was fought between ʿAlī b. Abī Ṭālib and Muʿāwiya on the banks of the Euphrates River in what is now al-Raqqa, Syria. The battle is considered a major factor in shaping the regional and political identity of the ʿIrāqī Shīʿīs and the Syrian Umayyads (Lecker 1997).

16 Ibn ʿAsākir 1997, 215.

17 Ḥassān b. Mālik b. Baḥdal al-Kalbī was the grandson of Baḥdal, the father of Maysūn, the mother of Yazīd I, the son and successor of Muʿāwiya. Ḥassān was also the guardian of the sons of Yazīd I (Lammens 1960). Kalb, the Christian Arab tribe, was one of the tribes on which Muʿāwiya relied and founded his power first as a governor and then as a caliph (Humphreys 2006, 60–62).

18 ʿAmr b. Saʿīd, known as al-Ashdak, was the governor of Mecca when Yazīd I came to the throne in 680 CE. He was well liked in Syria and therefore was considered a threat to the successors of Marwān, thus leading Marwān to enforce the above-mentioned *bayʿa* in favor of his sons. Later, when as caliph ʿAbd al-Malik undertook a campaign against ʿIrāq, al-Ashdak stirred up a revolt in Damascus, so the caliph had him brought to his palace and killed (Zetterstéen 1960).

19 Other historical sources refer to a much more complicated process, in which Ḥassān first set difficult conditions that Marwān had to obey until he gained power and made Ḥassān swear a new oath to his sons (Hasson 1993, 117–18).

20 al-Yaʿqūbī 1960, 257.

21 Ibn ʿAsākir 1984, 24:194.

Caliph ʿAbd al-Malik (r. 685–705 CE), who is mentioned on the milestones of the Ṭabariya-to-Damascus road mentioned above, is also said to have spent some time at al-Ṣinnabra. Al-Balādhurī (d. 892 CE) records the following in his *Ansāb al-ashrāf*:

> Hishām b. ʿAmar and al-Madāʾinī[22] said, according to their grandfathers: ʿAbd al-Malik used to spend the winter in al-Ṣinnabra which is in the Jordan district. At winter's end, he would camp at al-Jābiya,[23] and honor his friends with food, beef and mutton.[24] When Mars came to an end he entered Damascus and settled in Dir Murran[25] until the heat arrived; he went to Baʿalbek and stayed there until the winter winds; then he went back to Damascus and when the cold became more severe, he would proceed to al-Ṣinnabra. Al-Madāʾinī said: he died there.[26]

Another reference to ʿAbd al-Malik's stay at al-Ṣinnabra appears in Ibn ʿAsākir's report of the case of the false prophet al-Ḥārith b. Saʿīd al-Kaḍāb. A man from Baṣra came to ʿAbd al-Malik while he was at al-Ṣinnabra and informed him about al-Ḥārith, who was preaching in Jerusalem at that time.[27] He asked ʿAbd al-Malik for soldiers who did not understand Arabic (*qawm lā yafqahūn al-kalām*). The caliph assigned to him forty soldiers from Farghānā.[28] The man from Baṣra managed to capture the false prophet and brought him to ʿAbd al-Malik by way of the *Barīd*.[29] While en route, al-Ḥārith released himself from his neck-iron by reading some verses from the Qurʾān twice: Once at the *ʿaqabah* (plural *ʿaqabāt*, i.e., difficult ascent / mountain pass) of Bayt al-Maqdis and once at another *ʿaqabah*. When he was brought to ʿAbd al-Malik he was first incarcerated and then crucified. During the crucifixion, local people protested the impropriety of this deadly assault on a prophet.[30]

It is unclear from the description whether the crucifixion took place at al-Ṣinnabra or elsewhere, but we may understand that it was a considerable distance from Jerusalem and involved the ascent of at least two

22 ʿAlī b. Muḥammad b. ʿAbd Allāh b. Abī Sayfal-Madāʾinī, who was born in 752 CE, was a productive scholar. An important part of his work deals with historical subjects; his works are highly quoted and were considered reliable sources by Muslim historians (Sezgin 1986).

23 A village in the vicinity of Damascus in the district of the Jawlan (Yāqūt 1990, 3:106–7). Marwān, the father of ʿAbd al-Malik, was acclaimed caliph in 684 CE in al-Jābiya (Robinson 2005, 25–26).

24 *Amara li-aṣḥābihi bi-Inzāl.* Ibn Manẓūr defines *Rajul dhunuzl* as a man who gives in generosity (Ibn Manẓūr 1955–56, 11:343).

25 Dir Murran is a monastery built on a hill near Damascus. Yāqūt even cites someone called al-Khālidi who describes the building as constructed of brick or plaster (*giṣ*) and paved with colored tiles (Yāqūt, 1990, 2:603–4).

26 Al-Balādhurī 1999, 343.

27 The man reached the walls (*suradiqahu*) of ʿAbd al-Malik. *Suradiq* is that which encloses a building, such as a fortification wall (Ibn Manẓūr 1955–56, 10:157–58). Could this be a reference to the walls of the palace?

28 Farghānā is the name of a valley in southern modern Uzbekistan; it is a fertile valley with a number of villages and the city of Firghāna (see Yāqūt 1990, 4:287–88). The group of Farghānā could be one of the non-Arab militias serving the Umayyads (see Anthony 2010, 28, n. 99).

29 The *Barīd* is twice mentioned in this account: (1) *fabaynama hum yusayyirūna bihi al-barīd*; (2) *ina al-Ḥārith lamā ḥumila ʿalā al-barīd. Ḥumila ʿalā al-barīd* is also the term used in the text of al-Nawāwī, which mentions a doctor's being sent by ʿAbd al-Malik to Ibn ʿAbbās by the *Barīd* (quoted in Elad 1999, 49, n. 66). The *Barīd*, the institution of the state postal and intelligence service, was established in the Umayyad period, and ʿAbd al-Malik strengthened its organization (Sourdel 1986; Silverstein 2007, 53–89). Ibn Manẓūr translates the word as "the roads which connect between two places" (Ibn Manẓūr 1955–56, 3:86–87). Although Elad has suggested that Muʿāwiya developed the main roads throughout his caliphate, referring to Muʿāwiya's initiation of *Diwān al-Barīd*, he notes that the evidence on the ground (i.e., the presence of milestones) testifies to the development of the main roads in Syria, including the road connecting Damascus with Jerusalem, during ʿAdb al-Malik's reign (Elad 1999, 48–49; on the road or roads that connected Damascus and Jerusalem, see Sharon 2004a, 97–100). It seems reasonable that al-Ḥārith was brought from Jerusalem to al-Ṣinnabra along this road or part of it. Transporting people on the *Barīd* was not uncommon, and "favored individuals" such as poets and doctors were allowed to use the system (Silverstein 2007, 81).

30 Ibn ʿAsākir 1984, 6:151–52. In another reference to this anecdote by al-Dhahabī, ʿAbd al-Malik was elsewhere when he was first informed about the false prophet by Abu Idrīs al-Khuylānī. He then went to al-Ṣinnabra (al-Dhahabī 1990, 387–90). A shorter version is reported by Ibn Kathīr (2007, 169–70).

ʿaqabāt on the *Barīd* route. If it indeed happened at al-Ṣinnabra, then we may conclude there were ordinary citizens at the site in addition to the caliph and his retinue.

More information about the connection, if not direct, between ʿAbd al-Malik and al-Ṣinnabra is provided by Ibn ʿAsākir, who mentions that ʾUmaya b. Khālid died at Ṣinnabra in 706 and that in 703 both Khālid b. Yazīd b. Muʿāwiya and Rawḥ b. Zinbāʿ also met their deaths at Ṣinnabra.[31] The last figure, Rawḥ b. Zinbāʿ, was a friend of ʿAbd al-Malik and the governor of Jund Filastīn during the caliphate of Yazīd b. Muʿāwiya. He also was with Marwān b. al-Ḥakam at the battle of Marj Rāhiṭ.[32] Rawḥ had some properties in Damascus apart from his house, which was near the houses of the people of Quraysh (*Qurayshiyyīn*). He owned the mosque called al-Muṣṣawwar and an inn (*funduq*) that he inherited from his father Zinbāʿ.[33]

The role of Rawḥ in early Umayyad politics began during the early days of Muʿāwiya and continued during the reigns of Yazīd I (680–83 CE) and Marwān b. al-Ḥakam and into the reign of ʿAbd al-Malik.[34] He was part of the Judhām tribe, one of the nomadic tribes that had settled in pre-Islamic times on the borders of Byzantine Syria and Palestine.[35] Rawḥ's father, Zinbāʿ b. Rawḥ, was a Byzantine official in charge of collecting tithes from merchants who crossed Palestine.[36] Rawḥ supported the second Umayyad caliph, Yazīd I, at his accession and participated in the struggle against Ibn al-Zubayr in Madīna. When Yazīd I died, Rawḥ swore allegiance to Marwān b. al-Ḥakam, who ruled for several months, and then supported his son and successor, ʿAbd al-Malik, thereby becoming one of the most intimate companions of the new caliph until his death in 703 at al-Ṣinnabra, according to Ibn ʿAsākir.[37]

After Rawḥ's death, the Zinbāʿ family reappeared on the stage of al-Ṣinnabra toward the end of Umayyad rule. According to the story as it appears in al-Ṭabarī's *History* (told by Rajāʾ b. Rawḥ b. Salāma, the great grandson of Rawḥ b. Zinbāʿ), after the murder of al-Walīd II (d. 744 CE) the tribes of Palestine under the leadership of Saʿīd and Ḍibʿān (the sons of Rawḥ b. Zinbāʿ) asked the new caliph, Yazīd b. al-Walīd, to appoint Yazīd b. Sulaymān b. ʿAbd al-Malik as governor of Jund Filasṭīn. This request led to a struggle between the caliph, who preferred the already appointed governor, Saʿīd b. ʿAbd al-Malik, and the heads of the Palestinian tribes, Saʿīd and Ḍibʿān. The rivals reached an agreement that included the appointment of Ḍibʿān as governor of Jund Filasṭīn for his entire life. But the situation remained tense for some time after this rebellion, and one of the manifestations of this tension was the refusal of local tribes to pay taxes. In response, an army led by Sulaymān b. Hishām quartered in villages on the shores of the Sea of Galilee and forced the tribesmen to retreat. Sulaymān then went to al-Ṣinnabra, where he was met by the tribes of al-Urdunn, who pledged loyalty to the new caliph. The next day he and his men sailed to Ṭabariya, where he led the people in the Friday prayer.[38] In this anecdote we also learn about one of the methods of transportation from al-Ṣinnabra to Ṭabariya, as Sulaymān crossed the lake by boat.[39]

Land transport used a road that connected al-Ṣinnabra to Ṭabariya. Indeed, one of ʿAbd al-Malik's landmark projects in the region was paving the road from Damascus to Jerusalem, apparently also including

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31 Ibn ʿAsākir 1984, 5:55.

32 In 684, Marj Rāhiṭ was the scene of a battle between the Qaysīs, partisans of ʿAbd Allāh b. Zubayr, on one side and the Kalbīs, supporters of Marwān, on the other. The struggle was about the succession to the caliphate after the death of Muʿāwiya II (Elisséeff 1991).

33 Al-Ṣafadī 1991, 150.

34 Hasson 1993, 95.

35 Bosworth 1986.

36 Hasson 1993, 99.

37 Hasson 1993, 116–17.

38 Gil 1992, 84–86; al-Ṭabarī 1989, 189–93. In this account, we have one of the first mentions of the mosque of Ṭabariya. The Umayyad mosque of Ṭabariya was recently identified by Katia Cytryn, who proposed a reconstruction for the urban center of Umayyad Ṭabariya and surveyed the main features from this period (Cytryn-Silverman 2009). For another, more up-to-date article on the mosque (as Cytryn-Silverman 2009 presents only a hypothesis and does not deal with the excavated data), see Cytryn 2016.

39 Al-Ṭabarī 1989, 192.

the main road that led from Ṭabariya to Damascus.[40] Great efforts were invested in grading the *ʿaqabah* that passed near Fīq/Afīq village.[41] The project took at least twelve years, hence the interval between an early inscription that commemorates the construction, dated to Muḥarram AH 73 (May–June 692 CE),[42] and the latest inscription, dated to Shaʿbān AH 85 (August–September 704 CE).[43] This road, which crossed the Jordan River near al-Ṣinnabra, made the latter easily accessible during ʿAbd al-Malik's reign. A section of this road and the approach ramp of a bridge that crossed the original Jordan riverbed on the northwestern side of Khirbat al-Karak has recently been exposed (fig. 4.2).[44]

Another project in which ʿAbd al-Malik was probably involved was the renovation of the baths at Ḥammat Gader (al-Ḥamma). ʿAbd al-Malik's name is inscribed on a marble slab found incorporated in the floor of one of the halls at Ḥammat Gader.[45] The inscription is incomplete, and it is unclear whether it is *in situ* or in secondary use; it is therefore difficult to point to the specific renovation or maintenance that was conducted in the baths during ʿAbd al-Malik's days. But it could provide a clue to his involvement in a palatial or pleasure project in proximity to the palace of al-Ṣinnabra.

Figure 4.2. Part of a road and foundation of a bridge exposed during a salvage excavation. Courtesy of the Israel Antiquities Authority.

40 Elad 1999, 78–79.

41 On Fīq/Afīq, see Sharon 2004b.

42 The inscription was discovered in 1961 on the southern shore of the Sea of Galilee, near Samakh (Sharon 1966).

43 Two milestones were found in 1968 in the vicinity of the village of Fīq. Elad discusses both of them in the wider context of the relevant topography and history (Elad 1999; see also Sharon 2004b, 222).

44 Alexandre 2014.

45 Amitai-Preiss 1997, 269–70.

THE EXCAVATED REMAINS

In the northern part of Tel Bet Yeraḥ, the massive foundations of several buildings that could be related to the Umayyad caliph's retreat have been revealed. The remains consist of a subrectangular fortified enclosure with square corner towers enclosing a central building that takes the form of a basilica, and a bathhouse attached to the south wall of the enclosure (fig. 4.3).

THE BASILICA

The core of the main building within the fortified complex is a modified basilica, with a nave ending in a large apse facing south and aisles ending in two square rooms paved with mosaics flanking the apse. It seems that at least the outer face of the building was covered with basalt ashlars, remains of which could still be seen in its southern part.

Two additional units were recorded on the western and southern sides of the basilica. The walls of the southern unit were attached to the south wall of the basilica, and some of them can be seen to abut the ashlar blocks (fig. 4.4). Because of the inadequate records of the original excavation, the relationship between the western unit and the main building is unclear (fig. 4.5).

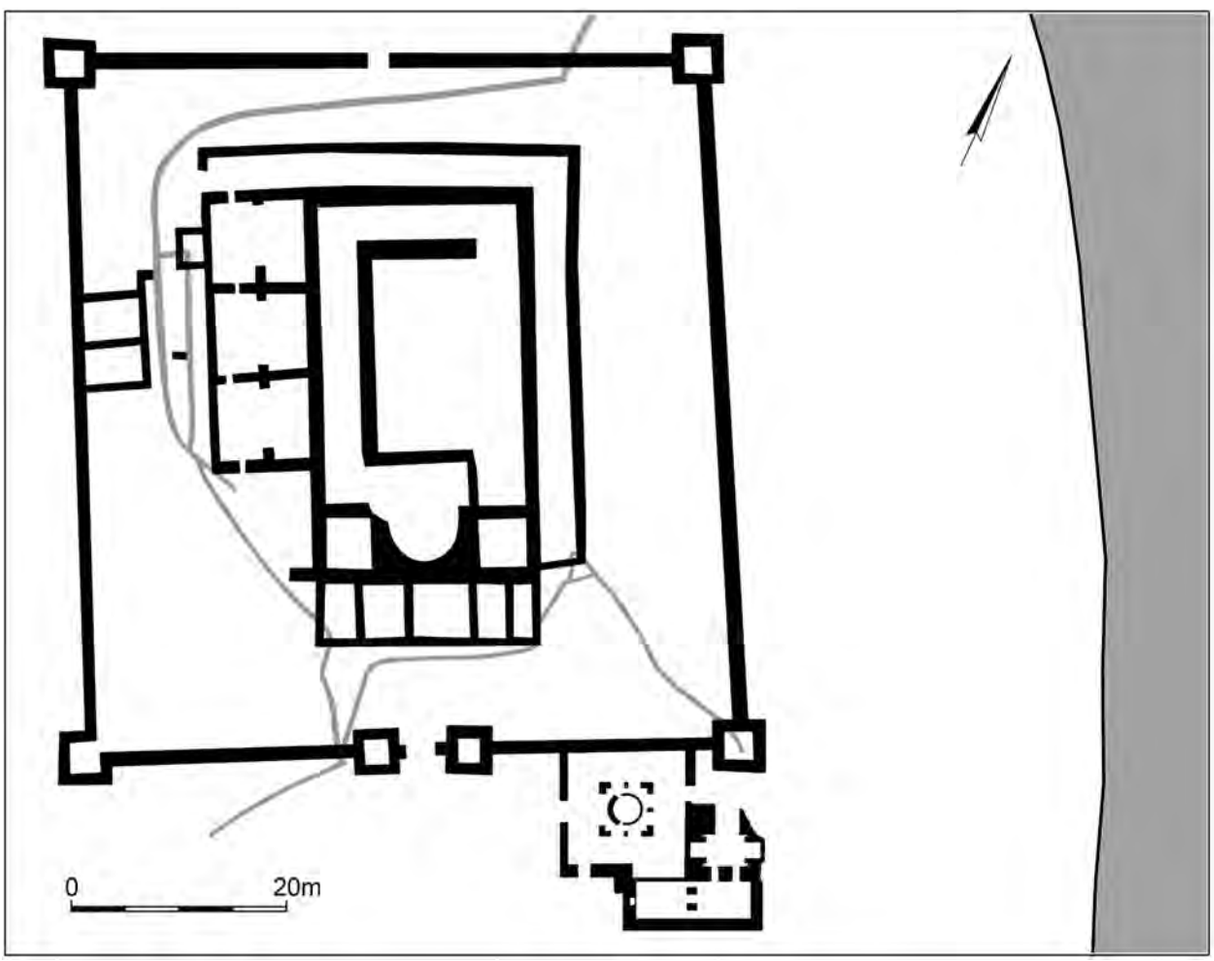

Figure 4.3. Ground plan of the fortified enclosure, basilica, and attached bath. Courtesy of Dov Porotsky.

Figure 4.4. Walls of the southern unit abutting the ashlar blocks and running over part of the south wall of the basilica.

Figure 4.5. Western unit, viewed from the northwest, with detail of cell protruding from the unit's northernmost room and part of the channel that diverges from the building's main channel.

Traces of mosaic floors were located in the central nave and in the rooms flanking the apse.[46] Because of their fragmentary condition and lack of documentation, only the floor of the room to the west of the apse, and a small section of the mosaic in the main hall, can be described.[47]

In the western room, the main pattern in the middle of the mosaic carpet is constructed of large intersecting octagons in outline, composed of oblong hexagons and squares.[48] Diamond-shaped patterns are scattered among the main polygons (fig. 4.6). A similar pattern can be seen in Jordan at the church of al-Dayr, dated by an inscription to 557–58 CE.[49] Another, similar pattern with crosses decorating every square can be seen in the Church of the Apostles at Madaba, dated to 578.[50] At the palace of Khirbat al-Mafjar in the Jordan Valley, geometric patterns compose the major carpets. The outlines of several of these patterns resemble the one under discussion here, though they are more elaborate.[51]

Figure 4.6. Mosaic carpet in the room to the west of the apse.

46 Although the mosaic style was one of the factors that led Bar-Adon to conclude the structure is a synagogue, he described it only briefly in his article (Bar-Adon 1956, 54). His reference to the mosaic caused Applebaum, in his discussion about the possible synagogue, to confuse the motif of the menorah inscribed on the column base with the motifs on the mosaic (Applebaum 1987, 181). On the other hand, when Reich reconsidered the synagogue, he wrote: "none of these motifs are distinctively typical of synagogue mosaics" (Reich 1993, 137).

47 The mosaics were temporarily exposed during the 2009 excavation season.

48 Balmelle et al. 1985, pl. 169a.

49 Piccirillo 1993, 202–3.

50 Piccirillo 1993, 106.

51 Hamilton and Grabar 1959, pl. 78.

The carpet is framed by a double wave, one red and the other white. A similar pattern can be seen at Mukāwir[52] and in the Basilica of Moses on Mount Nebo, where the mosaics are dated to the first decade of the seventh century.[53] Framing the central carpet is a swastika meander pattern. The swastika meander is composed of spaced single-returned swastikas executed in a band of guilloche and a symmetrically shaded band, interspersed with square and rectangular panels.[54] A similar pattern appears in the lower Chapel of the Priest John at Khirbat al-Mukhayyaṭ (Mount Nebo) and is dated to the second half of the fifth century,[55] as well as in the upper Chapel of the Priest John at the same site, dated to 565 CE.[56] Another parallel is found at the Church of Saint George at Khirbat al-Mukhayyaṭ and is dated to 535–36.[57] The swastika under discussion is damaged, and the only remains are two rectangles, the southern and eastern ones, with one square between them.

Within the southern rectangle are the pictorial remains of three largely defaced animals (fig. 4.7, top). At the far right an upper part of a feline, perhaps a lion, is still visible, while the bulk of the figure has been replaced by colored tesserae. To the left of the lion is a floral pattern and the surviving upper body and head of a duck, facing left. Next to the duck, a stork can be identified by the head and beak, facing right. Beyond an additional floral pattern are the pictorial remains of another animal—probably another feline, judging by the tail—facing right. The square contains remains of a floral pattern (fig. 4.7, bottom). The eastern rectangular panel shows mosaic remains of at least two animals and some plants between them. One of the animals could be a deer. The floor has an inner and an outer frame. The inner frame is composed of a double wave in red and white, while the outer frame is created from two rows of opposing black and white triangles. A similar swastika-and-panel arrangement was uncovered at Ramla, where it was dated to the eighth/ninth centuries. As with the mosaic of the aisle (see below), the figures in the squares were erased by drawing floral patterns that replaced the figures.[58]

The only significant mosaic segment in the nave consists of two designs, divided by a double wave and guilloche (fig. 4.8): (1) a polychrome orthogonal pattern of adjacent crosses and octagons, worked in a swastika meander of three-dimensional bands in lateral perspective[59] in which each octagon encloses one or more birds, all damaged (but with ancient repairs that include floral patterns made mainly of glass tesserae, the original pattern having been made mainly of colored stones); and (2) a polychrome orthogonal pattern of circles in asymmetrically shaded bands interlooped tangentially, with five tangent coils filling the interspaces.[60] A parallel to the grid of octagons, although simpler in its execution, can be found in Umm al-Raṣāṣ at the Church of the Palm Tree, dated to the end of the sixth century.[61] Parallels to the pattern of circles can be found in ʿAmmān at the Jabal al-Akhdar chapel, dated to the beginning of the eighth century,[62] and in Umm al-Rasas at the Church of Saint Stephen, dated to 756 CE.[63] A similar combination of geometric frames enclosing animals and interlooped circles can be seen in Jordan at Qaṣr al-Ḥallābāt, dated to the eighth century.[64] Although the Ḥallābāt mosaic is much more elaborate, it is based on the same general design.

The segment described above was part of what must have been a much larger pavement, of which only small fragments survived. Excavations in the basilica showed that most of the surface of the nave and aisles

52 Piccirillo 1993, 245, fig. 413.

53 Piccirillo 1993, 148.

54 Balmelle et al. 1985, pl. 39c.

55 Piccirillo 1993, 176.

56 Piccirillo 1993, 174–75.

57 Piccirillo 1993, 178–88.

58 Avner 2008, 2, pl. 3.

59 Balmelle et al. 1985, pl. 181b.

60 Balmelle et al. 1985, pl. 235b.

61 Piccirillo 1993, 240–41, fig. 393.

62 Piccirillo 1993, 269, fig. 500; Michel 2001, 285.

63 Piccirillo 1993, 238–39, fig. 346.

64 Bisheh 1993, 50–51; Piccirillo 1993, 350–51.

Figure 4.7. Mosaic carpet, detail.

Figure 4.8. Mosaic segment in the nave.

was paved with pebbles set in mortar (fig. 4.9). Such pavements usually serve to support an upper layer of mortar in which tesserae are set; we assume, therefore, that the entire area was paved with mosaic. We cannot reconstruct the complete layout of this mosaic floor, but the remaining traces offer some important clues to the plan of the building as a whole. The large segment just described straddles the border between the nave and the eastern aisle. One would have expected a decorative—if not a physical—expression of this border, and its complete absence is remarkable. In addition, the axis of the decoration of the preserved segment is somewhat askew in relation to the axis of the basilica itself. So we must assume that there was no border between the nave and the eastern aisle.

In a sounding cut through the pebble foundation in 2009, an Arab-Byzantine coin was found a few centimeters below the pebbles (fig. 4.10). Although the coin is too worn to determine whether it is an official Byzantine follis or a Syrian pseudo-Byzantine coin, its earliest possible date—that of the official coin—is the reign of Constans II (641–68). Such coins were used in Bilād al-Shām during early Muslim rule.[65] In view of the excellent, undisturbed state of the pebble floor, we assume the coin provides a *terminus post quem* for the construction.

THE FORTIFIED ENCLOSURE

The fortification surrounding the central building consists of a rectangular enclosure (average external measurements 68 × 74 m) furnished with square corner towers averaging 4.5 × 4.5 m in size. The towers are joined by curtain walls averaging 1.5 m in width. The main entrance to the fort, in the middle of the

65 Goodwin 2005, 14.

Figure 4.9. Pebble pavement and a section through it.

Figure 4.10. Coin found below the pebble pavement.

southern curtain wall, is flanked by two additional square towers. The walls, towers, and gate are built in two rows of basalt ashlars with a rubble core. The basalt ashlars are set on a wide base formed of alternating layers of basalt boulders and rubble mixed with mortar that appear to have been poured into carefully excavated foundation trenches. The foundations of both the towers and the curtain walls are quite deep (2 m, where excavated), cutting into earlier layers of the mound. Besides the main gate on the south, an entrance paved with rectangular stone slabs was found in the middle of the northern curtain wall.

The plan of the fortified enclosure and the basilica differs from the classical plan of the Umayyad palaces, which are usually built around a central courtyard surrounded by a portico and a series of apartments (*buyūt*) and are enclosed by walls and semicircular corner towers. But the assumed regularity of these features has recently been challenged by Denis Genequand, who suggests that the Umayyad castles did not follow the same ground plan and took a variety of forms.[66] It could be that the earliest palaces did not have a typical plan and were mainly influenced by earlier enclosures that served as military bases rather than palaces. Furthermore, it is worth noting that recent excavations at Khirbat al-Mafjar have shown that a gate originally built with two square towers was modified with two semicircular towers at a later date.[67] This modification could point to a change in architectural styles, with earlier palaces using square towers and later palaces built with circular or semicircular towers.

THE WATER SYSTEM

A number of channels belonging to a sophisticated water supply system for the fortified complex have been uncovered. The main feeder channel or pipe appears to have siphoned off from the main Wadi Fijjās-to-Tiberias aqueduct approaching the fort from the west. A branch built of basalt links emerged from the main Tiberias aqueduct and supplied the complex with fresh water.[68] While parts of this branch have long been strewn about the tell, *in situ* sections of it, including separate, superimposed basalt and ceramic pipes, were recently revealed on the right-hand bank of the Jordan, opposite the fort, during a salvage excavation conducted by Yardenna Alexandre (fig. 4.11). Artifacts datable to the seventh century were found attached to basalt pipe, including an Umayyad imperial-image prereform coin dating to roughly 680–90 CE.[69]

At a point outside the excavated area, this feeder pipe diverged, with the ceramic pipe carrying water eastward to the bathhouse (see below) and a covered, plastered channel approaching the fortified enclosure to the north. This channel—built mainly of rubble mixed with mortar, plastered inside, and covered by stone slabs—was uncovered in sections southwest of the fortification and broke through its southern curtain wall just west of the entrance's western tower (fig. 4.12; see also fig. 4.3). The channel diverges immediately after passing through the curtain wall. One branch runs northward and skirts the main building from the west with another divergence en route (see also fig. 4.5), then turns to the east before finally passing under the northern fortification on its way out, most probably emptying into the lake. The northern part of the channel was found free of debris thanks to the preservation of the stone slabs and the mortar between them. Fourteen built "manholes" were incorporated into this part of the channel, which runs at a considerable depth below the ancient surface.

A second branch diverges eastward, makes a detour into the eastern room of the southern section, and continues to the eastern gallery. There, it turns southward and eventually passes beneath the southeast tower.

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66 Genequand (2006, 10, figs. 1 and 2) in fact includes Ṣinnabra as one of the buildings with a plan different from the classical model.

67 Whitcomb 2012, fig. 2.

68 Vinogradov 1982, 19–22.

69 Alexandre 2013. I thank Yardenna Alexandre for sharing, sending, and granting permission to use photos from her discoveries (Alexandre 2017).

Figure 4.11. Basalt pipe excavated by Yardenna Alexandre. Courtesy of the Israel Antiquities Authority.

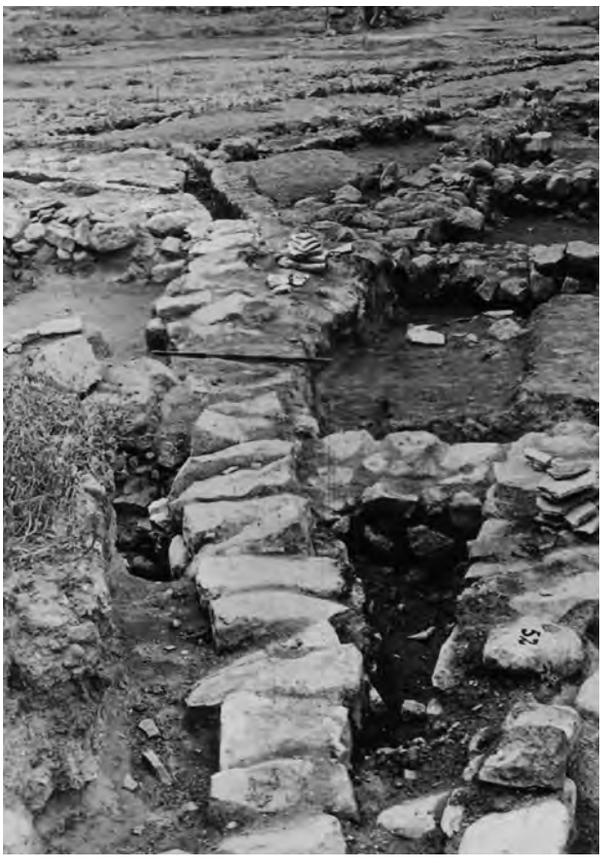

Figure 4.12. Water channels in the fortified enclosure.

THE BATH

Attached to the southern enclosure wall is a bath excavated mainly by Benjamin Maisler (Mazar), Moshe Stekelis, and Michael Avi-Yonah.[70] It includes a *caldarium*, *tepidarium*, and square hall (11 × 10.7 m) with a round central pool, described by the excavators as a *frigidarium* (fig. 4.13). The principal entrance to the hall was from the west and was once paved with marble slabs, fragments of which are still visible. Where the pavement is absent, imprints of the tiles have been preserved (fig. 4.14). The marble floor encircled the round pool that occupied the center of the hall. Grouped around the pool were the foundations of four double L-shaped pillars forming a square of 5.5 m. Halfway between the pillars' foundations appeared smaller impressions, apparently the foundations for narrow columns or pillars. The whole seems therefore to have formed a kind of domed pavilion above the pool, as suggested in the reconstruction (fig. 4.15). Colored and gilt mosaic cubes, stuck to plaster, were found in the debris on the floor of the hall, proving that the walls and/or the dome were decorated with mosaics. Reclining benches, perhaps designed for enjoying the decorations, ran along the west and part of the south wall of the hall. In the center of the bench between the main door of the hall and its southwestern corner was a kind of semicircular headrest. Similar headrests can be seen on the sides of the entrance to the *qaṣir* unit in Khirbat al-Mafjar.[71]

To the south of the *frigidarium* stands the *tepidarium*, a rectangular room. This unit, we suggest, can be divided into two: a *tepidarium* and an *apodyterium*. In the middle of the *tepidarium* hypocaust, the brick pillars are replaced by square stone pillars that could have supported a wall dividing the upper room

70 Maisler, Stekelis, and Avi-Yonah 1952.

71 Hamilton and Grabar 1959, pl. 4.1–2.

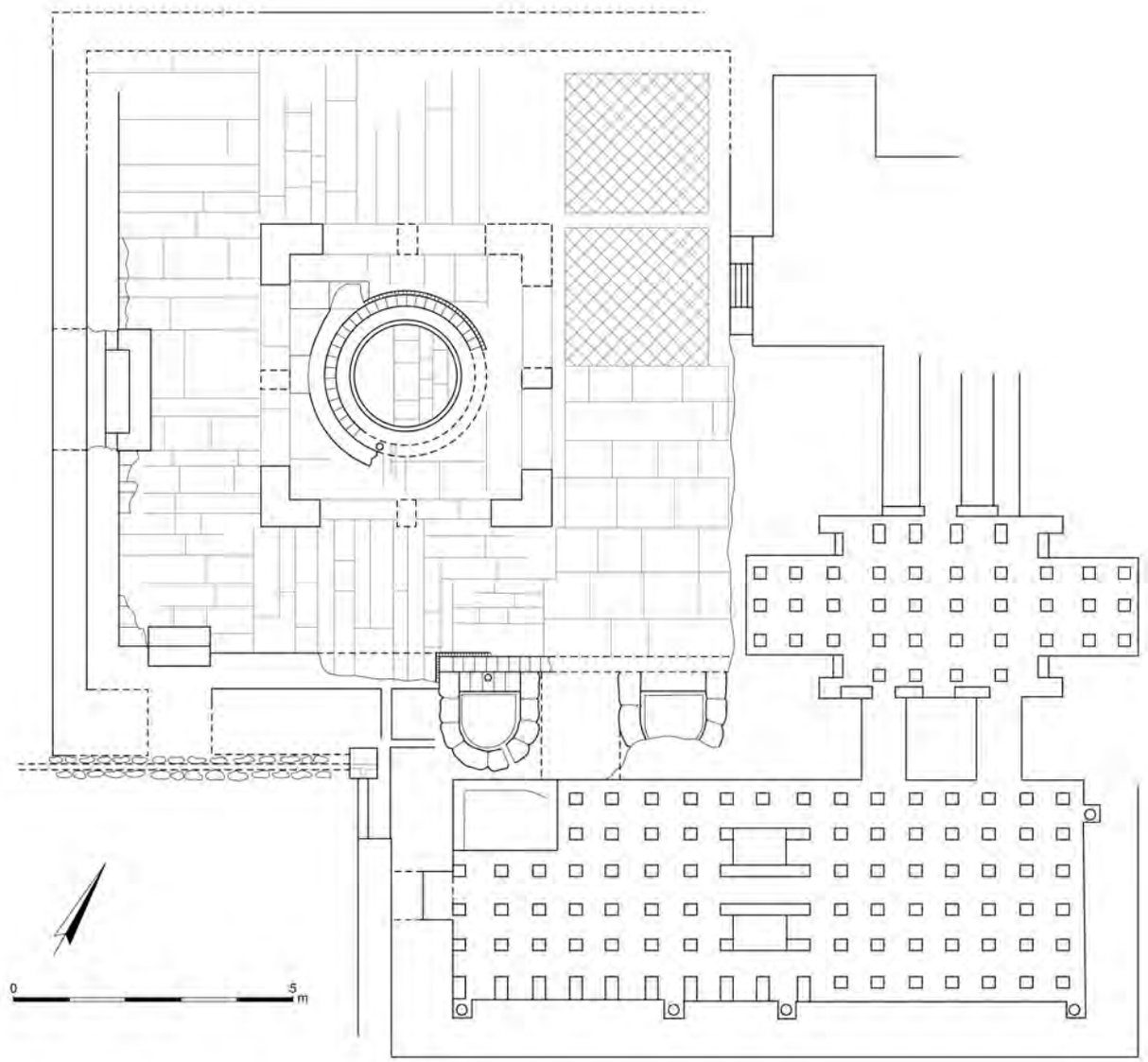

Figure 4.13. Ground plan of the bath.

(fig. 4.16). The *caldarium* and the furnace were identified by the excavators to the east of the *frigidarium*. The *caldarium* unit could be reconstructed as consisting of one square, domed room flanked by two deep, square niches on the sides for individual-sized, heated basins.[72]

According to the plan published by the excavators, the *frigidarium* communicated with the furnace area, so the bather moved from the coldest room directly to the hottest room. This arrangement departs from the typical order for baths, in which the bather moves gradually to the hot rooms:[73] the bather starts in the *frigidarium*, then moves to the *tepidarium*, and finally reaches the *caldarium*. But apart from the different mode of circulation, a similar composition of a bath and hall were found in Umayyad-era baths at several sites, including Quṣayr ʿAmra and Ḥammām al-Ṣarāḥ in Transjordan,[74] ʿAnjar in Lebanon,[75] and

72 Such basins can be seen in other Umayyad baths—e.g., in Qaṣr al-Ḥayr East and Quṣayr ʿAmra (Yegül 1992, figs. 427 and 429).

73 Gradual movement from the coldest part to the hottest is common among the different settings of the rooms (Yegül 1992, 131–32; Charpentier 1995, 231).

74 Fowden 2004, 41; Creswell 1989, 165–67.

75 Creswell 1969, 481, fig. 542.

Figure 4.14. Main hall in the bath, looking south. Photo by Dov Porotsky.

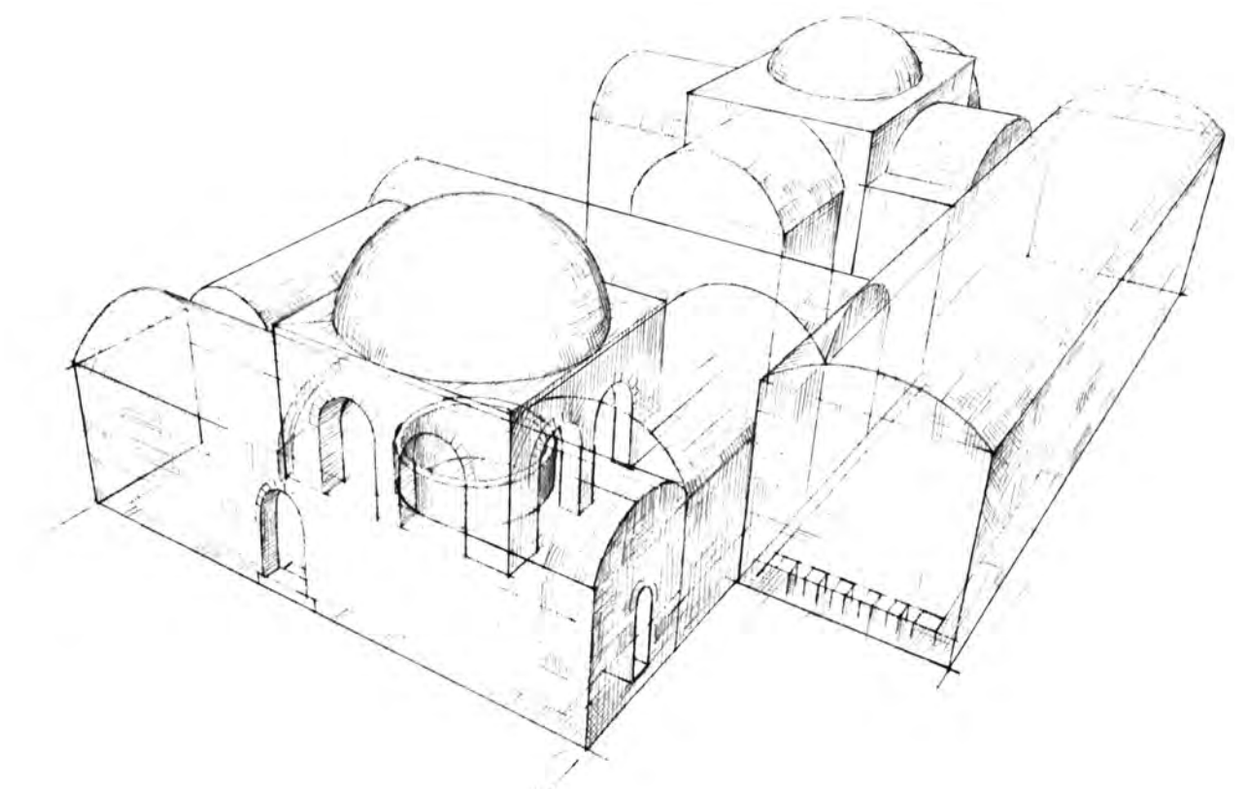

Figure 4.15. Bath reconstruction. Courtesy of Dov Porotsky.

Figure 4.16. Hypocaust, looking southwest.

Qaṣr al-Ḥayr East in Syria (fig. 4.17).[76] This group was examined by Gérard Charpentier, who concluded that the Umayyad baths were actually part of a developmental sequence from the Roman and Byzantine periods.[77] This period saw two main changes: (1) a reduction in the size of the main hall, and (2) the development of steam installations. Charpentier distinguished between two bath models during the Umayyad period: the Syrian bath and the Transjordanian bath. The major difference involves the main hall; in the Syrian type it has varied plans, while in the Transjordanian type the basilical plan dominates.[78] In comparing the plan of the bath in al-Ṣinnabra with the baths from Syria and Jordan, we face a problem related to the hot section. The northern part of the hot unit in al-Ṣinnabra is unclear; therefore, we find it difficult to decide whether or not there was a steam installation. But the main hall differs from the Jordanian type and is more like the Syrian type.

In 2009, a section excavated through the common wall between the fortification and the bathhouse yielded a coin in the foundation trench (see fig. 4.10). This coin postdates the 697 reform of ʿAbd al-Malik.

THE *DĀR* UNIT

Isolated from the main enclosure and the bath, another building or unit was exposed to the north of the fortification (fig. 4.18). It comprised a large courtyard surrounded by rooms. The main part contained six flagstone-paved rooms exposed to the east of the court, while to the west of the building three walls

76 Grabar et al. 1978, 114.

77 Despite the continuity, there were some changes in the manner of bathing that affected the plan of the bath (Charpentier 1995, 224, 231).

78 Charpentier 1995, 233.

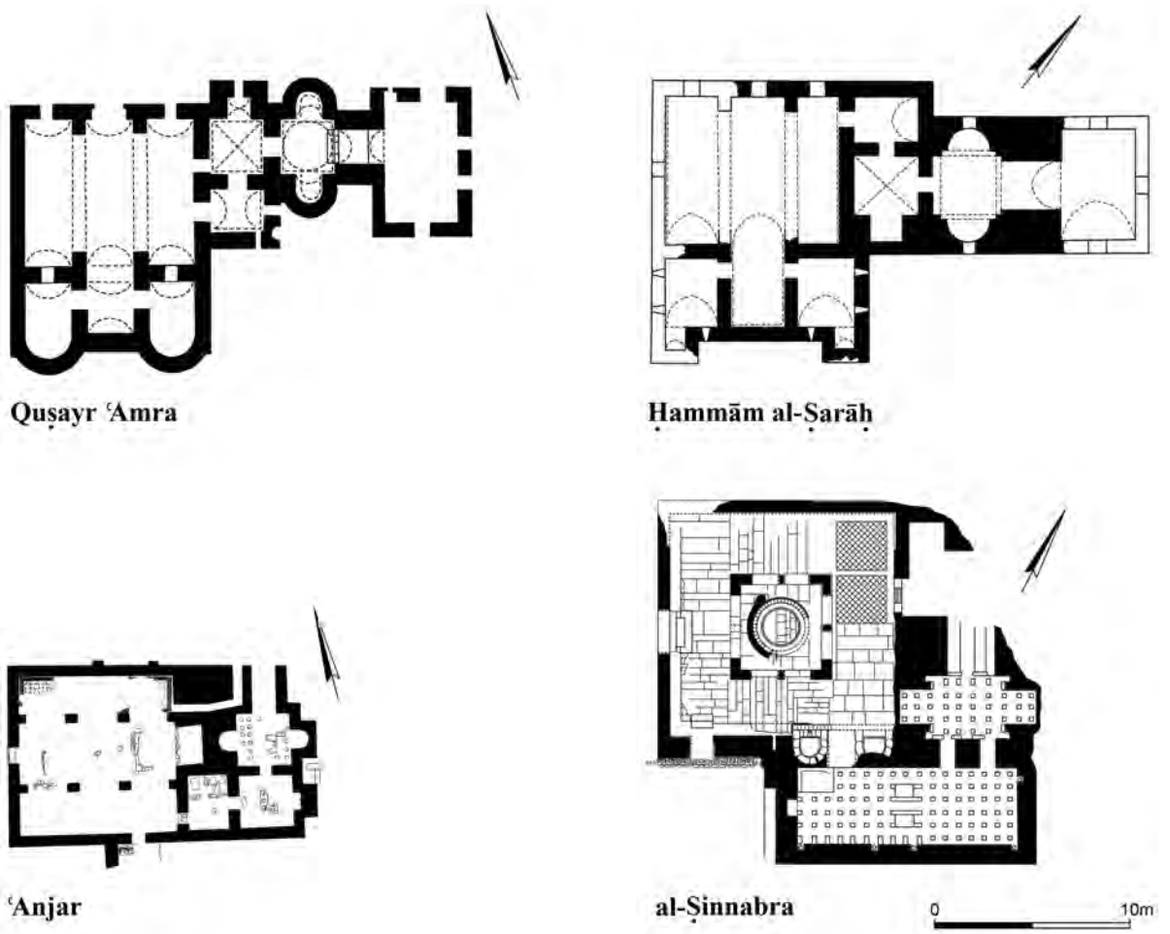

Figure 4.17. Ground plans of Quṣayr ʿAmra, Ḥammām al-Ṣaraḥ, ʿAnjar, and al-Ṣinnabra.

enclosed a rectangular area.[79] The building was constructed above the remains of a triapsal Byzantine church. Delougaz attributed the structure to the latest of three main strata, termed Pre-Church, Church, and Post-Church.[80] The pottery from both the Church and Post-Church strata was published together according to types. This method mixed pottery we now recognize as Umayyad with Byzantine pottery, or sixth-to-seventh-century pottery with eighth-to-ninth-century pottery. Whitcomb has already pointed out the problematic method used in publishing the material from this unit.[81] Examination of the pottery attributed to the Church contexts reveals that it includes types that should be dated to the eighth century—mainly buff-ware pots decorated with red paint of a type identified with Pella in Jordan.[82] Furthermore, a post-reform Umayyad coin was found on the church floor.[83] As for contexts that can be ascribed to the Post-Church stratum or to the Arab Building, they contained pottery types dated to the end of the eighth century and to the ninth century.[84] We may therefore conclude that the church was covered during the eighth century to build the unit identified by Whitcomb as a *dār* and that this unit was in use until the ninth century.

79 Delougaz and Haines 1960, pl. 12.

80 Delougaz and Haines 1960, pl. 18.

81 Whitcomb 2002, 4.

82 Delougaz and Haines 1960, pl. 37.

83 Delougaz and Haines 1960, pl. 47.9.

84 Delougaz and Haines 1960, pls. 44.19, 22; 62.1.

CONCLUSIONS

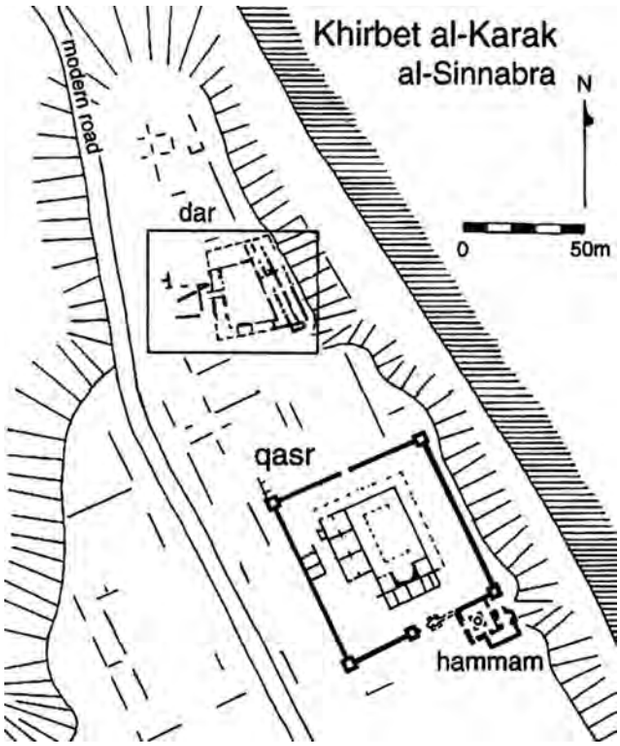

Figure 4.18. Bath, fortified enclosure, and *dār* (Whitcomb 2002, fig. 2).

For almost twenty years, the future caliph Muʿāwiya was installed in the previous Ghassānid capital of al-Jābiya, where he stayed until he built his palace in Damascus. The site of al-Jābiya, situated in the Jawlān about 80 km south of Damascus, was not far from al-Ṣinnabra, but since the site awaits proper excavation we have no evidence about Muʿāwiya's projects there; other sites in the region do, however, reveal traces of his activity. One of those sites is al-Ḥamma (Hammat Gader), where in 640 CE Muʿāwiya is reported to have enjoyed the hot springs and refurbished the bath complex, or part of it. He also built a palace near al-Ḥamma—namely, at al-Ṣinnabra on the western shore of the Sea of Galilee.

Muʿāwiya established his palace on what was probably a largely abandoned and secluded mound (where the only standing structure was a triapsal church built about a hundred years earlier), a pleasant spot with fresh water on hand only a short distance away from what would become the provincial capital, Ṭabariya. He began construction on what would eventually be a kind of fortified palace that enclosed a banquet hall, outlined in a basilica plan and paved with colorful mosaics, attached to a small private bath and accompanied by a service structure consisting of rooms built around a large, open courtyard. The style of the architecture was formal and imperial, with deep foundations and leveling operations that completely disregarded earlier construction, thereby creating an imposing platform with excellent views to the north and east. Although the palatial complex stood by the lakeshore, Muʿāwiya and his successors invested considerable effort in delivering spring water to the palace by tapping the main aqueduct to Ṭabariya and conveying the water through channels, siphons, and pipes to the palace and baths. With the palace's position just off the main road leading to the provincial capital, the caliph could not afford to neglect maintaining, if not repaving, this transport artery. This activity included the establishment of at least one, probably two, stone bridges at the northern and southern ends of the mound.

ʿAbd al-Malik seems to have been responsible for completing the main components of the complex, including the fortifications and baths. His extensive regional building projects included, among many others, the grading of the mountain pass at Fīq and the paving of the highway from Jerusalem to Damascus.

Accessibility, as already pointed out, could have been one of the reasons for the choice of this site for housing the caliph. Here al-Jābiya reappears—or, rather, remains relevant—since it was an important center for the Marwānids, who assumed dynastic control of the caliphate in 684 CE. Al-Jābiya had been the center of the Kalbī tribe, a local, formerly Christian tribe of the Yamanī faction. This tribe played an important role in the internal politics of the Marwānids, who needed its support to stabilize their control on the ground. Thus the location of the palace at al-Ṣinnabra had local political significance, positioned, as it was, in proximity to the provincial capital but not too far from the tribal center at al-Jābiya.

It is unclear, both from historical documents and from the evidence on the ground, what brought Umayyad al-Ṣinnabra to an end. Whatever the case may be—whether its abandonment was sudden (in the

wake of the 749 earthquake?), was due to the building of the palatial residence at Khirbat al-Minya,[85] or was gradual—by the time the builders of the later structures came on the scene, the Umayyad remains had disappeared from sight, being dismantled down to their foundations.

To conclude, in contrast to the case in previous periods of settlement on the mound, the Umayyad installation was primarily a political center. Historical and archaeological evidence point to its only limited residential function, for the site left hardly any trace of commercial, industrial, or agricultural activity. This evidence could explain why occupation in the following centuries was both intermittent and limited in scope: standing apart from the local village communities and lacking its own agricultural resources, the relative seclusion of al-Ṣinnabra and its dependence on the maintenance of the roads and bridges that connected it to the mainland left it vulnerable to swift decline once it lost its political importance.

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85 Ritter 2016, 72–77; 2017, 50–57.

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5 THE JERICHO MAFJAR PROJECT: NEW CERAMICS FOR AN OLD MONUMENT

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> . . . in the strictest sense there was no horizontal stratification at Mafjar.
>
> —Dimitri Baramki (1953, 4)

The Umayyad palace complex of Khirbat al-Mafjar, located near Jericho, is the most important cultural symbol of the early Islamic period for Palestine, one comparable to Sāmarrāʾ in ʿIraq and Fusṭāṭ in Egypt.[1] As with many famous sites, this monument suffers from misunderstandings and distortions of its archaeological evidence. The Jericho Mafjar Project is a research initiative undertaken by the Palestinian Department of Antiquities and Cultural Heritage and the Institute for the Study of Ancient Cultures (former Oriental Institute) of the University of Chicago.[2]

There are two directions this archaeological reassessment might take. The first one is a careful stratification of the long history of building complexes, an approach systematically pursued by Dimitri Baramki, the first excavator of Qaṣr Hishām.[3] The second direction is an appreciation of its setting, the evolving context of the palace, and its estate in relation to Arīḥā (Jericho), the continuing Christian center of the entire oasis. This external relationship has been undertaken by Michael Jennings and Tony Lauricella as part of the Tell al-Ḥassan Project (see chapter 8). The renewed analysis of the structural history of these monuments, and of their spatial and environmental contexts, has led Ignacio Arce to reevaluations of the sequence and form of these buildings and their functions (chapter 6).

An understanding of the history and archaeology of Khirbat al-Mafjar means a return to the study of the ceramics found there and discernment of the stratigraphy of the site, both in superimposition and horizontally (contra Baramki, above). For many scholars, the volume *An Arabian Mansion in the Jordan Valley* by Robert Hamilton (1959) stands as the definitive report of this site. This monograph describes the architecture of the palace, bath, mosque, and pavilion with a focus on embellishments in carved stone and stucco, fresco paintings, and the magnificent mosaic carpets. A close reading reveals that this work is not a complete archaeological report, and one must still use Baramki's four preliminary reports (published in the *Quarterly of the Department of Archaeology in Palestine*). Not only are many categories of artifacts missing from Hamilton's publication (e.g., coins, inscriptions, pottery, glass, and small objects), but the archaeology of the bath also remains unpublished. The audience hall and bath were excavated from 1943 to 1948, and Baramki's manuscripts for two more reports may be found in an article on the ceramics, published in 1944, that demonstrates his accurate analysis of the stratigraphy of the site. While Hamilton's short chronology (the twenty-five years from Hishām's accession to the caliphate in 724 CE until the earthquake of 749 CE)

1 Whitcomb and Taha 2013.

2 The project was conducted under my direction and that of Hamdan Taha, director general of the Palestinian Department of Antiquities and Cultural Heritage from 1995 to 2013.

3 Baramki always preferred this name for this monument, and Qaṣr Hishām continues to be the popular designation in Palestine. The name Khirbat al-Mafjar has been applied since its first discovery in the nineteenth century and is used to refer to the site and its archaeological remains.

may be accurate for the use of the bath hall, Baramki recognized the site's continuation from the Umayyad well into the ʿAbbāsid period, with some later Ayyūbid occupation.[4] Our new excavations have corroborated Baramki's view and will hopefully put to rest the persistent assumption of only a short occupation of the site. Ignacio Arce has demonstrated the complexity of the architectural monuments at Khirbat al-Mafjar; far from being a short and unfinished construction of the early eighth century, rebuilding and reinterpretations seem apparent everywhere in the stones. The short chronology of Hamilton must yield to broader understandings of the history of "Qaṣr Hishām."

NORTHERN AREA: AN ʿABBĀSID TOWN

The present research project explores the area north of the palace complex excavated by Baramki (figs. 5.1 and 5.2). This excavation began with the discovery of a new northern gate (North Gate; fig. 5.1.1) opening onto extensive ruins excavated by Awni Dajani on behalf of the Jordanian Department of Antiquities during the 1960s. Unfortunately, no reports or artifacts are available for those excavations. Nothing was known about these excavations when in 1993 the Palestinians took over the site, which was generally characterized in the literature as a "caravanserai."[5] The initial survey of structures amid trees and collapse in 2011 revealed elements of a fine original structure defined here as the Red Building. This enclosure might be characterized as a typical farmstead, often associated with a palace complex according to the analysis of Genequand.[6] The present operating hypothesis is that the Red Building enclosure, the grape press (chapter 7), and the older elements of the ʿAbbāsid stable belong to an agricultural estate (*ḍayʿa*) of the Umayyad period (see fig. 5.1). These earliest buildings remain to be elucidated, in part because of the looting of fine masonry during the nineteenth century, the massive excavations of the 1960s, and alterations during the ʿAbbāsid period. Following the Umayyad period, the estate seems to have continued and received a new stone wall around its perimeter (shown in light blue in fig. 5.1).[7] This study will attempt to define these ʿAbbāsid phases more clearly through an examination of the ceramics from recent, stratified excavations.[8]

THE ʿABBĀSID MOSQUE

This structure is the most important discovery of the 2013 excavations (fig. 5.3). The distinctive nature of this room was indicated by the baked-brick flooring and unusual orientation and confirmed by the deep plastered *miḥrāb* (prayer niche). There appears to have been a cobbled street in front of the mosque, perhaps with a bench, and beyond that a deep cistern and basin for ablutions (fig. 5.1.8). A structure attached to the western side had Nabī Mūsā limestone, perhaps the lowest step of a staircase minaret leading to the roof. Previous excavations had left little indication of the walls or doors; with great curiosity, we found that the northeastern corner of the mosque had not been excavated and formed a mound about 60 cm high.

There were indications of a cooking installation and an assemblage of complete vessels (fig. 5.4). The ceramics include a large basin (j), cream with comb decoration, and a bag-shaped storage jar (i), black with white painted decoration. There are two cooking pots, one a gray ware with a matching lid (e, f) and the

4 Baramki (1956, 2) speaks of the palace as unfinished, occupied by "occasional squatters," and "reconditioned" in the twelfth century. He observes that "pottery and coins left behind by these passing occupants range from the eighth to the thirteenth centuries."

5 This is the case in the description of Walmsley 2000, 287. Comparison with his "'ʿAbbāsid town" have now proven more apt than he imagined but must be discussed elsewhere.

6 Genequand 2003, figs. 5–8. More recently Genequand (2012, 199–221) refers to all these "elite establishments" as palaces and residences, though considering them as having a simple agricultural character may be justifiable.

7 The addition of this defensive wall cannot be dated but seems to belong to a later, less secure phase of the ʿAbbāsid period.

8 The following analysis is extremely selective and based on field drawings of exceptional samples. Other, better-known types were recorded according to a "type series" developed from Baramki's corpus and previous years. The pottery sheets also recorded quantities of wares that are not used in this study.

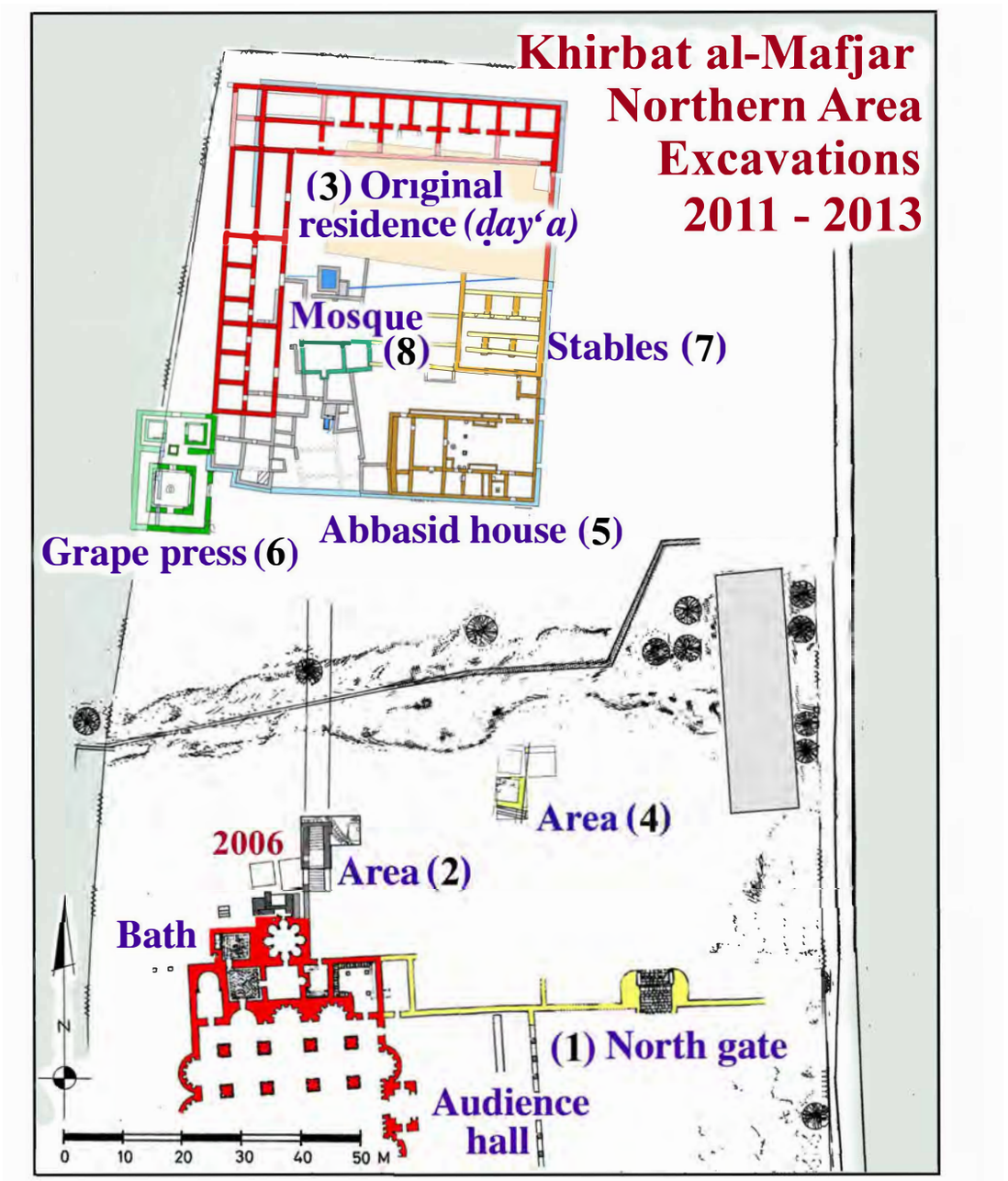

Figure 5.1. Plan of the areas excavated by the Jericho Mafjar Project.

other a red-brown ware (h). Its lid (g) may in fact be a bowl that was inverted during cooking. The ware of the bowl falls in the category of "Byzantine fine ware" and is matched by that of two deep bowls or cups (b, c) of the same ware (see below). One of these cups has a dark-brown painted decoration. There is a juglet of cream ware (a), what might formerly have been called "Mafjar ware." The last vessel is a so-called "grenade" (d); far from being a weapon, it probably contained a flammable liquid to assist in starting a fire (see below).

It is tempting to see this assemblage as evidence of a particular event involving the preparation of a large meal or meals (though whether this may have been a function of the mosque, or a later one, cannot be determined). The ceramics seem to represent a specific, early phase of the ʿAbbāsid period and date the mosque to the late eighth century.

Figure 5.2. View of the Northern Area, looking east and showing the Red Building (3), ʿAbbāsid house (5), stables (7), and mosque (8).

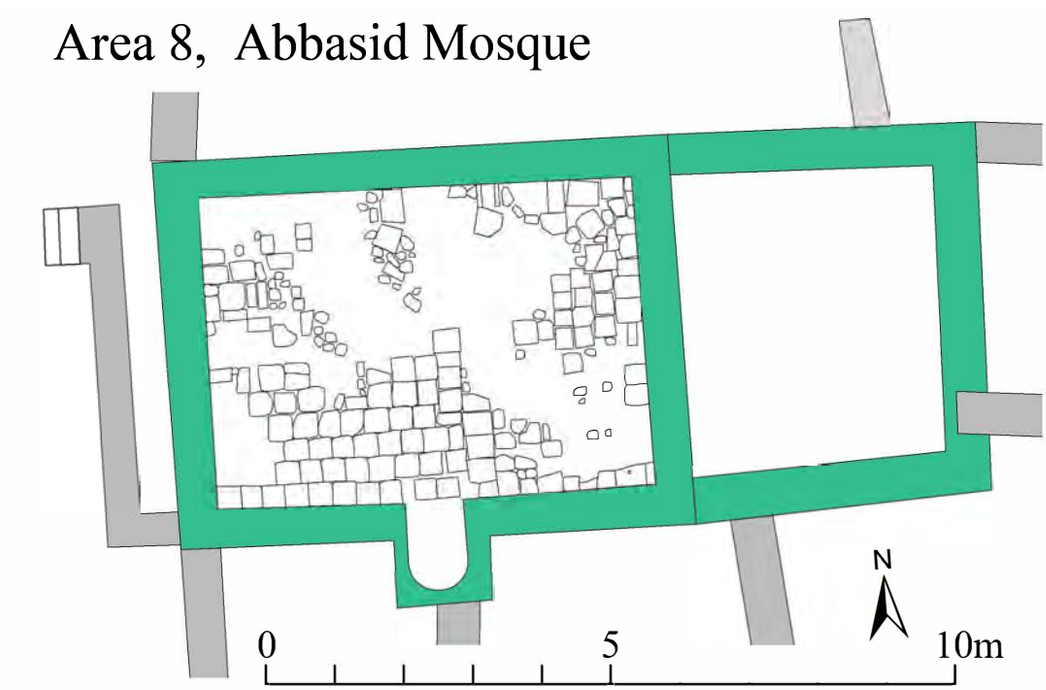

Figure 5.3. Plan of the ʿAbbāsid mosque, trench 8200.

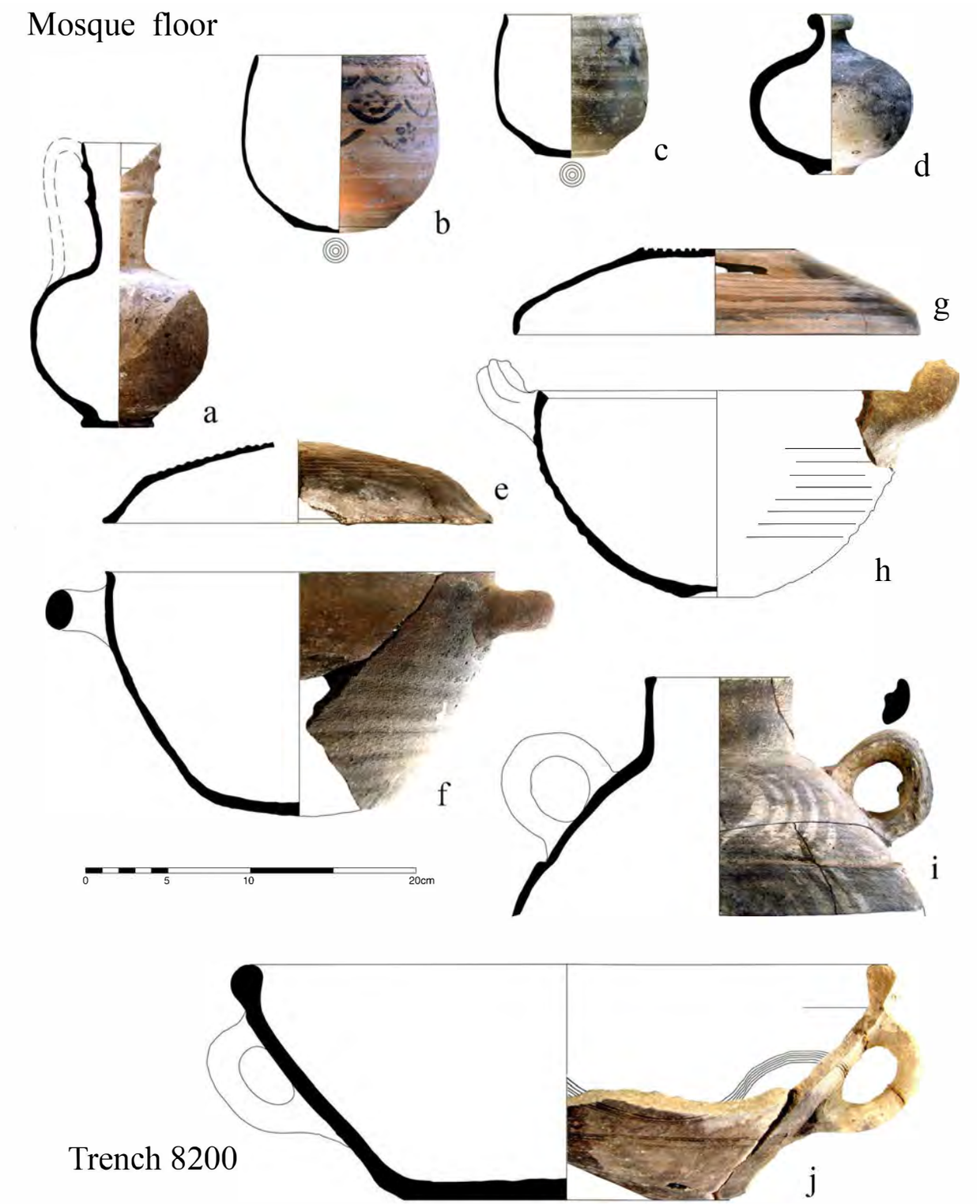

Figure 5.4. Ceramics from the ʿAbbāsid mosque.

THE RED BUILDING

This structure encompasses almost the whole of the Northern Area, and its northern wall and rooms are especially clear and well preserved from previous excavations and not looted since then. During the first two seasons, trenches into the fine masonry of the building were designated as Area 3. Stones were found sunk into the virgin soil, which is a red clay; in some areas stones appeared above the surface, while other places had the stones looted down to the cobblestone foundation, leaving a distinctive robber trench. In 2013, the western edge of the archaeological property was cleared of the massive mounds of 1960s backfill dirt (fig. 5.5). This new open area confirmed a plan of suites of three rooms behind a long room opening onto the central area; there were also indications of later alterations. Ashy cooking facilities of two assemblages in trench 3700 indicate reuse of the Umayyad building in the ʿAbbāsid period. Once again the ceramics may be taken as discrete assemblages of relatively brief accumulation.

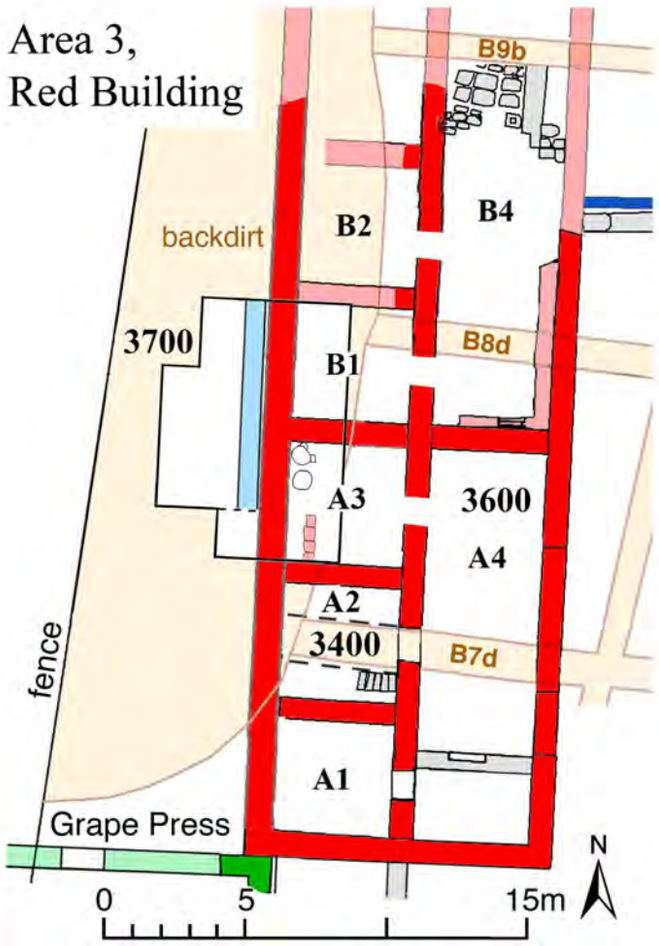

Figure 5.5. Plan of the Red Building, trench 3700.

Room A3 revealed a discrete ceramic assemblage already sampled in the mosque (fig. 5.6a–h). The majority of vessels are fine potted and decorated vessels—bowls, cups, and a lid (c). Each one has incised circles on its base, often horizontal burnishing, and a wash in red or black. Two examples (a and g) have designs made by removing the wash, a type of negative painting that might be called "reserve decoration." This ceramic type has been called "Byzantine fine ware," datable from the sixth through the eighth centuries. The most comprehensive description appears in Magness,[9] though her corpus suggests more individualized dating of individual forms.[10] She later suggests the term "fine Islamic ware,"[11] and Walmsley describes the ware as "Palestine Fine Table Ware."[12] This description may be justifiable in that the likely production center may have been Jerusalem (with the ware's more orange than buff color); therefore, the corpus defined at Mafjar will be described as "ʿAbbāsid fine ware."

The second assemblage, collected from Room B1, has a rather different composition (fig. 5.6i–s): there is a series of cream wares, including parts of plain juglets (n, o). The red-painted bowl (i) and series of jars may belong to the Umayyad period.[13] The two assemblages share a specific type of painted bowl (d, j, k) belonging to the ʿAbbāsid fine ware type; these bowls have complex geometric designs on the exterior and,

9 Magness 1993, 166–71.

10 Magness 1993, 193–201, 236–41.

11 Magness 2000, 815 n. 10.

12 Magness 2000, 322–23.

13 One will note that the stratification of Umayyad ceramics seems to become more difficult to define, though it is hardly absent. There is new scope for this study with the comparisons from Baysān (Bar-Nathan and Atrash 2011) and Tabariya (Stacey 2004); the subject must be reserved for another study.

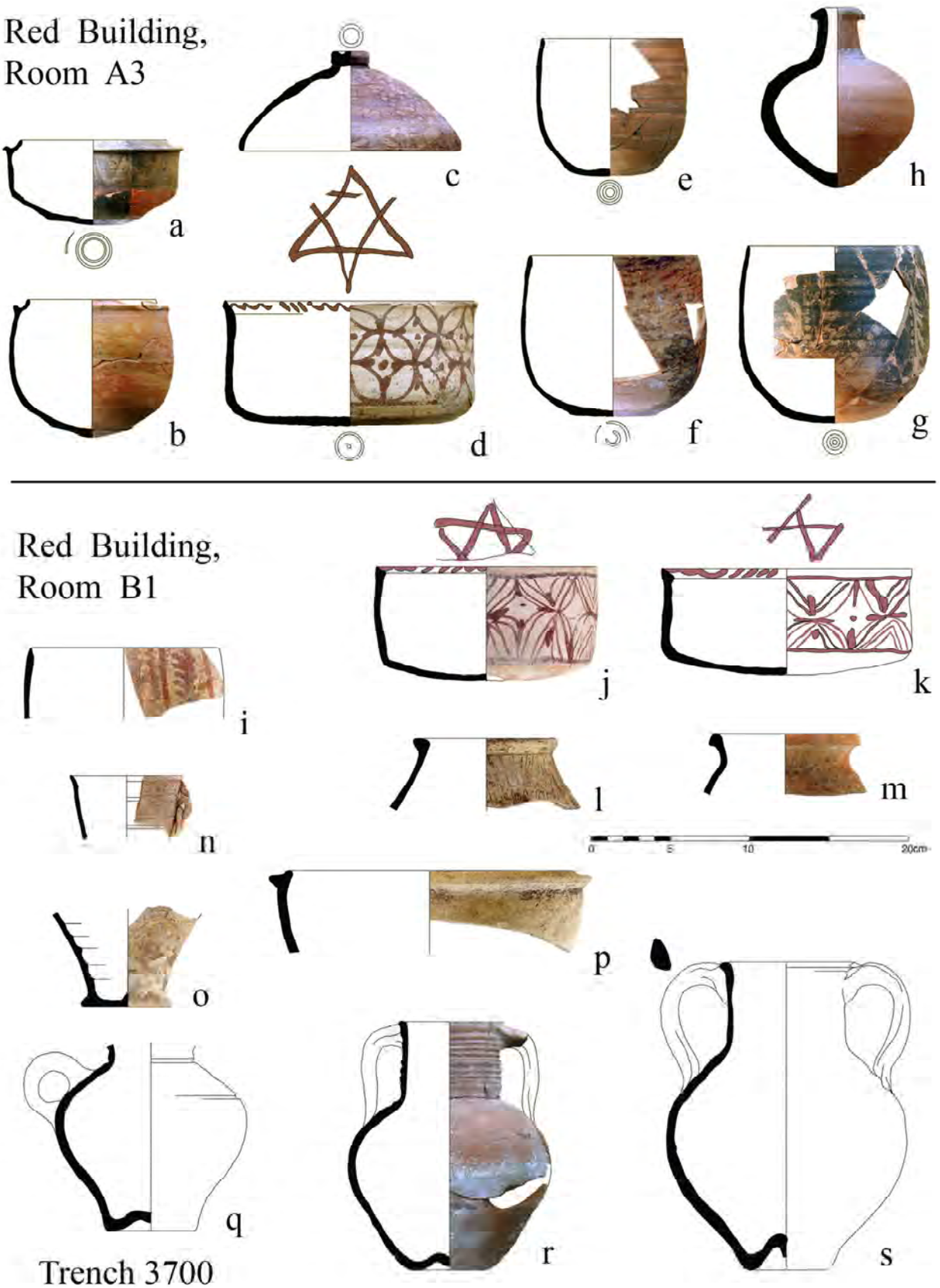

Figure 5.6. Ceramics from rooms A3 and B1 of the Red Building.

in this case, a star of Solomon on the interior. Walmsley considers them part of his Red Painted Wares, though the latter may be generally somewhat earlier. These bowls may instead adapt his designation[14] and be described as "ʿAbbāsid palace ware."

THE STABLES

The rectangular building north of the ʿAbbāsid house was recognized as a stable during the initial survey of 2011. Previous excavations revealed four long halls, and two of the internal walls held feeding troughs or mangers with Nabī Mūsā limestone for the base between the dividers (fig. 5.7). The southernmost corridor had a deep test trench excavated through the floor; otherwise, thick layers of ash and organic debris remained on the floors. The central corridor had a cobblestone floor, as one would expect in a stable, and probably led to the entryway. The northernmost corridor had a water channel running east–west and may

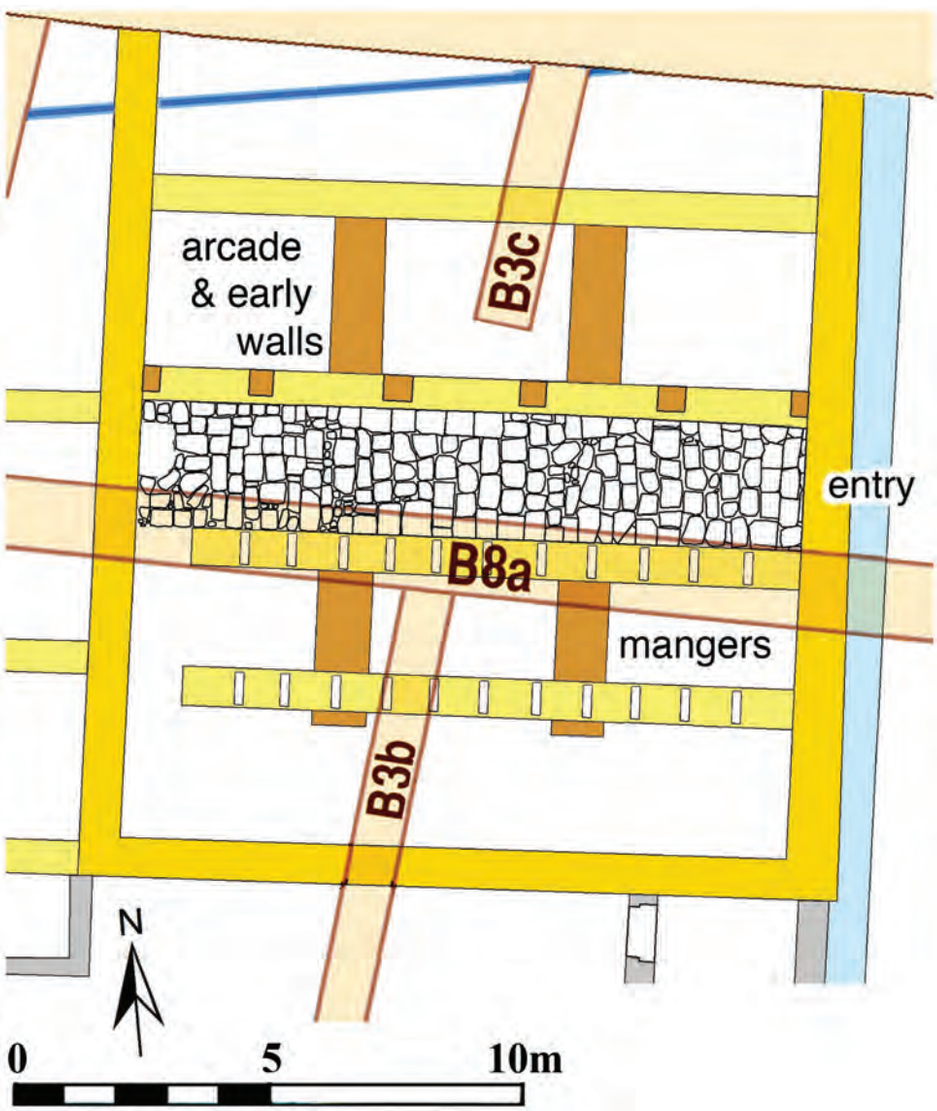

Figure 5.7. Plan of the stables, trench 7100.

14 Walmsley 1995, fig. 6.9; 2000, 324–25.

be external to the stables proper.[15] A number of test trenches beneath the floors revealed an earlier structure with north–south walls and a portico (enclosed in the later wall); a lack of ceramics and only partial exposure prevent further determination of this pre-stables building. We are fortunate that a series of baulks were left from the 1960s excavations.

These baulks produced little in ceramic or other artifacts, as one might imagine, but a pattern might be discerned by grouping the few artifacts into upper, middle, and lower phases (fig. 5.8). The earliest phase lies directly on floor 7111 (baulk B3b N) and has two painted bowls of ʿAbbāsid palace ware. The middle phase has a cream-ware pilgrim flask (h) and basin. One glazed sherd from locus 7104 (B3c S) is a rarity but may indicate the introduction of glazing. The upper fill has pieces of *kerbschnitt* ("cut-ware") pottery from each of the three trenches mixed with a fine-ware juglet and a cooking-pot lid, both harkening back to the mosque assemblage. The *kerbschnitt* or chip-carved ware would seem only distantly related to the manifestation at Sāmarrāʾ. The pieces are generally a pyxis or box form with painting in red, white, and black both on the interior and the carved exterior. (For another jar form, see locus 1706 below.) The small number of sherds in these baulks clearly confirms a sequence found elsewhere—namely, that ʿAbbāsid palace ware precedes the appearance of *kerbschnitt* ware.

THE ʿABBĀSID HOUSE

The excavations in the Northern Area in 2012 revealed a complete residence in the southeastern corner of the walled complex (figs. 5.9 and 5.10). The building was entered from the east and opened into a large courtyard (A) with piers indicating a covered portion on the western side. A series of rooms lined the southern side of the building: a paved vestibule, a toilet with reused carved stones, and two private rooms (E, F). A large paved hall lay on the west (B), with an inner room on the south (G) and a long storage/cooking facility against the exterior west wall (H, J). The 1960s excavations left some rooms only partially excavated, though they yielded many artifacts; the floors of two rooms had been dug through to a depth of 30 to 50 cm.

On a more positive note, the previous excavators left the baulks between the excavated squares. These lines of soil were up to 1 m in height and, once cleaned, provided stratified accumulations within the house. A selection of ceramics from two baulks presented here (B2a, B3) indicate materials from the floors and a higher level (fig. 5.11). While the sequence shows some distinctions, the artifacts seem to indicate a relatively brief ʿAbbāsid occupation.[16]

Artifacts from the lower phase of these baulks should be grouped with those from the nearby rooms E and F as a primary occupation assemblage. In addition to common wares (fig. 5.11q), there are fine wares (m, r, and many more in other baulks) and an ʿAbbāsid palace ware bowl (n). There were a number of grenades (also called "spheroconical vessels"), associable with *ṭābūn*s or ovens in the vicinity. The repeated association of the grenades with *ṭābūn*s and fireplaces confirms a use of these vessels as fire starters, probably filled with either a powder or naphtha.[17] This function associates these early Islamic vessels with the similar but later powder flask.[18]

The upper phase of these baulks continues to show fine wares and, more importantly, introduces both splash-glazed wares (e, f) and molded juglets (b, c, d). There are a number of ʿAbbāsid lamps from these

15 The structures west of the stables leading toward the mosque seem contemporary but are not considered in this study.

16 It seems likely that walls of the earlier Umayyad period and the corresponding stratigraphy have been entirely removed. Some cobbled foundations appear to testify to this absence.

17 Brosh 1980. In the future it may be better to use the term "fire-starter flask" or "igniter flask" than the misleading term "grenade." Hirschfeld found a series of such flasks in the ʿAbbāsid shop area at Tiberias (A. de Vincenz, personal communication).

18 A. Lester, personal communication. Prag (2006, 303–4) suggests that an Ottoman context "favours the association with fire-making, both as tinder, and perhaps for the safe-keeping and for keeping dry the quick-match required in the use of early fire-arms." One may suggest that this usage continues an earlier, more domestic need for a fire starter. See the dedicated volume of the *Journal of Islamic Archaeology* on spheroconical vessels edited by Pradines (2016).

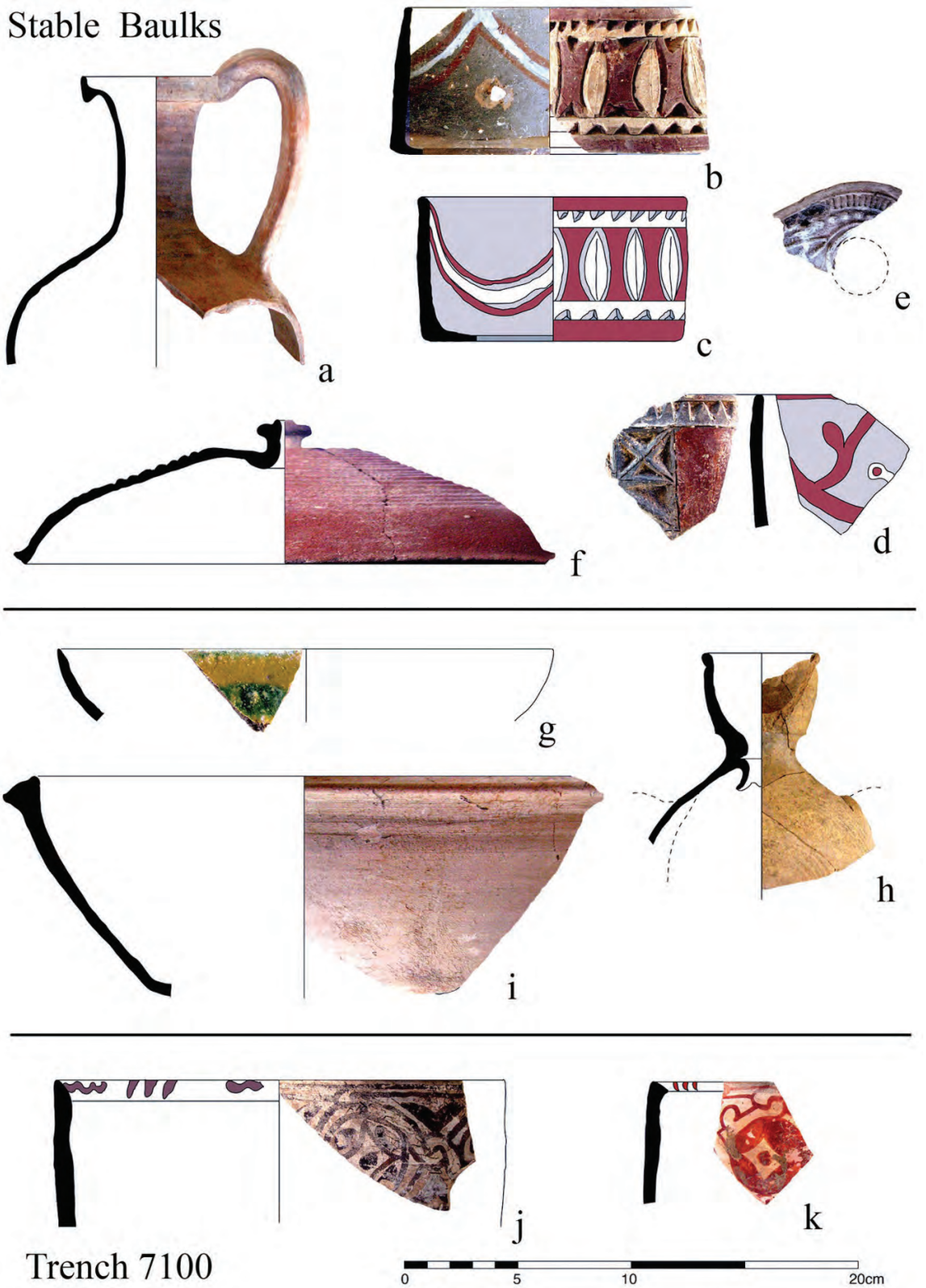

Figure 5.8. Ceramics from the stables' baulks.

Figure 5.9. View of the ʿAbbāsid house, looking east and showing baulk B1 on the left-hand side.

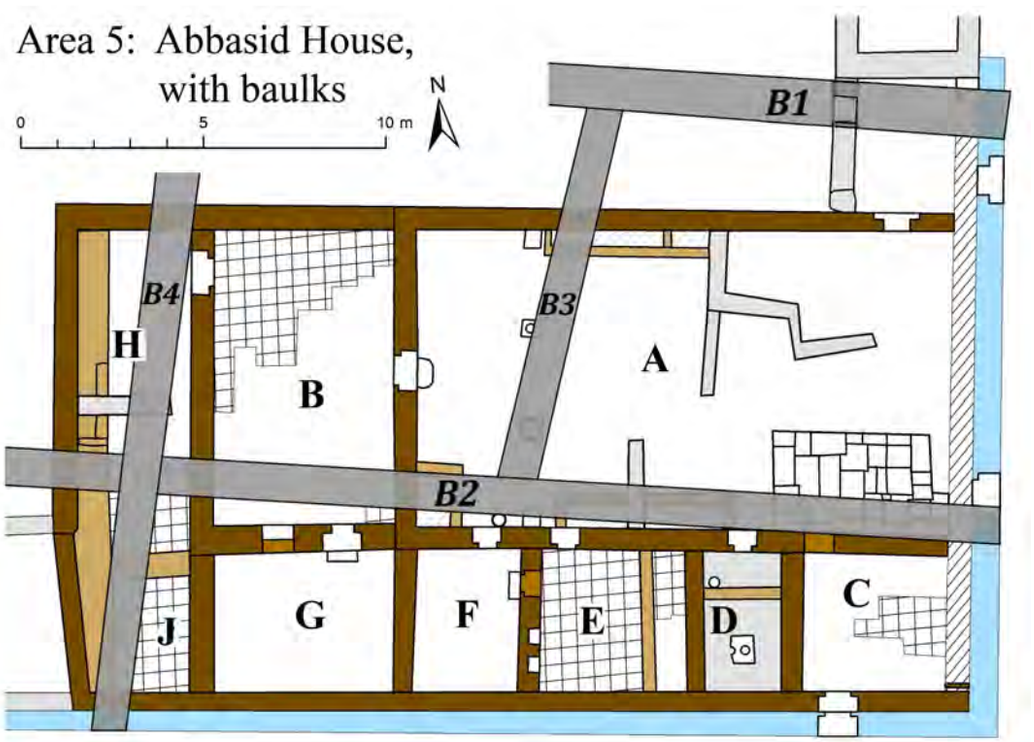

Figure 5.10. Plan of the ʿAbbāsid house, trench 5100, with the location of baulks.

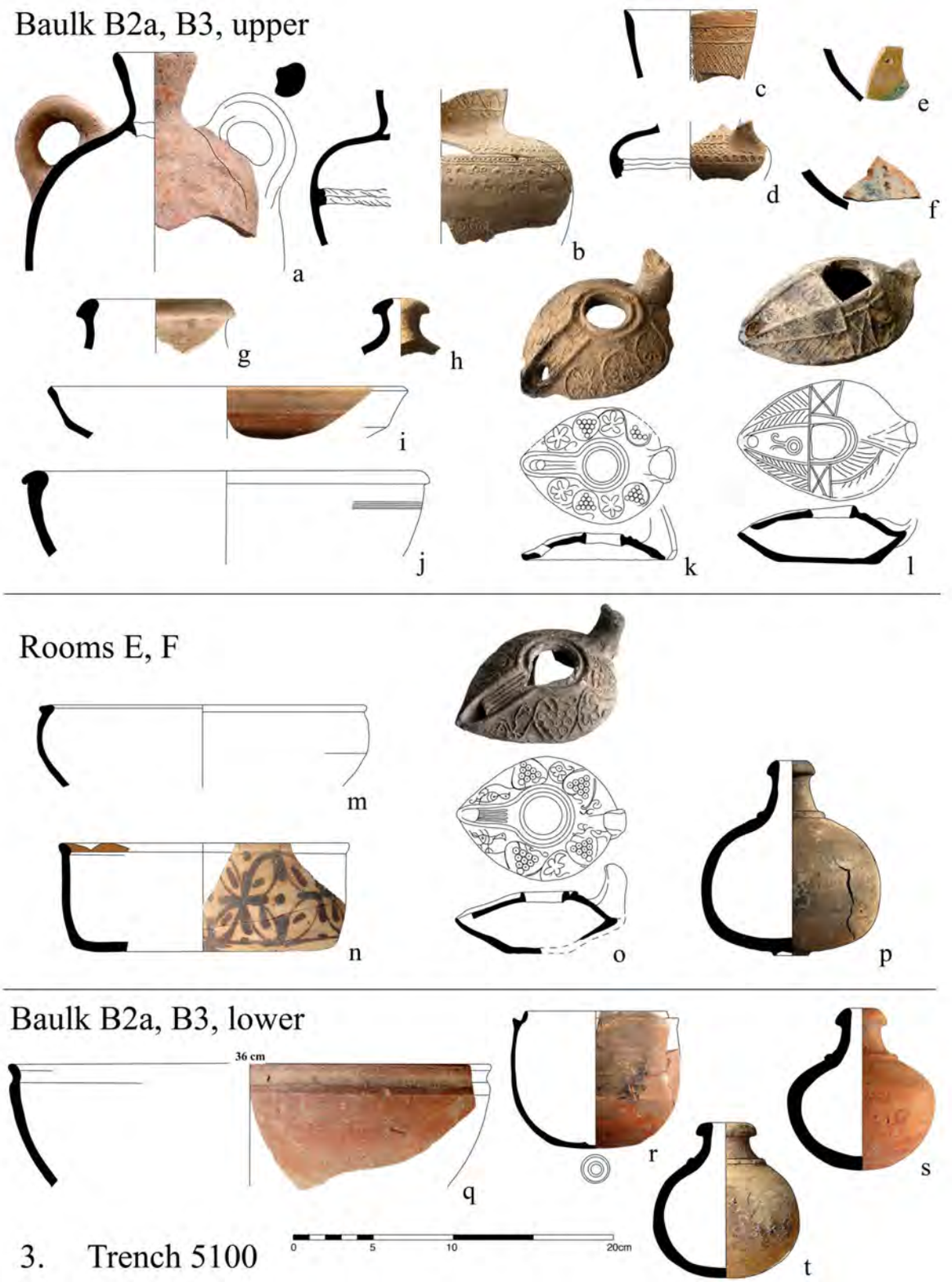

Figure 5.11. Ceramics from the ʿAbbāsid house, baulks and rooms E and F.

assemblages, including a Samaritan type.[19] The introduction of glazed wares and molded juglets in the later phase of the ʿAbbāsid period is confirmed in the following areas.

THE MONUMENTAL STAIRWAY AND SUBTERRANEAN HALL

In the 1940s, Baramki excavated the rooms of the bath, one of the last aspects of the palace complex to be built at Khirbat al-Mafjar. In 2006, director of antiquities Hamdan Taha placed two trenches (2100 and 2200) at the northern edge of these excavations (Taha 2011). With the renewed archaeological research, these trenches were expanded to the east (trenches 2300–2600), thereby revealing a monumental double stairway (figs. 5.12 and 5.13). It descended from the north and south to a platform with a doorway to the west.[20] As Taha had already discovered, a later architectural phase was built over the collapse of the original Umayyad complex.

Figure 5.12. View of the stairway and fallen arches, looking northeast.

19 Cytryn-Silverman 2010, 113–14; a late Umayyad type in Hadad 2002, 78.

20 The southern stairs disappear into the south baulk of locus 2500. The existence of these stairs explains the lines on Baramki's plan, indicating that he had found the uppermost three steps (Baramki 1953, 75, fig. 7).

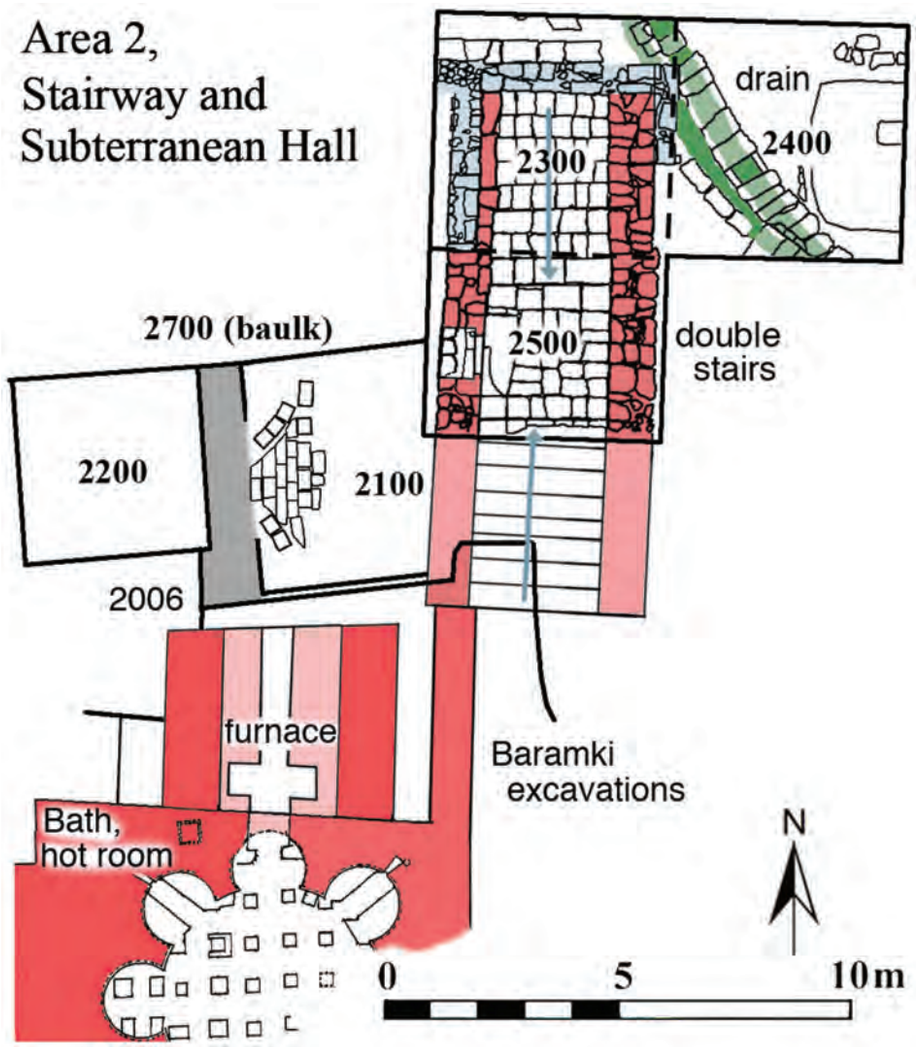

Figure 5.13. Plan of the stairway and subterranean hall, trenches 2300–2700.

The ceramics from the fill of the stairway may be divided into three phases (fig. 5.14). The lowest materials—common bowls of unglazed ware—were deposited among the fallen stones and debris of the roof and walls. The middle levels presented a wide range of glazed ceramics of splash and *sgraffiato* types: a molded juglet (l), an unpainted *kerbschnitt* ware (n), and ʿAbbāsid palace ware (k). Curiously, the only fine wares were a jar with brown and white paint (j) and a bowl of red ware with black and white painted decoration (s).[21] The pottery from the top layers was expected to be Ayyūbid in date, but aside from a lug handle (a), this does not appear to be the case.

Excavations in 2013 removed the baulk left between Taha's trenches, a space of 1 × 4 m and more than 3 m in depth. This stratigraphy revealed three phases associated with stone walls and occupational surfaces (loci 2701–2703, 2704, and 2706–2707). The collapse beneath this phase was a mix of large, baked-brick tiles (presumably from vaulting) and a double arch (lying still intact on its side) of fine masonry and apparently contiguous with walls antecedent to the bath. Excavations stopped at this point but may be expected to reveal a large subterranean hall of the Umayyad period.

21 Several pieces of fine, painted red-ware bowls have appeared and are well attested in Baramki 1944, figs. 6, 8–14 (his ware 10). Another example may be seen from locus 1705, and perhaps one from locus 2707. Antecedents have been found in Byzantine Jerash or Nabataean Negev; the latter is the more interesting in that Baly indicates extension into the "Arab" period and, consulting with Baramki, labels this Ware X (Baly 1962, 278–79).

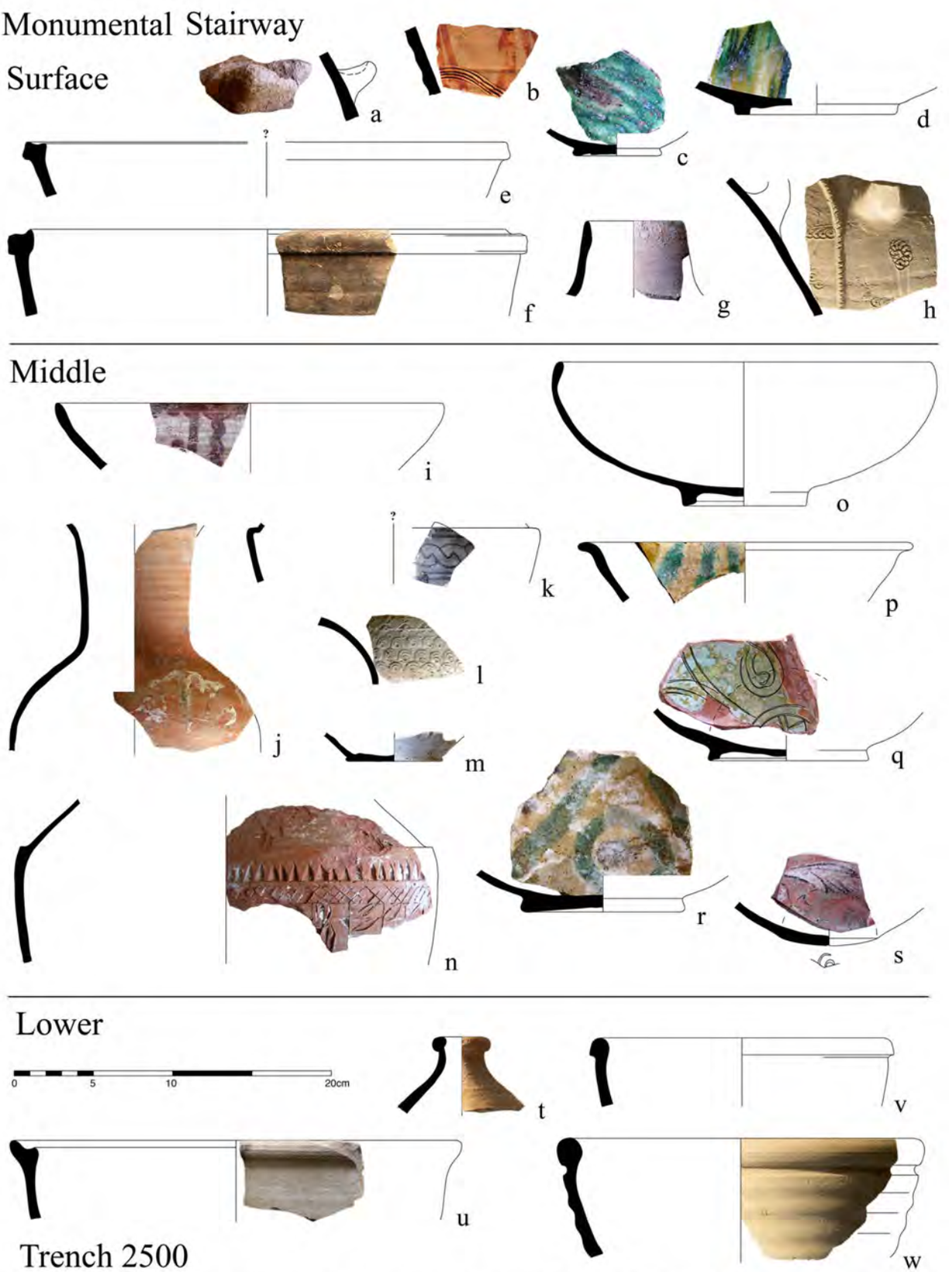

Figure 5.14. Ceramics from the monumental stairway, trench 2500.

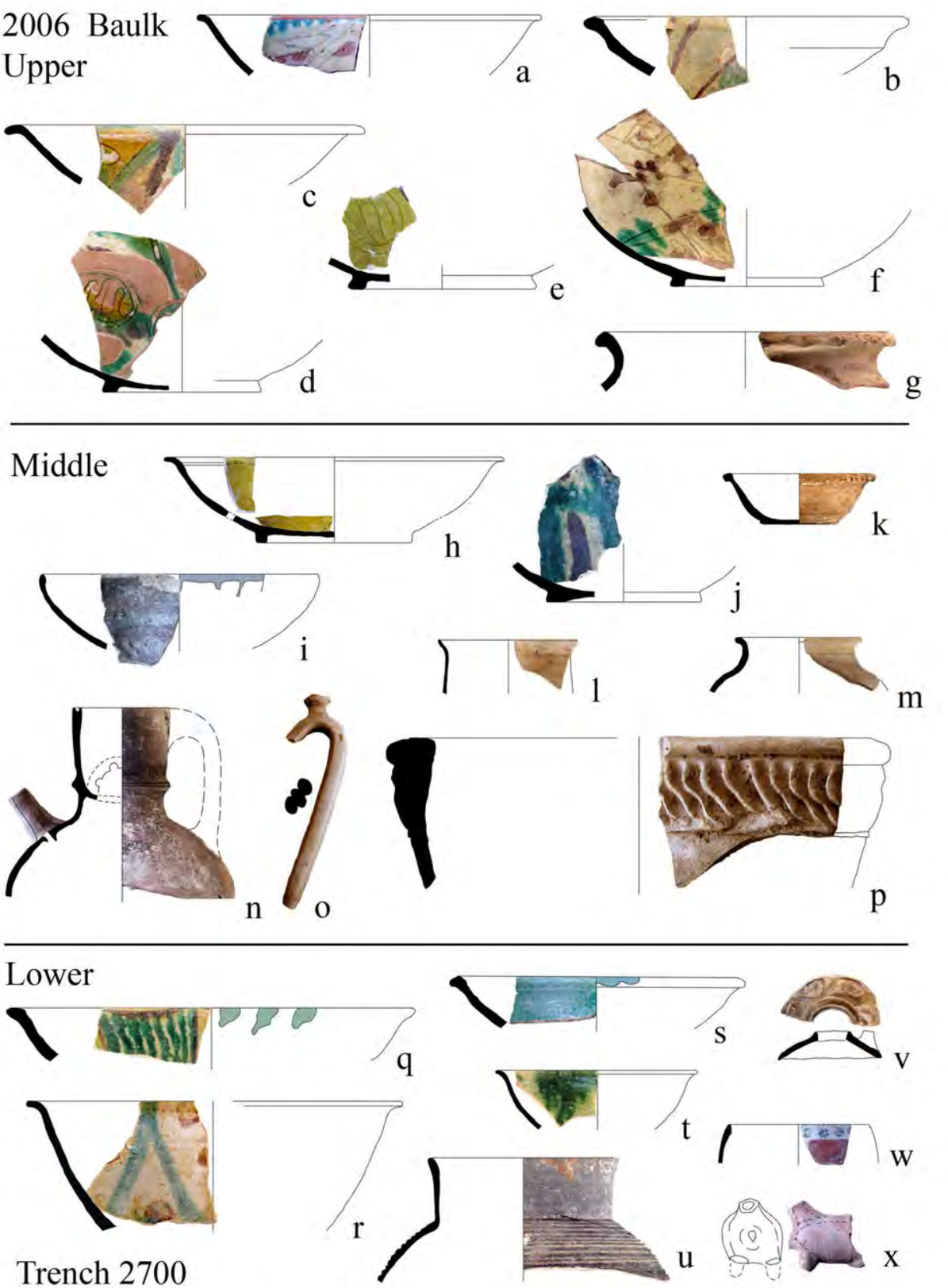

Figure 5.15. Ceramics from the 2006 baulk, trench 2700.

The ceramics of the lowest phase (fig. 5.15) show an initial occupation with splash-glazed wares amid cooking and painted pieces (u, w). The middle phase, represented by locus 2704, lies just above a fragmentary wall of new orientation. The ceramics continue splash glazing, with the introduction of cream wares (l, m) and other forms continuing a red-orange ceramic tradition. One glazed piece seems to be an overfired white and blue glazed bowl; it may represent a special type and function.[22] The upper phase is associated with walls of a substantial late building and features the introduction of *sgraffiato* glazed ceramics. In effect, this baulk would seem to expand the middle phase above the stairway into a sequence of three ceramic assemblages, ranging from the ninth into the tenth century.

THE PORTICO BEFORE THE AUDIENCE HALL

During the 2013 season, we were asked to remove the loose stones cluttering an old excavation near the North Gate. Ignacio Arce selected stones that could be used to reconstruct the entrance to the audience hall and noticed that an axial room may have functioned as the gate through the portico.[23] A series of large rooms lay behind the portico and may have functioned as shops, though perhaps elite ones (figs. 5.16 and 5.17). The dividing wall of the northernmost rooms had been removed, and excavations revealed a large pool or water reservoir with cemented plaster. A narrow set of steps in the southeastern corner gave access

Figure 5.16. View of the portico and entry into the audience hall and bath, looking west and showing the pool on the right-hand side.

22 A. de Vincenz, personal communication.

23 This portico may have stretched the entire length of the palace complex, thereby forming the western side of gardens looking eastward toward the *manzara* or belvedere of the Jordan Valley (Baramki 1953, 51). The gate through the portico into the audience hall is shown on Baramki's (1953) plan.

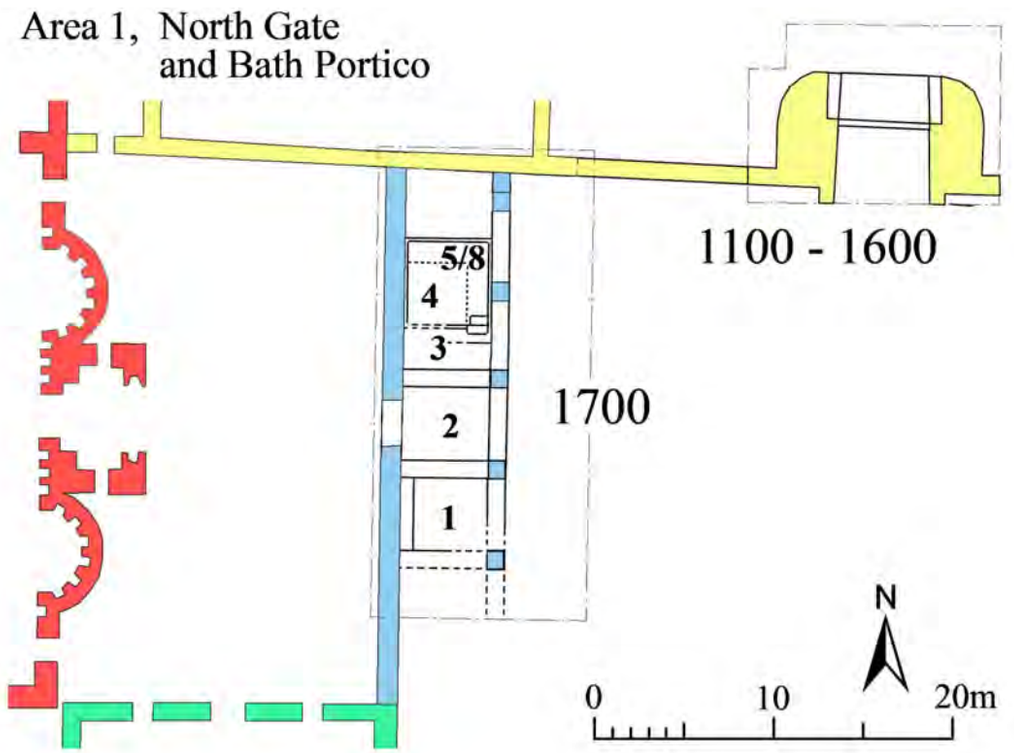

Figure 5.17. Plan of the North Gate and bath portico.

to the water. The pool went out of use over time and was filled with trash; fallen stones and tip lines suggested dumping from the west that likely postdated the Umayyad portico.

While the tip lines introduce some doubt as to the phasing, a tentative division is presented here (fig. 5.18). The lower phase (loci 1706–1707) has a storage jar and basin mixed with a number of ʿAbbāsid fine wares (n–p, r, u), the last of which is a rare form and possibly earlier. These artifacts occur with examples of ʿAbbāsid palace ware (m) and *kerbschnitt* ware (k, l). The upper phase continues the fine-ware vessels (h, i, j), including painted pieces (f, g). Molded juglets become relatively frequent in this context (a, b, c), along with very few glazed sherds.

PERIODIZATION FROM CERAMICS

We may now modify the periods suggested in "Khirbet al-Mafjar Reconsidered: The Ceramic Evidence" (Whitcomb 1988) with information obtained from the 2011–13 excavations (fig. 5.19). As with the earlier study, no attempt is made to define a corpus of Umayyad ceramic forms in the earliest levels because of the removal of materials from the rooms of the palace and, in the Northern Area, the lack of clear levels associated with the Red Building. While some forms continue late Byzantine types, no distinctively Byzantine ceramics are found on this site.

PERIOD 1: 750–800

This initial reoccupation of the Northern Area has the widest distribution and may represent a continuation following the end of the Umayyad period and earthquake damage. The assemblages in the mosque, the rooms of the Red Building, the stables, and the ʿAbbāsid house would give a general corpus for this period. Certainly there are many types continuing from the Umayyad period, but the new distinguishing features seem to be the corpus of ʿAbbāsid fine wares and ʿAbbāsid palace ware. The ceramics suggest a large and perhaps even prosperous community structured to form a small town.

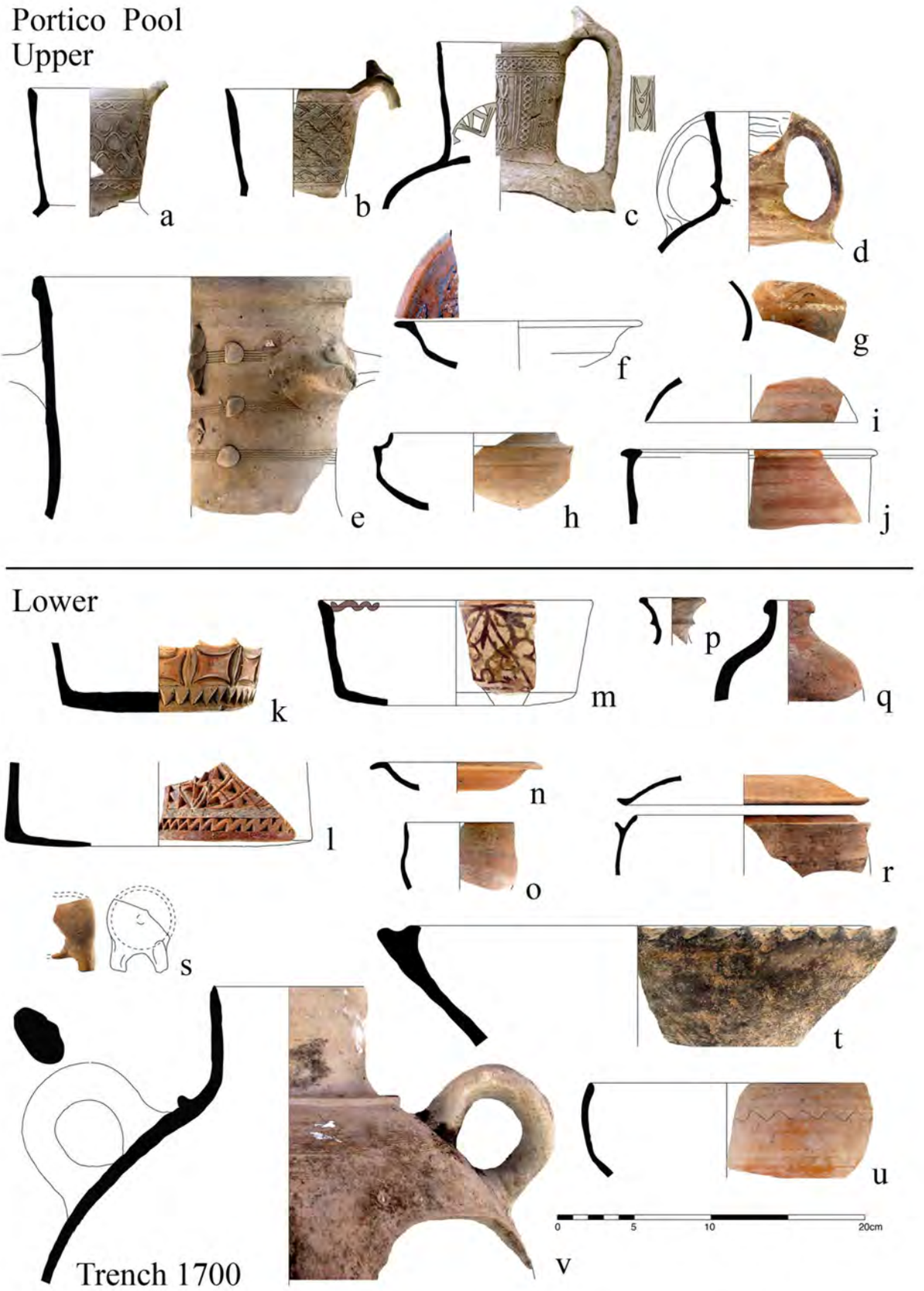

Figure 5.18. Ceramics from the portico pool, trench 1700.

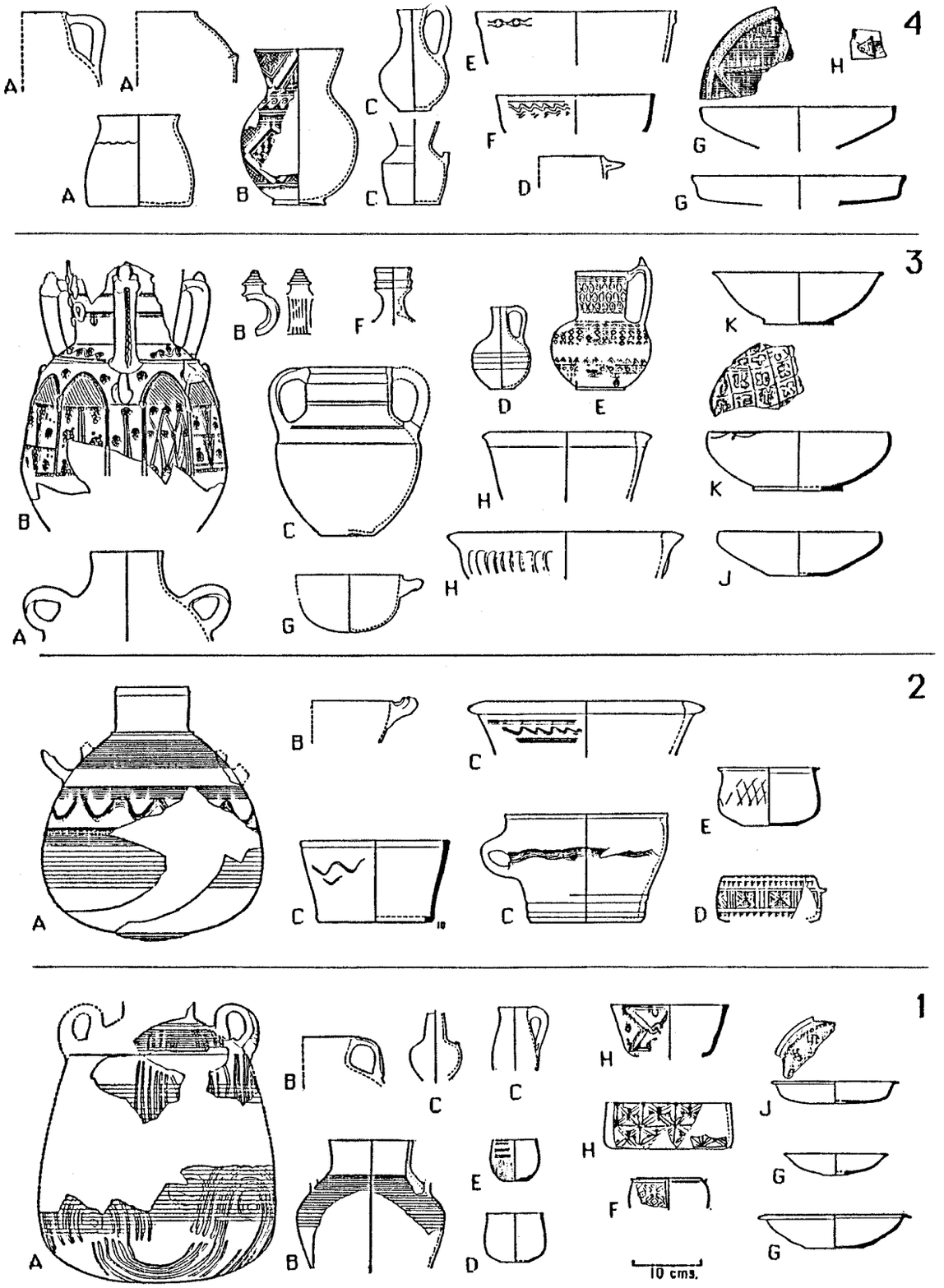

Figure 5.19. Table of ceramic phases from the Baramki corpus (Whitcomb 1988, fig. 1).

PERIOD 2: 800–850

The next phase seems to continue these ʿAbbāsid wares with the addition of *kerbschnitt* ware. A more important new feature of the ceramic corpus would seem to be glazed decoration, which becomes a normal feature during the ninth century, though it may have earlier beginnings. The earliest common glazed pottery has splashed-color techniques, either derived from Coptic glazed ware or from the more widespread, and perhaps derivative, "Yellow-glaze family."[24] Coincident with glazed wares would seem to be the introduction of cream wares, particularly juglets.

PERIOD 3: 850–900

The existence of the third phase is more problematic; it stems mostly from a logical development of glazed wares and cream wares. The glazed repertoire seems to expand with more colors and styles, while the cream juglets add a molded decoration. This latter style seems to be the type called "Mafjar ware," though the term need not be continued. There is a sense that the community has shifted more toward the south and is smaller, though the sample is admittedly too small to allow certainty in this regard.

PERIOD 4: 900–950

There is a late ʿAbbāsid occupation found in Area 2 near the bath and palace that shows new construction and occupation levels. This corpus is characterized by the introduction of *sgraffiato* glazed ware (see the upper level of trench 2700). This phase may have been brief and seen limited occupation.

Finally, there is the medieval reoccupation during the Ayyūbid period, as noted by Baramki (fig. 5.19, period 4). This ceramic phase introduces geometric painted wares, slip-painted glazed ware, and new common forms.[25] Occupation seems to have been confined to the uppermost layer of the palace, associated with the final burning and abandonment of the structure. There are stray sherds from various other localities, including the Northern Area.

CONCLUSIONS

With a new perception of the duration of Khirbat al-Mafjar and its presumed historical phasing comes the prospect for a wider and more evolved functional complexity. Far from the simple "frivolity hall" drawn by Hamilton, one may perceive the changing configuration of an economic and administrative settlement. We are engaged in delineating an agricultural estate in the Northern Area, with a grape press and stables among the elements revealed. This entity is a sophisticated one that may have been intended to be "urban" and was developed in ways that may reveal aspects of settlement during the early Islamic period.

Study of photographs in the Rockefeller (Palestine Archaeological) Museum shows that numerous walls and buildings, usually labeled "intrusive," were removed in the course of excavating the Umayyad monuments. The pool or reservoir in trench 1700 was found only because it could be covered over; this feature must have been part of a large settlement of the ninth and early tenth centuries. In other words, the ʿAbbāsid town continued in the Northern Area and extended to the rehabilitated palatial complex long after the caliphs had left. The north became the main settlement, rather than the caravanserai it was once labeled, and the palace may have become the peripheral *khan* on the road to Jericho and the wider Islamic world.

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24 The term is a contribution of Oliver Watson (2004, 166–69) that is very useful in defining the earlier Islamic glazed wares in Bilād al-Shām.

25 Whitcomb 1988, 64.

POSTSCRIPT

On February 8, 2024, Donald Whitcomb, a research associate professor emeritus at the Institute for the Study of Ancient Cultures at the University of Chicago and a cherished colleague, passed away at the age of seventy-nine. Don was a pioneering figure in the field of Islamic archaeology and an inspiration to numerous scholars and students.

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6 KHIRBAT AL-MAFJAR REVISITED (I): THE NEW UMAYYAD MOSQUE WITHIN THE *QAṢR* AND ITS IMPLICATIONS FOR THE BUILDING SEQUENCE AND SETTING OF THE COMPLEX (A NEW UNDERSTANDING THROUGH ARCHITECTURAL STRATIGRAPHY AND LANDSCAPE ARCHAEOLOGY)

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University of Copenhagen, Spanish Archaeological Mission to Jordan, and German-Jordanian University

This chapter presents some preliminary results from my research in my capacity as specialist on architectural stratigraphy and heritage preservation for the Jericho Mafjar Project. This research, which has included the documentation, analysis, and reassessment of the built structures from the Umayyad complex of Khirbat al-Mafjar,[1] has led to relevant discoveries and a complete review of the buildings and their phasing as presented more than half a century ago by R. W. Hamilton,[2] as well as of the urban setting of the complex and its relation to the surrounding landscape.[3] One relevant example of the results of this work is the discovery of the first congregational mosque within the premises of the Umayyad palace (*qaṣr*) itself, a discovery that has triggered a thorough review of the architectural phasing of the entire complex. The new sequence of construction of the different structures suggested in the hypothesis presented here reveals a different and more dynamic history for the site. These new discoveries, together with others from the Audience Hall/bath that are also presented here preliminarily, greatly increase our understanding of the site and pose new, relevant, and intriguing questions.[4]

The review of the periodization of the site of Khirbat al-Mafjar is being carried out on the basis of the pottery retrieved in past and ongoing excavations,[5] on the one hand, and in the light of results from the

1 I take this opportunity to express my gratitude to the directors of the project, Dr. Hamdan Taha, director general of the Palestinian Department of Antiquities and Cultural Heritage from 1995 to 2013, and Dr. Donald Whitcomb of the Institute for the Study of Ancient Cultures of the University of Chicago, as well as to Mr. Jehad Yasin, current director general of the Palestinian Department of Antiquities and Cultural Heritage, for inviting me to participate in the project.

2 Hamilton 1959, 1969, 1988.

3 The study of the Jericho oasis by Michael Jennings as part of his doctoral dissertation at the University of Chicago triggered many joint visits and enriching discussions about the surrounding landscape and its influence on the various settlements—the precise focus of his doctoral work and of the chapter that summarizes its conclusions in this volume (chapter 8).

4 This research has been further developed within the framework of the Intra-European Fellowship Marie-Curie Grant Project awarded to me and titled "Understanding and Preserving Early Islamic Jericho: Towards a Management Plan for the Site of Khirbat al-Mafjar." This project aims to conduct further interdisciplinary research on this complex by assessing its present condition and reviewing previous research in order to draft a management plan that will guarantee its preservation and public enjoyment. The project involves researching how cultural heritage can become an engine of socioeconomic development, serve as a tool to reinforce the cultural identity of the local population, and establish intercommunity dialogue. This proposal intends to make an important step forward by building an analytical strategy based on the methodological principles of the archaeology of architecture—in other words, by using the monument as a document, a stratified repository of material and social information about its transformation and change in use, and by gathering all sources of information into interdisciplinary interpretative models. This integration of archaeological, technological, and historical research of the built heritage with its preservation and management provides the opportunity to find in the material culture sources of historical and technological information that present simultaneously the choice to understand its history and provide the technical knowledge required for its preservation.

5 See Whitcomb, chapter 5 in this volume.

stratigraphic analysis of the architecture and its setting in the surrounding landscape, on the other hand. The stratigraphic analysis has been conducted not only on the areas recently excavated (the northern area of the complex, with consistent post-Umayyad occupation) but also on the Umayyad buildings exposed in the 1930s and 1940s. This reassessment is gathering important evidence and revealing a more complex sequence of building activities during the very first stages of this site's history. In turn, this new understanding has led to a rephasing of the built structures of the entire complex during the Umayyad period itself.

A quick preliminary inspection of the site (fig. 6.1; see also fig. 6.6) reveals that it results from a complex sequence of multistratified architectural and urban planning interventions—including interventions also in the surrounding landscape, with walled agricultural estates, gardens, and elaborate hydraulic systems for their irrigation—a complexity that requires a diachronic and holistic approach for its analysis. Despite this impression, the ideas put forward by Hamilton decades ago still seem to prevail and remain points of reference for the interpretation of the site and its components. While the accurate recording of the pottery carried out by Baramki allowed the review of the archaeological stratigraphy some decades ago,[6] nothing similar has yet been attempted regarding the architecture and urban setting of the complex. This review is actually the main aim of my ongoing research within the Jericho Mafjar Project and the Intra-European Fellowship Marie-Curie research grant, the preliminary results of which are presented here.

This chapter is divided into three main sections. The first section deals with the research conducted on the architecture of Khirbat al-Mafjar using stratigraphic, typological, and technical analyses—research that has led to the discovery of the new mosque and a thorough review of the phasing of the complex (including all its buildings) during the Umayyad period. The second section attempts to find an explanation for oddities in the setting of the different structures within the complex—oddities that have remained devoid of a convincing explanation—by presenting a hypothesis based on the hydrogeological context of the site and its peculiar landscape that does offer a convincing explanation. The third section analyzes the preexistences recently identified at the site—for they suggest a sequence of transformation and change in use from the late Roman to the Umayyad period that reinforces the paradigm-of-transformation pattern I put forward here: Khirbat al-Mafjar would represent a further example reinforcing this interpretative model of transformation and change in use, in which abandoned Roman forts became monastic and palatial venues under the Ghassanids during the sixth century CE, some of them being transformed into Umayyad *quṣūr* in the seventh and eight centuries CE.[7]

CONSTRUCTIONAL AND STRATIGRAPHIC ANALYSIS OF THE ARCHITECTURE

DISCOVERY OF THE FIRST UMAYYAD MOSQUE WITHIN THE *QAṢR*

The analysis conducted has led to relevant discoveries regarding the sequence of construction and transformation undergone not only by the complex as a whole (fig. 6.1) but also by each of its individual components. In the case of the *qaṣr*, or "palace," it can be proved that it was constructed by first building the perimeter walls (including the semicircular and corner towers), against which the internal partition walls were built afterward. The perimeter walls were set parallel to the main points of the compass (with the exception of the south wall, which was set deliberately tilted, as discussed below). The partition walls abut the perimeter ones precisely at the points where some protruding ashlars (intended as keys to link them together) were purposely left in the internal face of the former to bind them with the latter. This procedure, which demonstrates the existence of a detailed and well-designed plan in advance, can also be found at other Umayyad palaces, such as Mshattā, and was certainly adopted from Roman military architecture.[8] The rooms defined by the partition walls are arranged along the perimeter in four sections or blocks, of

6 Whitcomb 1988.

7 Arce 2012, 2015a.

8 This procedure can be found at many Roman *quadriburgia* (military forts with corner towers) from the Tetrarchic period in the region—forts such as Qaṣr Bashīr/Betthorus (Arce 2010).

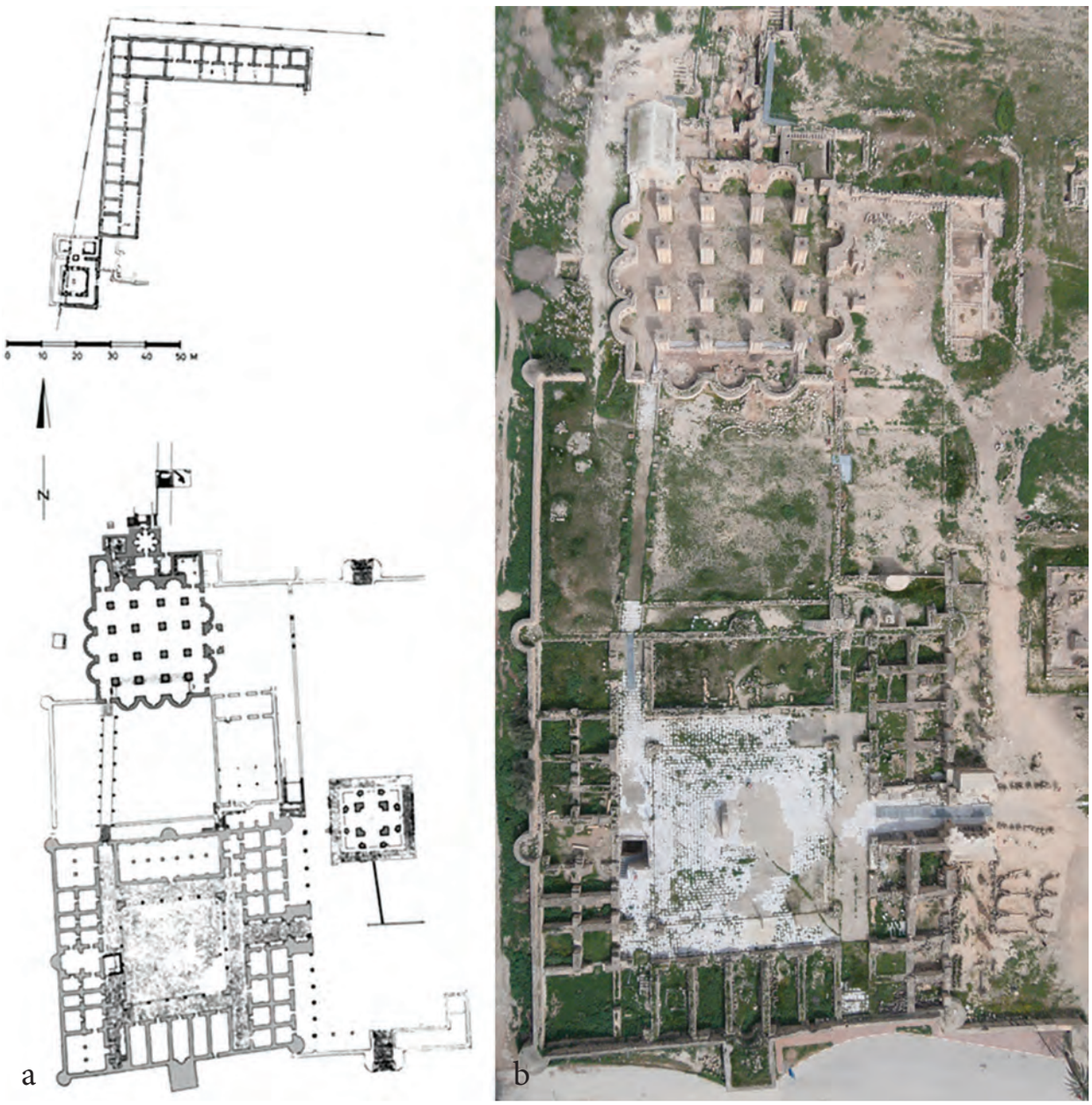

Figure 6.1. Khirbat al-Mafjar. *a*, General plan showing the three main sections of the Umayyad complex (corresponding to the "three . . . mounds" mentioned by Bliss) separated by open spaces: the *qaṣr* in the southern end, the Audience Hall with the *ḥammām* in the center, and the newly discovered Umayyad structures in the northern end (the so-called *ḍayʿa* with the winepress and auxiliary buildings). *b*, Aerial view of the main southern complex with the *qaṣr* (at the bottom), the Audience Hall with the *ḥammām* (at the top), and the open space between them. Photo by Michael Jennings.

which the eastern and western ones run from wall to wall, while the southern and northern ones occupy only the central area, in correspondence with the central courtyard (figs. 6.1 and 6.2; see also fig. 6.4a). This arrangement defines four "dead-end corridors" running north–south, in correspondence with the east and west bays of the courtyard porticoes (in a sort of *H* pattern in plan). In two of these corridors (the northeastern and southwestern ones) were built the staircases leading to the upper floor of the *qaṣr*.[9] The northwest-

9 The staircases were added in a later stage (as is evident from the fact that they abut the surrounding walls), suggesting the hypothesis of a first phase without an upper floor. Both the upper floor and the stairs, however, may have been planned in advance and intended for building in a later phase.

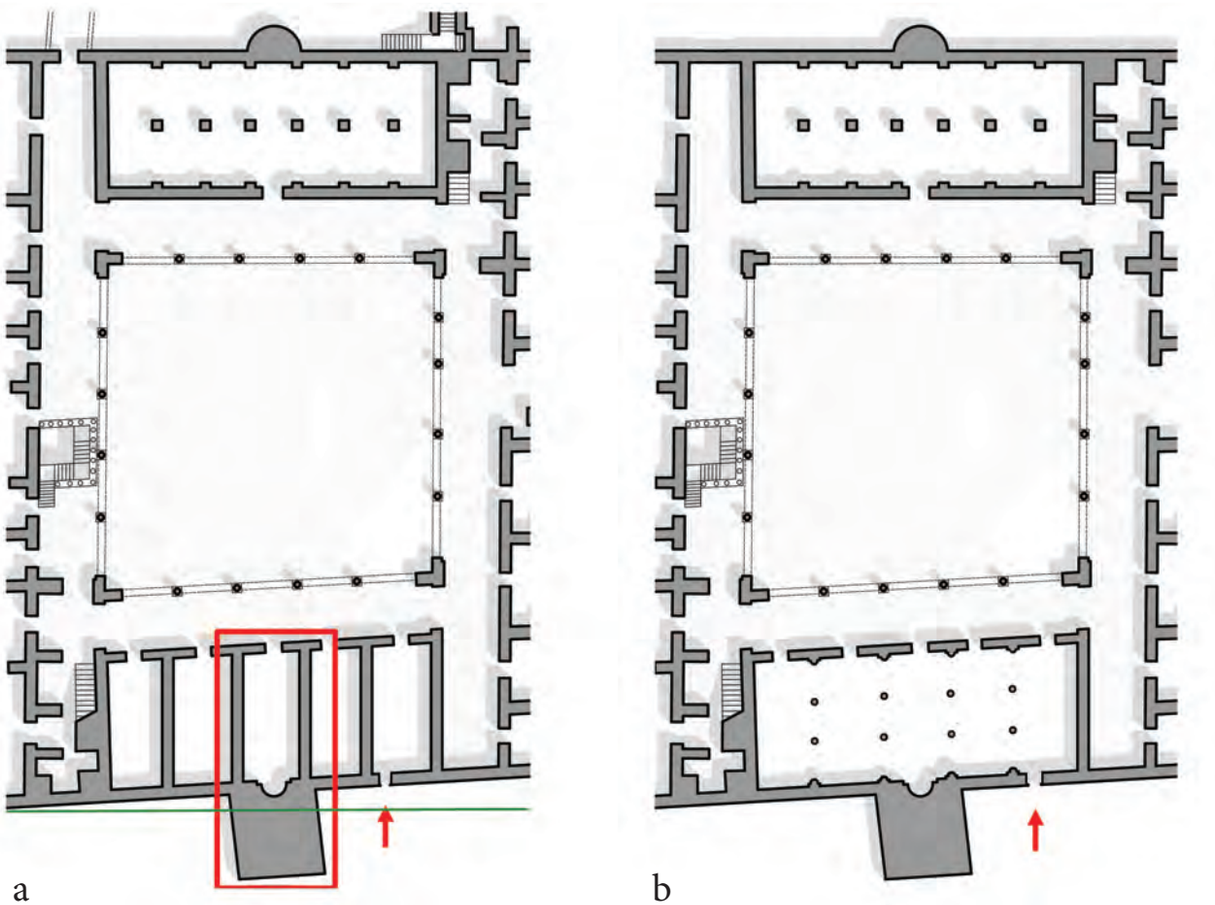

Figure 6.2. First congregational mosque within the palace (*qaṣr*). *a*, Current condition, after the refurbishment with the subdivision of the praying hall and the creation of the "private oratory." Note the large *miḥrāb*, the tilted orientation of the south (*qibla*) wall (and the entire southern block), the door piercing it, and the square tower (*mi'dhana*). *b*, Original (hypothetical) appearance of the mosque. Note how the courtyard of the palace acts also as the courtyard (*ṣaḥn*) for the congregational mosque.

ern corridor is occupied by a flight of steps leading to a door in the north wall that opens to a paved path leading to the bath and Audience Hall/bath building to the north. This door and its related steps were not part of the original plan but indicate a second phase, as can be deduced from the way the door was broken through the wall, with its new jambs built against the broken masonry.

The southern section or block of the palace is composed of five rooms of almost equal dimensions; the central room was identified as a mosque because of the large *miḥrāb* (prayer niche) built in its south wall. Placed within the thickness of the central semicircular tower, this *miḥrāb*—huge for the dimensions of the room—was clearly included in the original plan of the building. This southern section of the building is characterized by several singularities (figs. 6.2 and 6.3):

1. The small dimensions and awkward proportions (very long and narrow) of the mosque itself, which according to Hamilton would be explained by the character of "private oratory" he attributed to this mosque.
2. The disproportionate size of the *miḥrāb* (290 cm wide), which contrasts with the narrow width of the room itself (477 cm).
3. The fact that the walls separating the rooms of this southern section are not bonded to the southern perimeter wall of the palace but abut it directly; no protruding bonding keystones corresponding to these partition walls are found on the southern perimeter wall, while the height of the courses of the

Figure 6.3. First congregational mosque within the palace (*qaṣr*). *a*, View of the *miḥrāb*. Note the disproportion between its span and the width of the prayer hall, as well as how the late partition walls abut the *qibla* wall. *b*, Later partition walls abutting the end pilasters of the north wall of the original first congregational mosque. *c*, Later partition walls abutting the *qibla* wall and dividing the space of the original mosque.

former do not correspond with those of the latter—factors indicating that these partition walls were not part of the original plan (figs. 6.3a and 6.3c).[10]

4. The existence of a kind of "postern door" in the southern perimeter wall that gives access to the easternmost room of this southern block from the exterior; this door, contrary to the aforementioned door in the northern perimeter wall, is coeval with the construction of the southern perimeter wall and thus also part of the original plan.
5. The fact that the entire length of the southern perimeter wall is tilted a few degrees with respect to the east–west axis, apparently to fit the proper orientation of the *qibla* (Makka/Mecca-oriented) wall (being the only perimeter wall not orthogonal in the main setting of the building).
6. The discovery that the partition walls dividing the rooms of this southern block abut not only the southern perimeter wall but also the wall that separates the block from the courtyard without any bonding element. Actually, the northern ends of these partition walls abut small pilasters (rectangular in plan, with an attached semicolumn), which are attached to the north wall of this block (fig. 6.3b).[11]

All these observations lead to the conclusion that the partition walls dividing the southern block of rooms of the palace were not part of the original plan; instead, this entire southern block would have been a single room intended as the mosque of the palace (probably the congregational mosque of the complex and first Muslim settlement in the area). This conclusion would also explain the massive square tower (*mi'dhana*) built externally, in correspondence with the *miḥrāb*, for the call to prayer.[12] It was built against the intermediate semicircular tower, which hosts the *miḥrāb* (built, on its own, as a part of and simultaneously into the semicircular tower itself).[13]

The original "first mosque" would thus have had a wide prayer hall composed of five aisles, probably equal in width, divided by four triple-arched arcades perpendicular to the *qibla* wall (figs. 6.2b and 6.4a). The arches of each arcade would have rested on two intermediate columns and on the aforementioned pilasters at their northern end (which would have absorbed the thrust of each arcade). It is unclear whether at their southern ends the arcades would have rested on an attached column or—more probably—sprang from a corbel inserted in the *qibla* wall. Each of these five aisles would have opened to the court of the palace through its own door (each opening, after the partition, becoming the door of one of the new small rooms). The court of the *qaṣr* would also have been conceived and used as the court (*saḥn*) of the mosque, while the small door in the *qibla* wall would have given access to the prayer hall from outside the palace (as similarly with other Umayyad *quṣūr*; see below).

This setting would explain the tilting of the entire south wall of the palace following the *qibla* and imply that the location of the mosque in this section of the *qaṣr* was planned well in advance as part of the original design. The large *miḥrāb*, also part of the original plan, would become meaningful and more proportionate to the size of this mosque.

This scheme would also make sense of the small door that gives access to the easternmost room of the row. All the Umayyad palaces that include a congregational mosque within their premises have a small

10 According to the general procedure of the construction of the palace described above, the perimeter wall is built first, then the inner partition walls. The presence in the former of bonding keystones protruding outside its inner face shows that the corresponding partition walls were part of the original plan. Precisely the lack of this kind of bonding stone on this stretch of the south wall is a main piece of evidence for the hypothesis put forward here—namely, that these walls were added in a later phase dividing an original larger, single room.

11 A fragment from these pilasters was found among the remaining debris inside the mosque, demonstrating beyond any doubt the existence of these pilasters and their design in plan.

12 Hamilton himself writes that this square tower "may have served as a minaret" (Hamilton 1959, 9). Bloom mentions that in Madīna the very first *mu'adhdhin* (responsible for the call to prayer, *adhān*), Bilāl (al-Rabāḥ), sometimes recited the *adhān* from the top of a square pillar, called *al-Mitmār*, located behind the *qibla* wall, which he accessed by climbing a flight of steps (Bloom 2013, 29).

13 The addition of this square *mi'dhana* against the original semicircular tower can be ascertained in plan, but it can also be ascertained in elevation through the lack of correspondence of the square tower's masonry courses with those of the south wall. This is further evidence that the perimeter wall (with the circular towers) was built first, and all the partition walls and required elements attached to it, including this square tower, were added afterward.

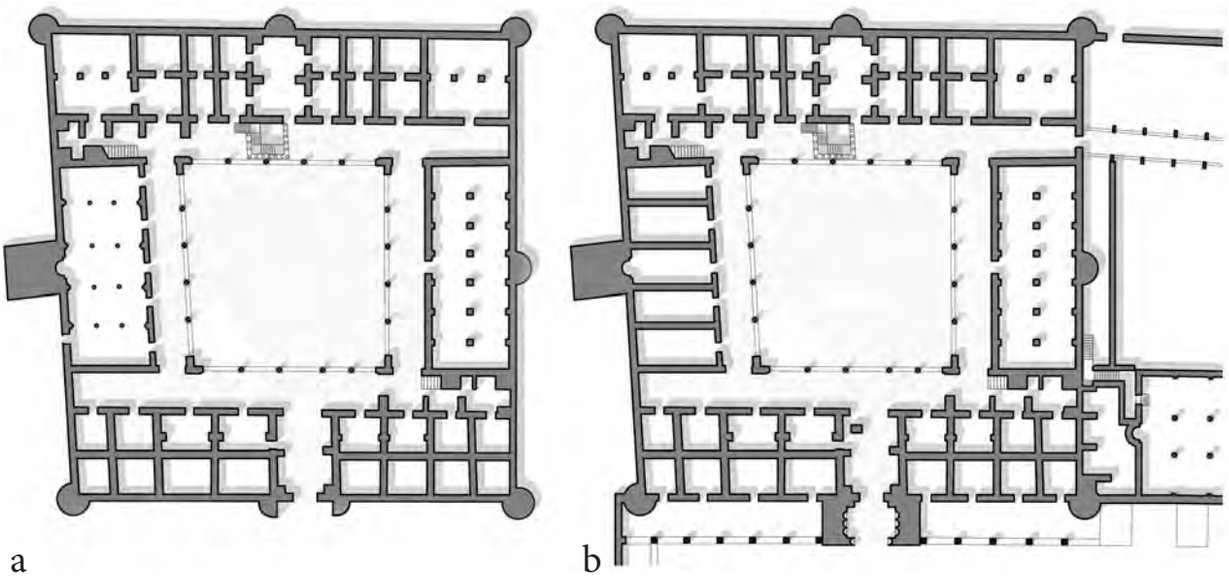

Figure 6.4. First congregational mosque within the palace (*qaṣr*). *a*, Hypothetical appearance of the original mosque within the self-standing *qaṣr*. Note how the courtyard of the palace also acts as the courtyard (*ṣaḥn*) for the mosque, the tilted orientation of the south wall (*qibla*), the door piercing it, and the large square tower. *b*, The palace after refurbishment, with the division of the prayer hall of the original mosque and the additions corresponding to the second phase (including the new congregational mosque outside the *qaṣr* and connected to it by means of corridors and staircases, and the new porch and the colonnaded portico).

door giving access from outside their precinct directly into the mosque, as in the case of Qaṣr Minya or the large enclosure at Qaṣr al-Ḥayr al-Sharqī (fig. 6.5). The location of this door, not always found on the *qibla*, indicates the approximate location of the extramural settlement.

This door has extraordinary importance, for it would indicate the approximate location of the extramural Islamic settlement built south and near the original *qaṣr* at al-Mafjar[14] (fig. 6.6). This mosque would have accommodated the first Muslim community and the workforce employed on the nearby agricultural estate, or *ḥayr*. This hypothesis would be reinforced by the location of the massive *mi'dhana* looking south. This tower, which we assume was intended for the call to prayer, would be meaningless for a small private oratory, but it would be essential, according to our hypothesis, for calling to prayer the community living in the hypothesized settlement to the south of the *qaṣr.*[15] The fact that the mosque would have been used by both the inhabitants of the *qaṣr* and those living *extra muros* (who would have entered through the small door in the *qibla*) would lead to identifying it as the congregational mosque of the Muslim settlement. In my opinion, the whole complex was conceived and built as a protourban Muslim settlement created near Ericha, following a "parallactic" model (see below). Thus this newly identified mosque inside the *qaṣr* would work as the congregational mosque of that community.

Furthermore, when we examine the resulting plan of the original building (fig. 6.4a), we realize that the courtyard of the palace could be used, when necessary, as the *saḥn* of the mosque to allow for the gathering of a larger number of worshippers (thus reinforcing our hypothesis of its being the congregational mosque of this new community). This court, nevertheless, could also be devoted to protocol and reception uses if oriented westward. This realization offers an interesting reading of the plan of the original building of the *qaṣr*, as the east–west axis (between the gate and the main reception hall) would thus be related to the protocol and reception activities that took place at the palace, while the north–south axis would be linked to

14 In this area, which enjoys a water supply from the same channel that feeds Khirbat al-Mafjar, still survive some adobe houses that may have been built on the remains of this hypothetical settlement and taken advantage of the water supply offered by this Umayyad hydraulic infrastructure.

15 It could also have served as a proper lighthouse (*manāra*) to illuminate at night an adequate path to reach the site through the barren landscape of the deep gullies and ravines of the wadis that surround the Umayyad compound.

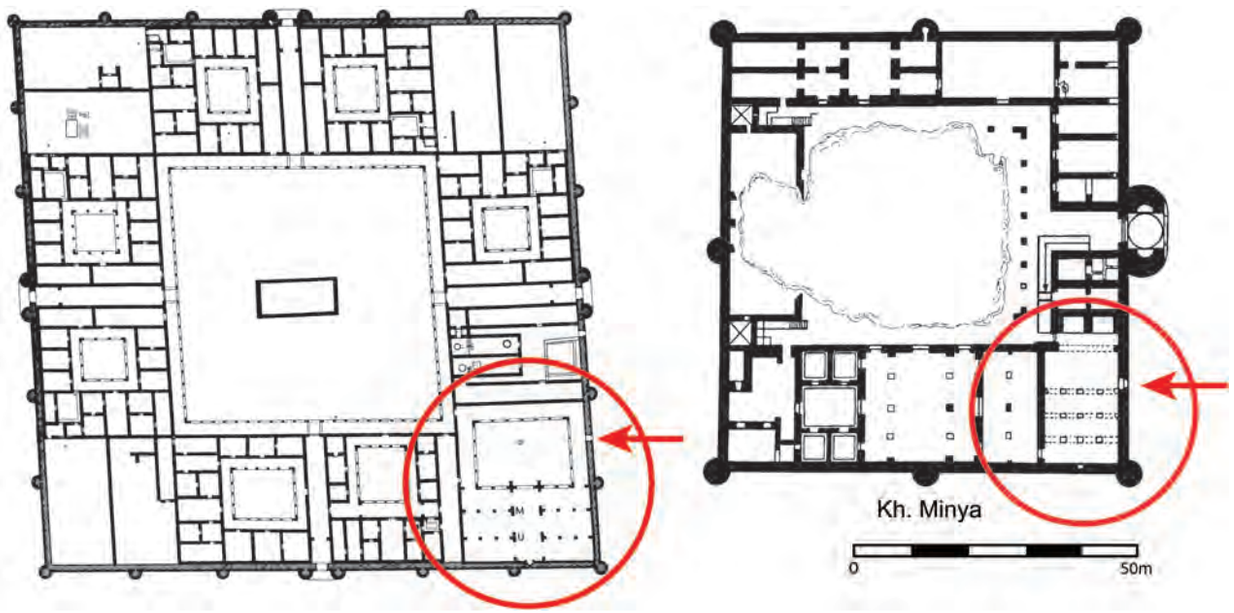

Figure 6.5. Qaṣr al-Ḥayr al-Sharqī and Qaṣr Minya: congregational mosques within the precincts of their respective palaces. Note the door pierced in the perimeter wall to give direct access to the mosque from outside the palace.

the religious use of the building as a congregational mosque. The court would be shared as the intersection of both axes in a scheme that would be retained in the later arrangement of the new congregational mosque and the Audience Hall/bath, built in the following phases (fig. 6.7).

The resulting plan of the original *qaṣr* (and especially the evidence that the original congregational mosque was built inside it and later moved outside) also reinforces the hypothesis that this original *qaṣr*, which would have gathered in its premises all the main functions and components of an Umayyad compound, would have been the first structure to be built in the complex—an order contrary to Hamilton's conclusions. It would have been refurbished in a later phase, when the whole complex was revamped, in a process not completely finished when it was destroyed by an earthquake in 749 CE.[16] Other evidence reinforces this conclusion:

1. The aforementioned fact that the door in the northern perimeter wall of the *qaṣr* (the door leading to the Audience Hall/bath building) was opened at a later stage, thereby breaking the original wall and being provided with new jambs and a flight of steps to connect the intramural and extramural floor levels.
2. The fact that all the walls and structures linking the *qaṣr* with the other structures of the complex (e.g., the path that leads out from the aforementioned northern door, the new perimeter walls, and the colonnade that connects the northern door of the *qaṣr* with the Audience Hall) abut the *qaṣr*, not the reverse.
3. The fact that the portico and main porch built alongside the eastern facade of the *qaṣr* are later additions to the original plan of the building, for they clearly abut the original masonry work of its perimeter wall.[17]

REPERCUSSIONS IN THE PHASING OF THE *QAṢR* AND THE COMPLEX

Both the physical transformations introduced in the complex and its buildings during the Umayyad period itself and the resultant Umayyad-period phasing were misunderstood in Hamilton's analysis. The lack of a systematic stratigraphic analysis for these additions and transformations—an analysis essential for

16 Neither were many other Umayyad *quṣūr* finished by the end of Umayyad rule (Mshattā, Qaṣr Ṭūba, Qaṣr Bāyir, etc.).

17 The doors in the eastern perimeter wall of the *qaṣr* opening to this portico also would have been opened in this later phase.

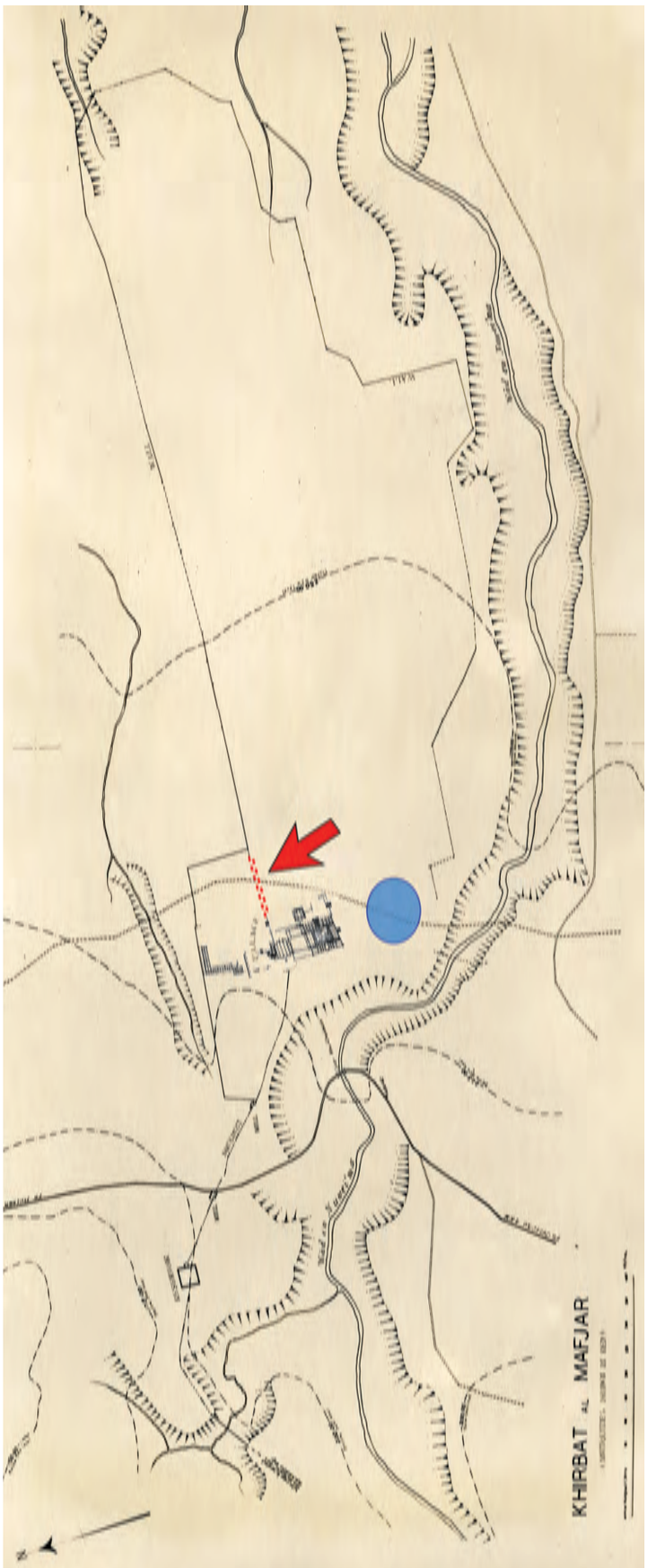

Figure 6.6. General plan of Khirbat al-Mafjar (Rockefeller Museum Archives, modified) showing the surrounding landscape of the site, including Wādī al-Nuwayma, which secludes the Umayyad complex from the Byzantine city of Ericha to the south, and all the auxiliary infrastructure elements and constructions—the agricultural enclosure (*ḥayr*) and the hydraulic infrastructures (aqueducts, bridges, reservoirs, and mills). The blue dot represents the location of the hypothesized settlement of the peasants working in the *ḥayr*. The settlement's inhabitants would have gained access to the identified first congregational mosque, built inside the *qaṣr*, through the small door opened in the south wall. They would have been called to prayer from the massive tower (*mi'dhana*) built against it. The segmented red line indicates the continuity of the original line of the aqueduct that fed the fields in the *ḥayr* before the Audience Hall and bath were built. The bypass to the north of the *day'a* allowed the continuous supply of water to the *ḥayr* once the abovementioned buildings were erected over the original aqueduct branch, taking advantage of its water supply for the bath and latrines.

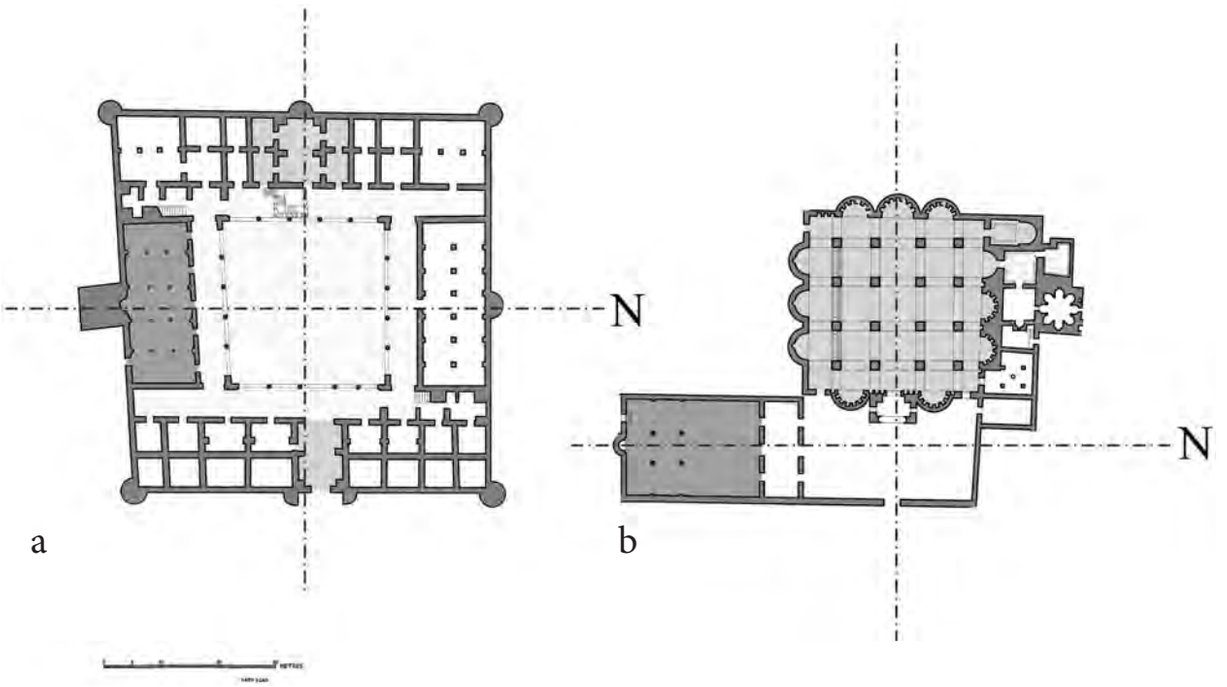

Figure 6.7. Khirbat al-Mafjar: axial relationship between the congregational mosques and the Audience Hall. *a*, In the original setting within the palace (*qaṣr*). *b*, In the later plan in the area of the Audience Hall building. Note how in both cases the north–south axis, related to religious use, crosses perpendicularly in the center of the shared courtyard with the east–west axis, related to protocol/representative activities.

achieving a correct sequence of interventions and building activities—misled and inevitably drove him to a series of erroneous conclusions. Among them, the most relevant one is the idea that the bath building and its Audience Hall predate the *qaṣr*—a conclusion based on circumstantial and incorrectly interpreted evidence (fig. 6.8a). Hamilton states:

> It can be demonstrated that the bath at al-Mafjar was an earlier building by some years than the residence, although both were assuredly parts of the same project. Not only was the structure of the bath and every detail of its ornament, as far as we could see, finished and whole, but there were thick crusts of lime in pipes . . . and deposits of soot and ash in flues and furnaces to prove that the building was not only complete but had been in use for at least some years. The palace gave a quite different impression. Some of its floors were still lacking; one room still contained roofing tiles stacked in a corner; another had plaster balustrade panels lying half-carved on the floor; here and there partly worked stone mouldings, builders' chips or mosaic *tesserae* littered the ground. In a word, the palace was an unfinished building when it was abandoned. The inference is unmistakable that an interval of time, probably measured in years rather than in months, separated work in the palace from completion on the bath.[18] If further evidence were needed it could be found in the haphazard and unco-ordinated sitting of the two buildings, the presence of workmen's graffiti in the palace and their total absence from the bath, and perceptible differences in the quality, selection and distribution of ornamental details.[19]

In the light of the evidence produced, what Hamilton assumed was a brand-new structure in the process of being built from scratch (the *qaṣr*) could more logically be interpreted as the refurbishment of a preexisting structure (as the transformation of the original first mosque and the construction of the new one proves)

18 In a footnote, Hamilton adds: "another interpretation of the facts, as that the palace was started first but abandoned shortly before completion, in order that it might be built and brought into use, seems too improbable for serious consideration."

19 Hamilton 1969, 61.

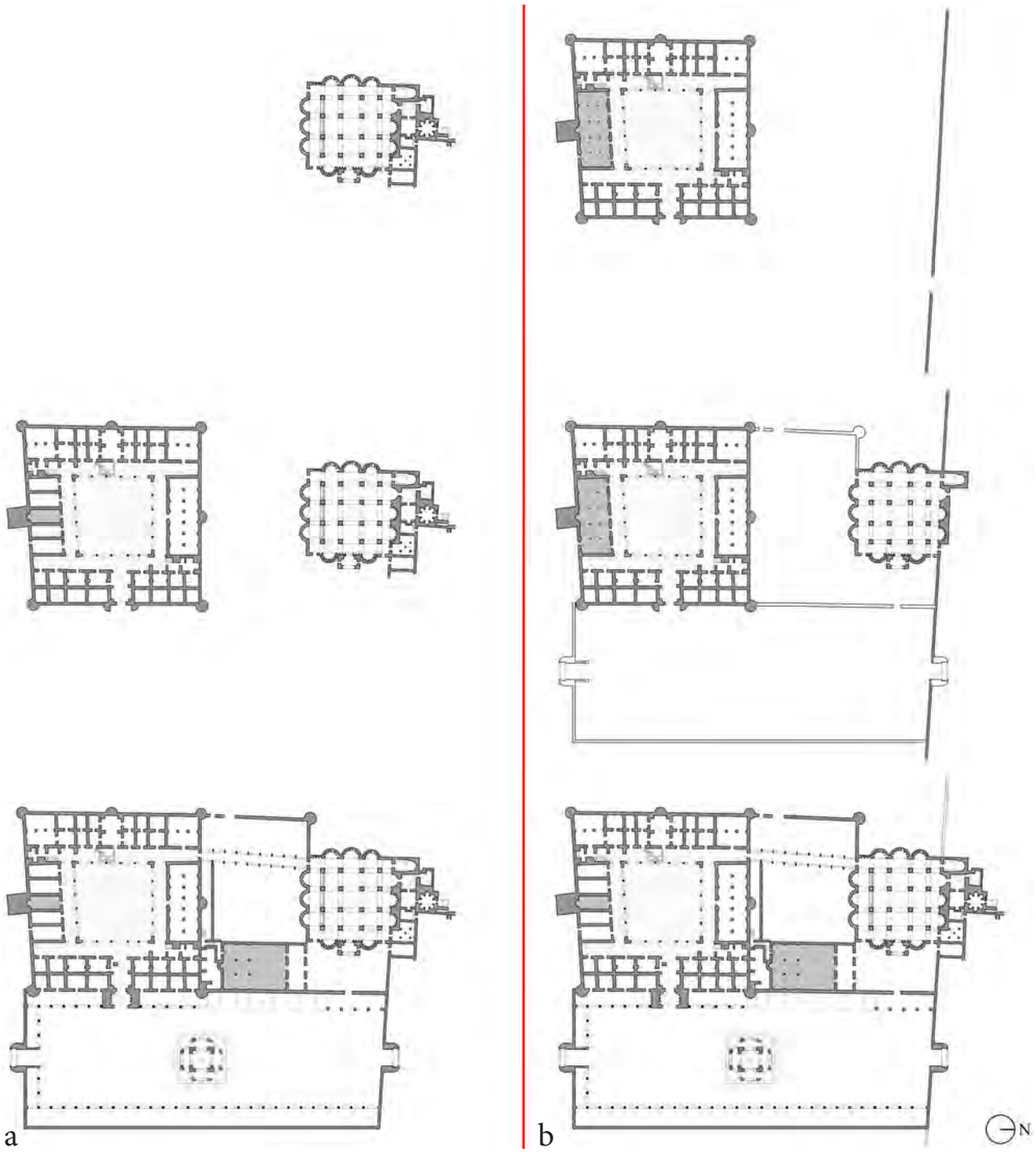

Figure 6.8. Hypothetical sequence of the construction of the buildings of the southern section of Khirbat al-Mafjar. *a*, Hamilton's hypothesis, with the Audience Hall and bath built as the first structure in the complex. *b*, My hypothesis, with the palace (*qaṣr*) standing alone as the very first structure, to which were later added the Audience Hall, bathhouse, new congregational mosque, and other structures, gathering all the elements into a single compound. Plan by I. Arce, elaborated from a plan drawn by V. Cantore and F. Erriquez, Bari University students.

within a general program of refurbishment and revamping of the whole complex that aimed at incorporating all the separate structures into a single compound.

The sequence I suggest (fig. 6.8b; see also fig. 6.16) would also make more sense from a functional point of view, since a bathhouse with a reception hall would logically be added to a preexisting residential building, not vice versa. This conclusion becomes more evident when we pay attention to the physical transformations and change in use of each structure and to the stratigraphic evidence of the related building processes; the traces that these interventions left and the stratigraphic relationships between the related architectural units denote a sequence of construction that corresponds to the hypothesis presented here.

According to this hypothesis, the *qaṣr* would have been the original nucleus of the complex, probably together with a small settlement to the south (likely built partly in mudbrick), the hydraulic infrastructures, and the *ḥayr*, including the buildings of the northernmost end of the complex.[20] Actually, the original layout of the perimeter wall of the *ḥayr* (incorporated in the new buildings) is clearly aligned with the remaining main section of the *ḥayr* wall (figs. 6.6 and 6.8b). This wall certainly also functioned as an aqueduct carrying water on its top, as it is directly connected with the water supply line coming from the main reservoir (fig. 6.6). Afterward, farther to the north, a sizable Audience Hall with an attached bathhouse was built, reusing the foundations of the preexisting wall of the *ḥayr*. This reuse would explain the odd orientation of the south wall of this new Audience Hall building (and would also reinforce my hypothesized building sequence). This arrangement left an open space between the *qaṣr* and the Audience Hall (in a "haphazard and unco-ordinated sitting," as Hamilton describes it), a result still left without adequate explanation in light of the aforementioned fact that the Audience Hall was built onto and attached to the *ḥayr* wall.

At a certain point, the desire to unify these structures in a single complex, and to embellish and enhance the monumentality of the complex further, led to its major refurbishment, which implied the construction of new structures following a new and singular urban plan that fulfilled those aims. A huge plaza was created in front of the two preexisting buildings; it was surrounded by porticoes, with two monumental gateways in its northern and southern ends,[21] plus a central fountain pavilion with a veranda in the upper floor, which was the central focus of this new space. This pavilion and the upper porticoes were used as belvederes for enjoying the views eastward toward the Jordanian plateau, the agricultural enclosure (fig. 6.9), and perhaps horse races. The desire to enjoy these vistas was certainly behind the lineal disposition of all the buildings of the complex; this desire oriented the buildings toward the east and turned their backs on the desolate landscape stretching westward (fig. 6.10).

This intervention implied the construction of a new congregational mosque outside the perimeter of the *qaṣr* aligned with its eastern facade, closing the gap between the palace and the bath building. During this phase of general refurbishment of the complex, the revamping and embellishment of the former *qaṣr* was probably also initiated.[22] The intention would have been to give to it a more private and residential use

20 According to this hypothesis, the Umayyad structures recently identified in the northern area (the winepress and the *ḍayʿa*, so called by its excavators), would have been built in one of the later stages; the *ḥayr* and its first wall (the foundations of which were incorporated in the Audience Hall and main forecourt north walls) would have been part of this first settlement. Later, after the construction of the Audience Hall, the bath, and the structures of the *ḍayʿa*, a new perimeter wall was built surrounding these new buildings and incorporating them within the walled premises of the complex. The hypothesis also explains the strange change of direction of the perimeter wall and of the flow of water to irrigate the agricultural enclosure seen in figure 6.6.

21 The north gate was discovered in the 2011 campaign of the Jericho Mafjar Project (see Whitcomb, chapter 5 in this volume).

22 These works were not finished when the earthquake destroyed the complex in 749 CE. This interruption of the revamping works misled Hamilton, who interpreted the palace as being built *ex novo* when it was destroyed by the earthquake. There are many examples of the transformation and revamping of Umayyad *quṣūr* during the short Umayyad caliphate, structures that were generally thought to have been built in a single phase, when in fact for many of them it was the opposite. On the demonstrable interruption in the construction works of the Umayyad palace of Qastal al Balqa and the transformation of its plan in a second phase during the Umayyad period (which entailed the construction of a new monumental gateway), see Arce 2018.

by transferring the public functions outside it,[23] with the protocol and religious functions being transferred to the newly built areas (the new Audience Hall and the attached new congregational mosque, respectively). The old congregational mosque now identified within the *qaṣr* was divided into five equally sized rooms, of which only the central room was kept as an oratory.

As a result of this intervention, the congregational mosque, which up to that point had been hosted inside the *qaṣr* (as in the aforementioned cases of Minya and Qaṣr al-Ḥayr al-Sharqī), was moved outside the *qaṣr* and away from both the residential and audience areas. This change seems to fit well with the trend identified at other sites, indicating that the progressive detachment and physical separation of the palace/seat of authority and the congregational mosque (*dār al-imāra* and *masjid al-jāmiʿ*), which would reach its full development in the ʿAbbāsid period, started already during the Umayyad period, as can be observed also at the ʿAmmān Citadel.[24] This detachment would require the construction of passages and private accesses (as can be seen in the new phase at al-Mafjar with the corridor connecting the area closest to the *miḥrāb* in the new mosque [the *maqṣūra*] with the *qaṣr* and the Audience Hall; fig. 6.8b bottom), or special rooms attached or close to the *maqṣūra*,[25] to guarantee security of transit between the two buildings, now set apart.

THE AUDIENCE HALL AT THE BATH BUILDING REVISITED: PRELIMINARY ANALYSIS

Ongoing analysis of the Audience Hall is also providing remarkable results regarding its phases of construction. Here we present only those phases relevant to the discussion of the evolution and growth of the complex.[26]

The mosaic pavements of the Audience Hall of the bath at Khirbat al-Mafjar are famous for their striking beauty and completeness. Despite all the analysis carried out,[27] apparently no one has paid attention to the fact that after the mosaic carpets were laid, some sections were cut away as a result of relevant transformations, reflecting an important change in the function of this hall from its inception until the latest stages of its use.

As a normal procedure in mosaic production, the decorative motifs (the "carpet") are separated from the walls and pillars by means of a plain band of white tesserae so that the carpet's decorative pattern can be adapted to the available space as defined by the architecture. These bands can be seen around the entire perimeter of the building and also around the pillars (fig. 6.11).[28] Surprisingly, no white perimeter band can be seen in front of the flight of steps of the pool (*natatio*) located in the southern bay of the building; here the mosaic carpets are cut or covered by these steps, indicating that the steps were added after the mosaics had been laid and in use for a certain period of time (fig. 6.12).[29]

The hypothesis triggered by this evidence is further supported by the brick and hydraulic plaster linings that cover the finely carved architectural elements of the southern apses/exedrae facing the *natatio*. Here all the colonnettes and the other fine architectural decoration of the exedrae were concealed by the bricks and plaster revetments intended to provide a waterproof lining that would guarantee its use as a pool (fig. 6.13a). Something similar can be ascertained from the awkward way the walls and steps of the pool abut the pillars of the hall, which would have been designed differently if such a pool had been planned in advance (fig. 6.13b).

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23 These works at the *qaṣr* were probably not undertaken until the new Audience Hall and bath buildings were finished so as to guarantee the usability of the complex.

24 An analysis of this issue with a special focus on the ʿAmmān Citadel case is presented in Arce 2009. In both cases (ʿAmmān Citadel and Khirbat al-Mafjar), this detachment between palace and mosque takes place within the palatine city/compound itself, which is secluded on its own, away from the lower city or extramural settlements where the populace lives.

25 See the building found behind the congregational mosque at the ʿAmmān Citadel, which could be accessed from the *maqṣūra* through a door opened in the *qibla* wall, slightly to the west of the *miḥrāb* (Arce 2009).

26 A more detailed analysis of this building was presented at the Islamic session of the 11th International Congress on the Archaeology of the Ancient Near East, which took place in Munich in 2018. See Arce 2020, where further research on this building and the surrounding area is presented.

27 Hamilton 1959; Taha and Whitcomb 2014–15.

28 Hamilton 1959, pls. 60.28, 82.

29 Hamilton 1959, pls. 60.23, 80.15.

Figure 6.9. View of the cultivated land to the east of Khirbat al-Mafjar, corresponding to the Umayyad agricultural enclosure (*ḥayr*), with the Jordan Valley and Jordan Heights in the background.

Figure 6.10. View of the Mount of Temptation (Jabal Qurunṭul) and the Judean desert mountains at the back (west) of Khirbat al-Mafjar.

Further evidence forces us to consider an alternative hypothesis regarding the transformation and change in use of this building during the Umayyad period itself: it is clear from the stratigraphic and constructional evidence that the Audience Hall and the actual bathhouse (*ḥammām*) were not built simultaneously, though the addition of the bathhouse seems to have been planned in advance (figs. 6.14 and 6.15). Meanwhile, the apses/exedrae from the east, west, and south walls project outward and are seen from the exterior also as apsidal structures; those from the north wall are embedded in a massive structure ending in

a flat wall facing the bathhouse to the north. This flat wall was planned in advance to allow the rooms of the bathhouse abutting it to be built in a later stage of the construction process. Actually, this wall presents the required hydraulic infrastructure for the construction of the annexed *ḥammām* as already part of the wall, like the built-in flues to evacuate the smoke from the hypocaust (to be built attached to this wall) or the large water channel to feed the bathhouse and related latrines (fig. 6.15). This arrangement demonstrates that the Audience Hall and the actual bath, although part of the same plan, were built one after the other.

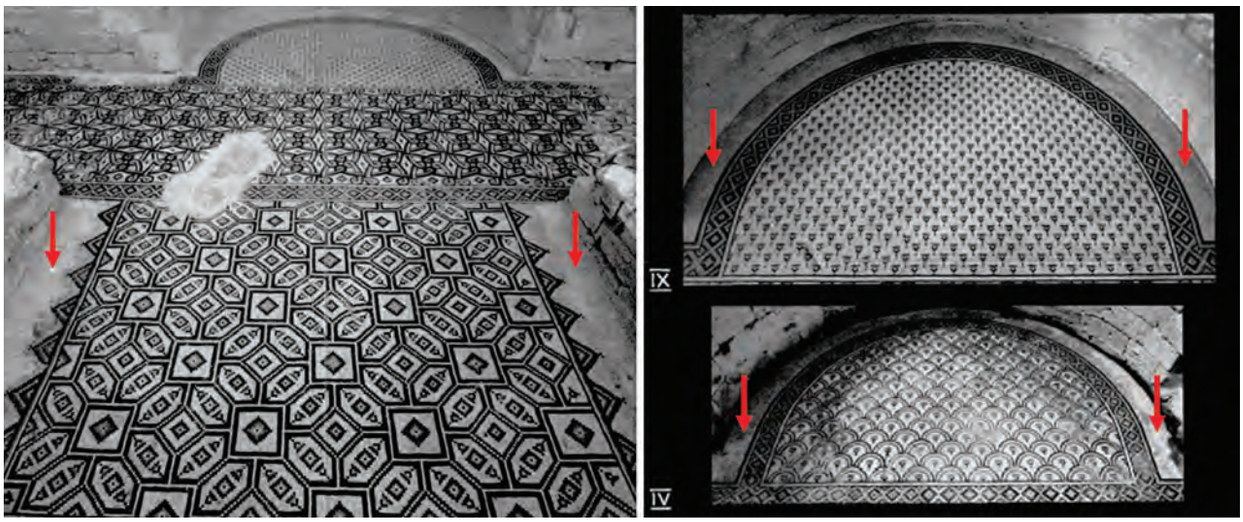

Figure 6.11. Audience Hall and bath building: mosaic floors of the Audience Hall. Note the band of plain white tesserae along the walls and around the pillars (Hamilton 1959, pls. LXXXII, LX-28).

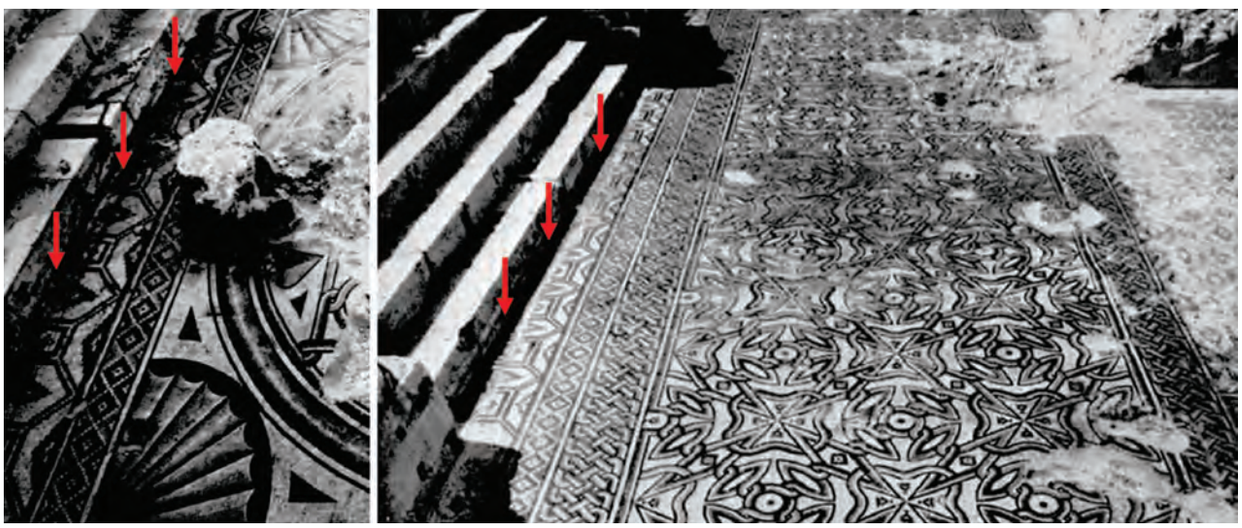

Figure 6.12. Audience Hall and bath building: mosaic floors covered/cut by the walls and steps of the pool in the Audience Hall (Hamilton 1959, pls. LX-23, LXXX-15).

The fact that this building was built in two consecutive stages[30] also implies that until the time the bathhouse and the related pool within the hall were built (fig. 6.14a), the Audience Hall was used solely for aulic and reception purposes[31] (fig. 6.14b) and not as a monumental *frigidarium*/*apodyterium*[32] (i.e., a supposed combination of a cold room with a changing room which, accordingly, did not require the construction of

30 Note also that the Audience Hall was built within the original premises of the wall-enclosed *ḥayr* (against its northern perimeter wall), while the bath itself was built *extra muros*, probably added after the northern area and its new enclosure wall were already built.

31 The aulic/representative use of baths as reception halls for audiences is a main characteristic of the Umayyad *ḥammām*s and a clear expression of their social role, as part of their clientele policy, addressed mainly to the Bedouin tribes. The increasing size of the rooms devoted to that purpose (*frigidaria/apodyteria*, which became true basilical halls) is a clear trend in the typological evolution of Umayyad *ḥammām*s and reveals the increasing relevance of this use. This trend reaches its peak at al-Mafjar, where we find a huge and almost independent reception hall with a dwarfed bathhouse attached to it. Detailed analysis and plans demonstrating this evolution are gathered in Arce 2015b, fig. 23.

32 The niches in the internal face of the perimeter wall of the Audience Hall have been interpreted as "lockers" for the clothes of bathers, but they could have been devoted to other purposes, such as the placement of decorative sculptures.

Figure 6.13. Audience Hall and bath building. *a*, Details of the exedrae from the south side of the Audience Hall, covered by the bricks and plaster revetment to install the pool (*natatio*). *b*, Detail of the steps giving access to the *natatio*, covering awkwardly the molded bases of the pillars.

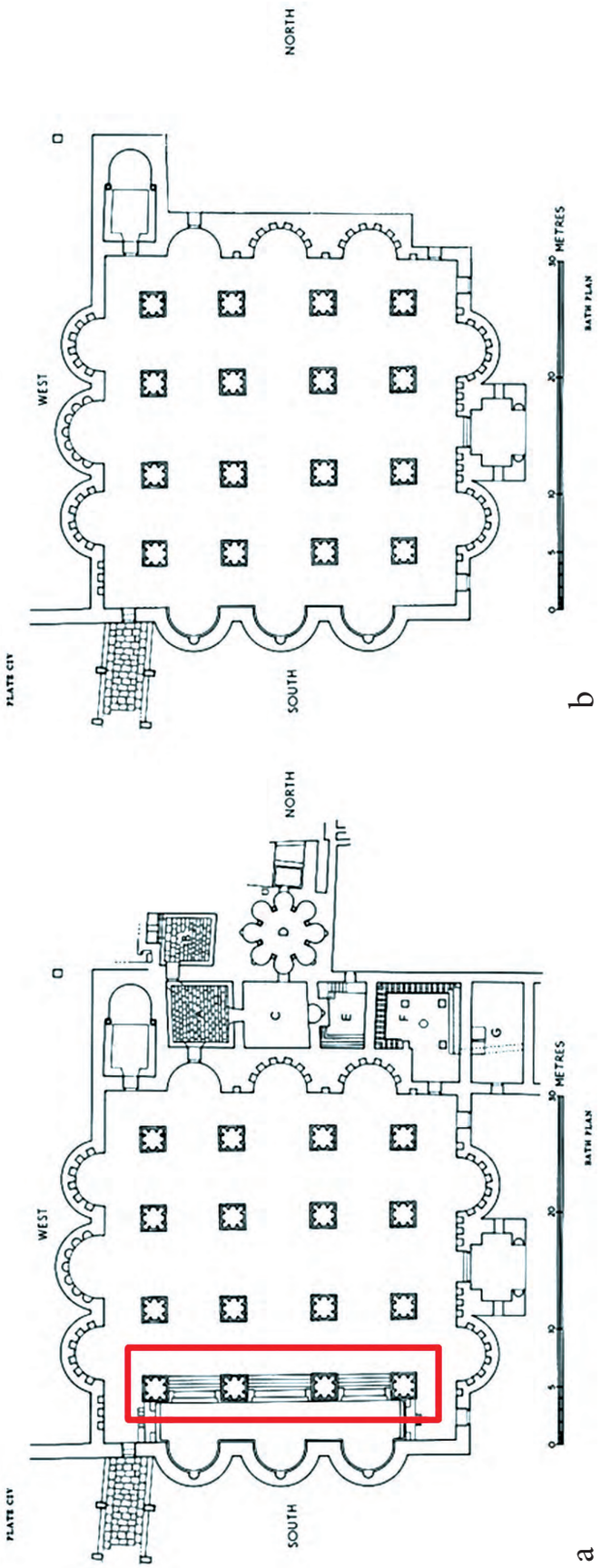

Figure 6.14. Audience Hall and bath building. *a*, Plan of present condition with the annexed bathhouse, the latrines, and the inserted pool. *b*, Plan of original condition in the first stage of construction without these elements and with only the so-called *diwān* or *bahw* (the private, northwesternmost chamber in the Audience Hall) built simultaneously with the main building.

Figure 6.15. Audience Hall and bath building: elevation of the north wall of the Audience Hall building, looking north toward the bathhouse. This straight and flat external elevation (contrasted with the other elevations, which denote the existence of the exedrae) shows the intention to have the bathhouse built against it in a second stage. The fact that it was planned in advance can be also ascertained from two extra features: (1) the flues for the evacuation of smoke from the *hypocaustum* that were built in advance inside the wall (and allowed heating the wall chamber built with *tubuli*, the imprint of which still can be seen, precisely at the height of the mentioned flues); (2) the built-in step in the wall that supports the pipe that brings water to the bathhouse and latrines. Orthorectification by I. Moscoso.

the *natatio*). That the mosaics were laid and afterward covered/cut by the pool stairs would confirm this indeterminate period of use solely as a reception hall.[33] During this time, the subterranean bath (*sirdāb*) at the palace building probably fulfilled the required needs of a bath—namely, providing refreshment in the subtropical weather of the Jordan Valley. It remains unclear whether the construction of the *natatio* within the Audience Hall was planned in advance (like the bath itself) or resulted from a change in the plan during the construction of the bath. Additionally, it should be noted that in the bathhouse itself a small *frigidarium* (Room B in fig. 6.14a) with two bathtubs[34] was added to the complex at a later stage (in what would be a third building phase), probably because it was neither convenient nor comfortable to cross the entire Audience Hall to plunge into the pool.

PRELIMINARY CONCLUSIONS ON THE ARCHITECTURAL PHASING

Identifying the changes implemented inside the original *qaṣr* is of paramount importance for understanding the site as a whole. These changes confirm the existence of two phases of use of the *qaṣr* during the Umayyad period itself and a more elaborate and articulated architectural phasing for the whole complex. According to the hypothesis presented above, the first phase (fig. 6.8b top) corresponds to the *qaṣr*'s existence as a self-standing structure with the congregational mosque inside its premises. This configuration and use of the *qaṣr* would have been retained during the construction of the building of the Audience Hall/bath. (As we have further shown, the Audience Hall was built before the attached bath; see fig. 6.8b middle.) Later—probably because of a change in the hydrologic conditions of the area, according to a hypothesis described below—the two buildings were integrated into a single unified compound (fig. 6.8b bottom). This plan implied the construction of the new congregational mosque outside the palace and the refurbishment of the original *qaṣr*, works that were interrupted by the 749 CE earthquake and never finished.

EXPLAINING THE ODDITIES OF THE SETTING OF THE COMPLEX

Despite the clarification of the construction phasing, the reason behind the unusual setting of the complex and especially of what Hamilton described as the "haphazard and unco-ordinated sitting of the two main buildings"[35] (i.e., the palace and Audience Hall/bath) remains an unanswered question. A convincing explanation for this oddity—based on the sequence of construction of the complex presented above,[36] on the landscape,[37] and on the hydrogeology of the area where the complex was built—is presented in the following pages. This hypothesis would be further supported (and refined) by the existence at the site of different, recently detected pre-Umayyad structures, which will be presented and discussed in the last section of this chapter.

SETTING WITHIN THE NATURAL AND GEOGRAPHIC CONTEXT

Within the Jericho oasis, Khirbat al-Mafjar is placed in a strategic and well-defended location that takes advantage of the deep gullies and ravines of the surrounding wadis, which offer a natural defense. The abrupt profile of these usually dry courses for water, which behave as actual moats, provides the site with peculiar seclusion from the surrounding area (fig. 6.6), especially from Ericha, the main urban settlement in the oasis

33 See above, n. 31. Curiously, Hamilton does not consider this representative value of the baths. On the contrary, he states regarding the use of the huge Audience Hall of the bath building: ". . . for whatever affairs the luxurious setting provided, they were not affairs of state . . . bathing was never an affair of state" (Hamilton 1959, 103).

34 Hamilton suggests that these were the bathtubs al-Walīd II used to dip into wine, according to the account of ʿUṭarrad quoted by the tenth-century scholar and poet Abū al-Faraj al-Iṣfahānī in his *Kitāb al-Aghānī* (*Book of Songs*) (Hamilton 1988, 35 and n. 19).

35 Hamilton 1969, 61.

36 The fact that the Audience Hall was built against the original north wall of the *ḥayr* is key in this analysis.

37 For a detailed analysis of the surrounding landscape, see Jennings and Lauricella, chapter 8 in this volume.

during the Byzantine period. The Umayyads chose this spot to establish their new settlement away from the extant (and potentially hostile) urban center in which the majority of the Christian population lived. This settlement followed a *parallactic* model (building beside and away from the preexisting settlement) instead of a *palimpsest* model (building a new urban layer atop the preexisting one).[38]

Despite its peripheral setting at the edge of the oasis, al-Mafjar's location still allowed control of the routes that meet in the oasis of Jericho: those running north–south along the Jordan Valley from the Negev toward Baysān and the Sea of Galilee (plus the one leading out toward Nāblus), and those running east–west between Jerusalem and Dhibān in the Transjordanian Highlands. This peripheral location within the oasis itself also provided the Bedouin (who represented, as already mentioned, the main political and military support of the Umayyads) with easy access to the complex, which was, like other Umayyad *quṣūr*, the venue for performing the clientele policy assigned to them by the Umayyad elite.[39] Simultaneously, it offered ideal conditions for establishing a prosperous agricultural estate of great economic value with a source of water independent from that of Byzantine Ericha (which would be renamed *Arīḥā* in Arabic).

The flow of water in the perennial and seasonal streams of the Jericho plain is directed mainly eastward across the oasis, from the Mount of Temptation (Jabal Qurunṭul) and the Judean desert highlands in the west toward the Dead Sea. In the rainy seasons, violent and destructive flash floods can take place in these watercourses, floods that can even shift wadi beds, making it advisable to leave enough space between the dry streambeds and built infrastructures to avoid their being damaged in the event of flooding. The seasonal and unpredictable nature of these watercourses does not allow them to be used as a reliable source of water, necessitating the construction of hydraulic infrastructures to provide a permanent source of water, such as only the perennial springs at ʿAyn as-Sulṭān and the Wadi Qilt/Qelt and another spring upstream in the Wadi al-Nuʿayma can provide. The former two springs have been the traditional sources of water in the oasis from the prehistoric through the Classical period because of the ease of both accessing and channeling water from them to the settlements and fields. The Umayyads chose the latter spring as their source of water despite the fact that this choice implied the need to build an impressive (and expensive) hydraulic system (aqueducts, water bridges, water deposits, and mills) to store, use, and direct the water from the spring to the site of Khirbat al-Mafjar, where they built their settlement. This infrastructure offered them a source of water independent from the one used by the Christian inhabitants of Ericha.

The three main built areas of the Umayyad complex of Khirbat al-Mafjar (the palace, Audience Hall / bath, and north area—the *ḍayʿa*) are aligned from south to north,[40] with their walls parallel to the main directions of the compass and leaving some awkward, open, almost unbuilt spaces between them (fig. 6.1a). In the following pages I will seek to demonstrate that this south–north alignment of the complex was determined not only by the evident desire to enjoy the view and control the agricultural estate and its fields lying to the east of the built structures, but also by the constraints of the hydrogeological context of the land on which it was built. Further, I will explain how the odd discontinuity of the built areas described above was also related to this hydrogeological context—namely, that it was intended to prevent damage from potential floods from the wadis running across the site, thus minimizing the risk posed by unexpected changes in the course of these branches of the Wadi al-Nuʿayma[41] as a result of the frequent earthquakes in the region and the violent flash floods themselves.

The complex and all its buildings are set along a north–south line and face eastward to take advantage of the view of the plantations within the walled *ḥayr* and toward the Jordan Valley, Dead Sea, and Transjordanian plateau (fig. 6.9). These views were enjoyed from the new pavilions and elevated porticoes

38 This trend will be kept as a characteristic of the construction of new cities in the Islamic period, giving birth to the phenomenon of the "double city" or *al-madīnatayn* (Arce 2009). For this reason, I do not consider al-Mafjar a "rural" settlement but a "suburban" one.

39 Arce 2012.

40 These areas correspond to the "three . . . mounds" already described by Bliss: "They formed three distinct mounds aligned roughly north and south, and separated by strips of low ground" (Hamilton 1969, 23, quoting Bliss 1894).

41 Some of these wadis still carry water across the site today.

designed ad hoc during the second stage; they left at their back, to the west, the barren landscape of the Judean Desert mountains and the Mount of Temptation (Jabal Qurunṭul; fig. 6.10).

According to my hypothesis, "the haphazard and unco-ordinated sitting of the two buildings [palace and bath]" described by Hamilton[42] would be the inevitable solution to prevent the risks posed by this hydrogeological context—it would be the result of a prudent decision to build on safe ground, away from the beds of wadis (even old, dry ones) and leave open spaces between the main buildings to minimize the potentially destructive effects of future flash floods. Thus the odd setting of the Umayyad complex could be explained by the existence of these "dry" courses running across the site and the change of their beds throughout the years.

Further, that one of these dry streams, which runs between the two main buildings and is aligned with the main course of the Wadi al-Nuʿayma at that precise point (fig. 6.6), was probably still flowing when the "first" *qaṣr* was built[43] and the Audience Hall / bath building was added (and was thus seen as a potential threat) could explain the open space between the two buildings. Later, the diversion farther to the north of this stream running between the two main buildings (perhaps as a result of a man-made operation[44]), or a perceived reduction in risk, allowed the eventual linking of these buildings to form a single compound and the implementation of the ambitious new plan. But even at this stage the chance of a flash flood in that dry course was perceived as a potential risk, and for that reason a water gate was left open in the new perimeter wall surrounding the complex at the point where it crossed the bed of the wadi (see below, with fig. 6.17).

To understand the risk posed by these natural disasters, it is relevant to quote the account of an anonymous thirteenth-century (1234 CE) Syriac chronicle, which seems to be based on much earlier records kept in the Christian community. This source provides a vivid account of miracles and natural disasters. Among them is a description of the damage inflicted by an earthquake on Sulaymān's (r. 715–17) property at Jericho, most probably in 717 CE:[45]

> The spring, however, which is situated near Jericho at which Sulaymān b. ʿAbd al-Malik had built citadels (*arces*), gardens (*horti*), and mills (*molae*), this spring itself stayed in its position, **but the river which rose from it changed its course and receded six miles from the place in which it used to flow** [boldface added]; thus it was that all the constructions made on this river by Sulaymān perished.[46]

This account describes the drastic changes that earthquakes and floods can have on the course of these wadis. It is also remarkable because it is the only specific record of these properties that identifies Khirbat al-Mafjar as belonging to Sulaymān b. ʿAbd al-Malik, who was the governor of the Jund Filasṭīn during the caliphate of his brother al-Walīd I (r. 705–15 CE). It is thus the only document specifying them as properties of the Umayyad elite. No proper inscription was found *in situ* during the excavation—only a graffito mentioning the caliph Hishām.[47] Accordingly, therefore, we could consider the first stage of the complex as the work of Sulaymān and the later refurbishments the work of one of his heirs and successors.[48]

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42 Hamilton 1969, 61.

43 It would have occasionally flooded and fertilized the *ḥayr* in rainy seasons, as it flowed directly inside its premises. Flooding was a risk because the flow of floodwater was not controlled.

44 It remains unclear whether this change was man-made (guided by a monumental urban plan conceived in advance) or the planners took advantage of a natural change.

45 Published by I.-B. Chabot in a Latin translation and quoted in the postscript of Hamilton's book *Walid and His Friends*, without further bibliographic reference, merely mentioning Robert Schick as the person who called his attention to this text (Hamilton 1988, 175). The earthquake mentioned may have been one of those that occurred in Syria in the beginning of the eighth century, perhaps 717(?) and not 749 CE, though in his catalog of earthquakes Ambraseys (2009, 224–26) does not specifically refer to Jericho under this event. The damage it caused may have been the reason for the revamping of the *qaṣr*, which took place during the latest building phases.

46 Anonymi Auctoris, *Chronicon ad annum Christi 1234 pertinens*.

47 Hamilton 1959, pl. 70.1.

48 If this property (and the first *qaṣr*) had belonged to Sulaymān b. ʿAbd al-Malik, then after his death in 717 CE it should have passed to another member of the dynasty, perhaps to ʿUmar b. ʿAbd al-ʿAzīz or Yazīd b. ʿAbd al-Malik, his designated successors. If Yazīd had been the beneficiary, the property might have been transferred by him to his successor, Hishām

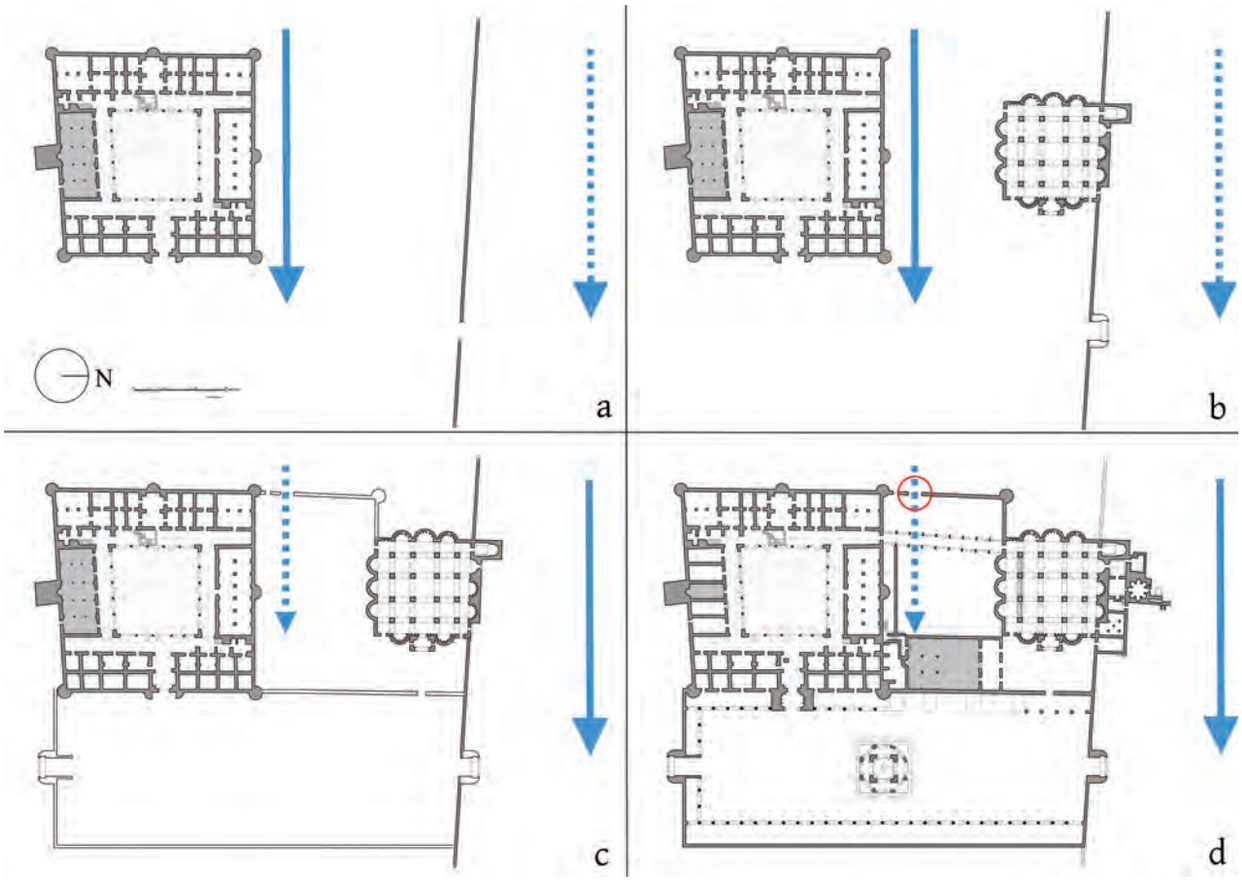

Figure 6.16. Hypothetical sequence of the construction of the buildings in the southern section of Khirbat al-Mafjar in relation to the presumed streams running across the site. *a*, Original palace (*qaṣr*) with a main stream running immediately to its north. *b*, Construction of the Audience Hall (the proper "bath" building being added later), with the stream probably still running between both buildings. *c*, Stream diverted farther to the north. *d*, This new situation allowed the intervention that brought both buildings together into a unified single complex (which entailed the construction of the new congregational mosque, the porticoed forecourt with the pavilion, and the bathhouse attached to the Audience Hall). Simultaneously with this intervention would have begun the revamping of the "old" original *qaṣr*, the enriching of its decoration, and the removal outside its premises of the congregational mosque. Plan by I. Arce elaborated from a plan drawn by V. Cantore and F. Erriquez, Bari University students.

Thus the phasing would find an even clearer explanation: the first *qaṣr* would have been built to the south of one of the streams that runs across the site (fig. 6.16a); later, when the new Audience Hall/bath was added to the complex, it was built far away from the palace to keep clear the space where this stream runs (fig. 6.16b), as it would not have been sensible to build on the bed of a stream even if it was then already dry. After the construction of the new Audience Hall and bath, the course of the main stream underwent another change, being shifted to the north, between the bath building and the *ḍayʿa*, in an open area where still today a stream occasionally flows (fig. 6.16c; see also fig. 6.18 below). Then, probably as a consequence of this change, the new plan to connect the palace and the Audience Hall/bath to form a single compound was designed and implemented. This changing of the stream's course could have resulted from a flash flood, an earthquake, or even a man-made intervention intended precisely to unify the preexisting structures in the southern section of the complex functionally and visually with the construction of the porticoed yard or forecourt (fig. 6.16d), creating a belvedere with a raised observation deck (the central fountain pavilion) overlooking the cultivated fields and fine landscape to the east.

b. ʿAbd al-Malik, or his own son al-Walīd b. Yazīd, who could have implemented the later refurbishment, thus solving this apparent incongruence between historic accounts and material evidence.

Figure 6.17. Sunken arch ("water gate") in the western enclosure wall, opened apparently at the point where the bed of a dry stream crossed the line of the wall, running afterward between the two main buildings (the *qaṣr* and the Audience Hall) through the open space left between them. The location of this water gate is circled in red on the plan in figure 6.16d.

But probably fear that a new shifting of the course of the wadi could return the main streambed to its original course prevented the Umayyads from building major structures in this area between the palace and the bath, where the stream apparently used to flow. Actually, this area was left open (and was probably intended as a private garden that could occasionally be flooded). Concern about a future shift in the wadi's course can also be detected in the new perimeter enclosure wall built to the west, linking the palace and the bath, where a large sunken arch (a sort of water gate spanning almost 3 m) was opened at the point where the original stream flowed across the line of this new wall (fig. 6.17). In the case of flash flooding, this gate would allow the water flowing through it to flood the empty space between both buildings—space that would act as a "flood plain"—thus preventing or minimizing major damage. The connection eastward between the two buildings was achieved with the construction of the new congregational mosque (aligned with the front facade of the palace) and the porticoes of the forecourt that ran continuously in front of all the preexisting buildings, thereby unifying them visually.

THE PREEXISTENCES: THE PARADIGM OF TRANSFORMATION OF LATE ROMAN FORTS INTO MONASTIC AND PALATINE VENUES

MAKING SENSE OF THE REMOTE-SENSING SURVEY: THE LATE ROMAN FORT HYPOTHESIS

In February 2014, a series of remote-sensing surveys (magnetometer, resistivity, and ground-penetrating radar) were carried out by Dr. Andrew Creekmore, from the University of Northern Colorado, as part of the Jericho Mafjar Project. The then Oriental Institute of the University of Chicago published the preliminary results in its annual report, including the hypothesis put forward by Creekmore and Donald Whitcomb.[49] It should be noted, however, that the most remarkable characteristic of the walls identified in the survey is the tilted orientation of most of them, in contrast with the "Cartesian" orthogonal arrangement of the exposed Umayyad structures (oriented north–south according to the points of the compass). These two ways of setting buildings correspond, respectively, to patterns that can be identified, on the one hand, in most late Roman forts from the Limes Arabicus (with a tilted orientation of approximately 25 degrees in relation to the east–west orientation)

49 Whitcomb 2015, 80–84 and fig. 2.

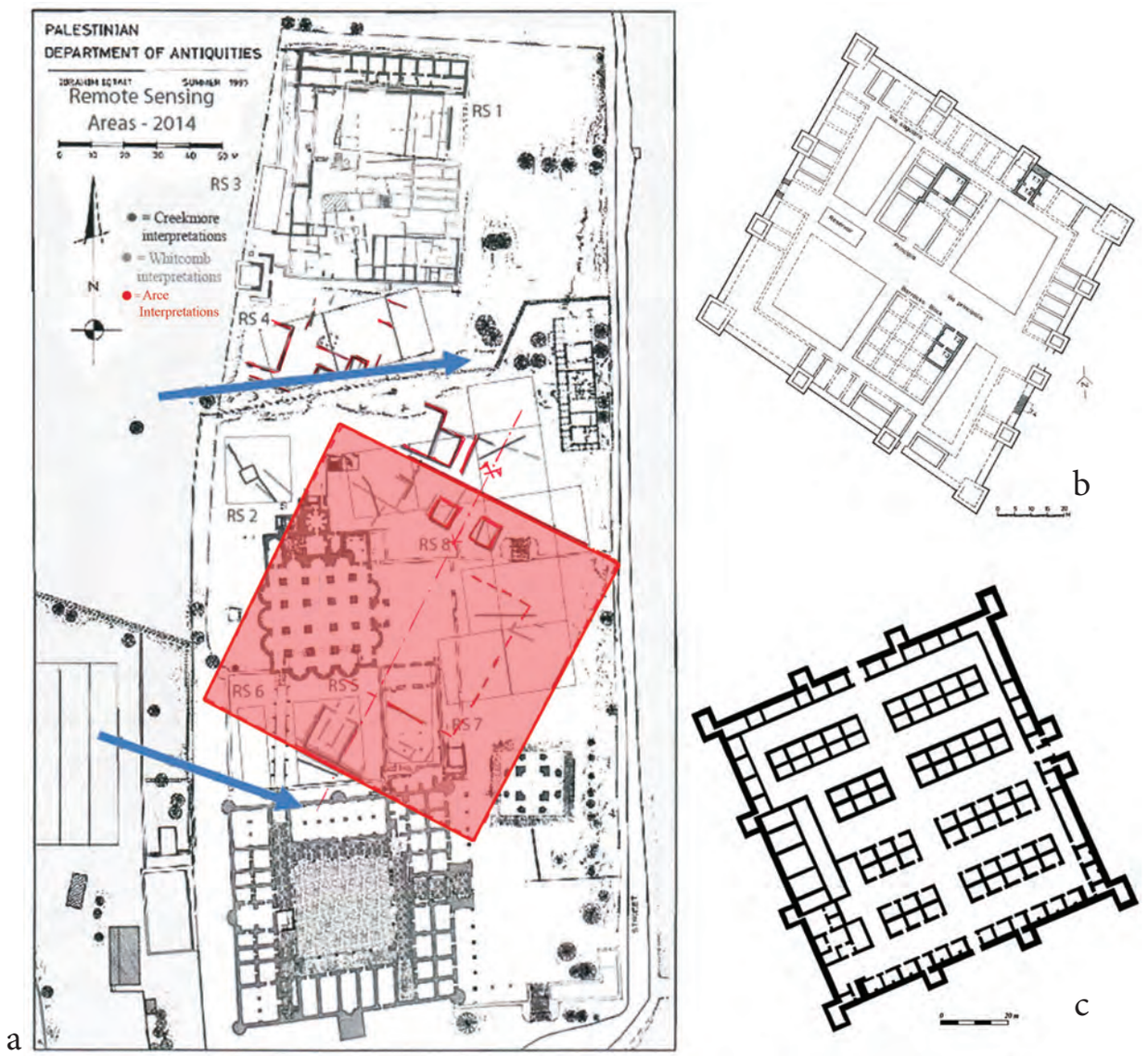

Figure 6.18. Khirbat al-Mafjar and Roman forts from the Limes Arabicus (all of them ca. 100 × 100 m). *a*, Walls identified in the remote-sensing survey (Whitcomb 2015), with my suggested hypothetical location of a Roman fort (the red-shaded area). The blue arrows indicate the hypothetical flow lines of the branches of the Wādī al-Nuwayma crossing the site. *b*, al-Daʿjāniya fort (Parker 2006). *c*, ʿAvdat (Oboda, lower fort) (Erickson-Gini 2002).

and, on the other hand, in the Umayyad *quṣūr* (with orientation due north). Further, the distribution of the walls detected via remote sensing define, in my opinion, a sort of tilted square of 100 × 100 m.

This fact has led me to suggest a working hypothesis that would make sense of these newly discovered structures: it would imply the preexistence at the site of a late Roman fort measuring 100 × 100 m (ca. 300 × 300 Roman feet), probably from the Tetrarchic period and similar in dimensions, size, and orientation to those of Daʿjāniya (fig. 6.18b), ʿAvdat (fig. 6.18c), Umm al-Jimāl, and Khirbat al-Khaw, all found in the region.[50]

The stratigraphic fact that these buried and tilted walls run under the second Umayyad congregational mosque wall (and are apparently cut by the Umayyad *qaṣr*) indicates without a doubt that these structures

50 Arce 2015a. A possible explanation for the location of this fort in an area later to be avoided lies in the continuously changing beds of the wadi branches throughout the centuries due to flash floods and earthquakes.

predate the extant "late Umayyad" structures. It would leave open the question (which only excavation can fully clarify) as to whether they belong to a Roman fort, as I hypothesize—a structure that could have been abandoned and looted, or perhaps transformed and reused in late antiquity as a monastic compound, in an area that was packed full with monastic settlements.[51] This complex could have been purchased or seized by the Umayyad elite in the same manner as al-Ḥallabāt, Qaṣr al-Ḥayr al-Gharbī, Qasṭal, and other examples. It could even have belonged to an earlier Umayyad structure built on the ruins of an abandoned Roman fort, thus built *ex novo* but not from scratch (as in the case of al-Ḥallabāt).

Understanding the complexity of the stratigraphy of similar examples, such as the Roman fort of lower ʿAvdat,[52] with later walls built atop earlier walls or foundations[53] would require careful excavation and the combined analysis of the stratigraphy of the burial deposits and that of the architectural remains. It would also be necessary to determine (and confirm with further excavation) the truth of the aforementioned suspicion that major changes in the hydrogeology of the area and the course of the wadis were also the reason for the destruction of these early structures, as the fort's location in relation to the streams and later Umayyad structures would indicate (fig. 6.18a).

In terms of shape, orientation, and dimensions in plan, we have several parallels for the hypothesized fort: Daʿjāniya in southern Jordan,[54] the lower fort in ʿAvdat,[55] and the forts of Khirbat al-Khaw and Umm al-Jimāl.[56] The latter two follow the same pattern of growth identified at al-Ḥallabāt and Dayr al-Kahf, with a fourth-century CE Tetrarchic *quadriburgium* embracing a second- to third-century CE Roman fort without towers, resulting in both cases also in an approximately 100 × 100 m, almost square fort.[57]

In our case, it seems that this hypothetical fort would have had its main door oriented to the northeast. This direction would have allowed the easiest access to the area, which connects with the main roads in the Jordan Valley. The location of this hypothetical main gate would be deduced from the axial arrangement detected and the two square structures flanking the gate.

The structure identified in the open space between the *qaṣr* and the Audience Hall / bath, close to the former (labeled by Whitcomb the "garden house"[58]) and aligned with this hypothetical entrance, could thus be a simple building with a court or, more likely, remains of the *praetorium* or *aedes* of a fort (given its location and shape), built inside what seems to be the massive wall reinforced at that point with a slightly projecting tower (similar to those from Daʿjaniya). Accordingly, the two aforementioned square structures identified by the survey and located to the north (near the Umayyad north gate) might be the towers flanking the main entrance, the *porta praetoria* (usually facing southeast or northeast in standard Roman forts of the region).

The preexistence of this fort would be a further example in the series of similar cases in which abandoned Roman forts (or the sites where they had been built) were reused in the fifth to sixth centuries CE by being transformed into monasteries and palatial venues, and later into Umayyad *quṣūr* in the seventh to eighth centuries CE.[59] The possibility that in our case this hypothetical Roman fort was apparently not reused in the Umayyad period (as were other forts, such as al-Ḥallabāt or Dayr al-Kahf), the new Umayyad *qaṣr* being built beside it, could be related to the building techniques used in the Roman fort's construction,

51 Hirschfeld 1992.

52 Erickson-Gini 2002.

53 As it also happens at Qaṣr al-Ḥallabāt (see Arce 2009, 2015a).

54 Parker 2006.

55 Erickson-Gini 2002.

56 Arce 2015a.

57 Arce 2015a.

58 "The magnetometer revealed a massive wall, or doubled walls, running across the south part of the area at an angle. In the centre is a rectangular building, ca. 15 × 14 meters, with a central courtyard and rooms around each side, except across the possible northern entrance" (Whitcomb 2015).

59 Arce 2015a.

which I suspect was mudbrick-work over masonry foundations (similar to the fort in ʿAvdat[60]). As a matter of fact, most Roman forts built with mudbricks were not reused in the Umayyad period—for example, in the case of Qaṣr al-Ḥayr al-Gharbī, the abandoned Roman fort was reused as a monastery only in the sixth century CE (with the addition of a stone tower); but when the Umayyads took over the site and decided to build a *qaṣr*, the probable level of decay of the mudbrick in its walls because of increasing humidity made refurbishing the building nonviable, and the decision was made to erect the new building beside and partly above it[61] using limestone and fired bricks. We probably have a similar situation at al-Mafjar.

This hypothesis could also be linked with the setting of the Umayyad buildings in relation to the hydrogeology of the area (certainly affected by these preexisting buildings), as the impact of these watercourses (perhaps combined with earthquakes) could have damaged the Roman fort beyond the limit that allowed its reuse, making it necessary to build *ex novo* (but again, not from scratch). It would also explain the need to build the new *qaṣr* beside the mound of rubble from the preexisting structure, now destroyed, and away from the course of water running across it (fig. 6.18a).

All these hypotheses are at this point merely conjectural but plausibly explain all the evidence gathered by the remote-sensing survey in connection with the exposed remains. The hypotheses also help answer our last question—regarding the location of the Roman forts we know were built in the oasis of Jericho.

WHERE ARE THE MISSING ROMAN FORTS IN JERICHO?

Written sources mention the potential existence of at least three Roman forts in the Jericho oasis from the first century CE through the Tetrarchic period (though their respective locations may have changed throughout the centuries). We know that to defend Jerusalem better, Herod "the Great" built new fortresses and reinforced preexisting Hasmonean ones, creating a chain of three forts in Judea: Hyrcania, Herodion, and the new fortress of Cypros (rebuilt on the remains of a Hellenistic fortress), which dominated the Wadi Qilt/Qelt and Jericho. These fortresses would not have been reused by the Roman army after the Jewish wars and the Bar Kochba revolt, during which they were razed by the Romans themselves.[62]

The Legio X Fretensis, which was centrally involved in the First Jewish–Roman War (66–73 CE) under the command of Vespasian and Titus, had its winter camp at Jericho in 68 CE in a location that remains unknown. At that time, Legio X was the sole legion assigned to maintain the peace in Judaea and was directly under the command of the governor of the province, who was also *legatus* of the legion. But besides the Legio X Fretensis winter camp at Jericho in 68 CE, a military detachment may have been set permanently in Jericho to control this strategic oasis at the crossroads leading to Jerusalem and the Jordanian plains, as well as to monitor the north–south traffic from Ayla to the north and the access of Bedouin raiders from the Negev.[63] These reasons certainly determined the construction of other Roman forts at the oasis in later periods (in locations that remain unknown).

We know from written sources that the Roman army established a fort in the Jericho oasis in 130 CE, and this fort played a role in quelling the Bar Kochba revolt in 133 CE. The location of this new military installation should be in a place near a crossroads and easily accessible water sources—and not amid (rather, most likely away from) an existing city or village. The rare Trajanic milestone found by M. Hawari in 2013

60 Erickson-Gini 2002.

61 See Arce 2015a, fig.9.9.

62 See Mowry 1952; Netzer 2018. Little has been published in recent years on the Roman forts at Jericho.

63 After the conclusion of the First Jewish Revolt, Legio X Fretensis was garrisoned at Jerusalem. Its main camp was positioned on the Western Hill, located in the southern half of what is now the Old City, which had been leveled of all former buildings. (Curiously enough, in the seventh to eighth centuries CE the Umayyads would build their palaces close to this area, in the southeastern section of the city.) Later, Legio X Fretensis would be moved to Ayla, by the Red Sea (Geva 1984).

to the north of Khirbat al-Mafjar near the Wadi al-Nuʿayma[64] reinforces the role of the key crossroad points and strong (and early) Roman presence in this area, both of which factors would justify the existence of such a fort.

Finally, we know that under Diocletian the Legio X Fretensis was moved from Aelia Capitolina to Ayla and that at this time new forts (*quadriburgia*) of various sizes were built in the ʿArabah-Negev area to protect main roads across the region in ʿAvdat, ʿEin Bokek, Yotvata, Mamshit/Mampsis, Meẓad Tamar, and other locations. The aforementioned parallels to our hypothetical structure date to this Tetrachic period: ʿAvdat itself, Daʿjāniya, Khirbat al-Khaw, and Umm al-Jimāl. Thus the hypothetical Roman structure at al-Mafjar might have been part of this same plan of reinforcing key strategic crossroads in the Jordan Valley/ʿArabah-Negev region, thereby answering at least in part the question put forward in the title of this section: Where are the missing Roman forts in Jericho?

The dates of the two Roman forts built at Jericho (one in 130 CE and one in the Tetrarchic period) led us to consider the hypothesis that they (if built in the same place) may have followed a growth pattern similar to the aforementioned scheme found in so many places in the region (al-Ḥallabāt, al-Kahf, al-Khaw, Umm al-Jimāl, etc.)—namely, a Tetrarchic *quadriburgium* embracing an earlier fort from the Severan period. Most of these forts in the *limitrophe*, once abandoned by the regular Roman army (after the change in defensive strategy and the signing of the *foedus* with the Ghassānids/Jafnids), became monasteries patronized by the Ghassānid *phylarchs* themselves and were later occupied and refurbished by the Umayyad elite in a pattern of physical transformation and change in use[65] that can be identified at many sites.[66]

We learn from the chronicles that in 659 CE an earthquake destroyed Jericho (and may have utterly destroyed the remains of the hypothesized Roman fort at the premises).[67] Pilgrim Arculf (traveling in the ca. 670s) notes that he found Jericho in ruins, "throughout which are scattered spots where there are nearly countless houses inhabited by sorry fellows of the race of Channan."[68] Probably, the structures built by Sulaymān (also badly damaged by an earthquake, most probably the one in 717 CE), which are mentioned on page 12 of the anonymous account quoted above, may have been built in this area *ex novo* (but not *ex nihilo*, i.e., from scratch) on the plot of land occupied by the destroyed Roman military installation (perhaps later reused as a monastery). We have evidence that this area was already served by basic infrastructures (the aqueduct bringing water from ʿAyn as-Sulṭān across the Wadi al-Nuʿayma to the area where al-Mafjar was built). From different accounts we also know that there were several monasteries in the area (including the famous Monastery of the Eunuchs/Khirbat al-Mughāyfir),[69] many of which were apparently abandoned

64 Dr. Hamdan Taha officially requested that I attempt a preliminary reading of this milestone, which is now displayed at the Mafjar Museum. Here is the reading I produced (kindly reviewed by David Kennedy) and submitted to Dr. Taha:

[I]MP
CAESARINERVAE
TRAIANOAVG
GERDACPPVIC
PERTI ATIIIVM . . .
FV?ERIVMLEG
[I]mp(eratori) CaesariNervaeTraiano Aug(usto) Ger(manico) Dac(ico) P(atri) P(atriae) Vic(tori?)/Via (???) per Ti. Atilium??? FV?ERIVM Leg(ato). . . .
To the Emperor Caesar Nerva Trajan Augustus Germanicus Dacicus, Father of his Country, . . . (made) . . . through the agency of ??Ti. Atilius??? . . . .

This monument would be a milestone of Trajan (98–117 CE), dated after 102 (i.e., after receiving his victory titles of Germanicus and Dacicus). According to Kennedy, "VIC" could be part of a reference to road construction/repair, though in that case after the imperial titles one might expect to read "*refecit per* [name of the governor]."

65 Close to Khirbat al-Mafjar, just across the Wadi al-Nuʿayma, a Christian monastery at Tell Dayr Abū-Ghanam was excavated in 2010 (where the new army technical school was built). Regrettably, it remains unpublished.

66 Arce 2010, 2015a.

67 Russell 1985, 46–47; Ambraeys 2009, 221–22.

68 Arculf, *De Locis Sanctis*, 35–36.

69 Traces of an aqueduct that crossed the main branch of the Wadi al-Nuʿayma (which serves as a ditch for the area of Mafjar) in the area between Dayr Abū Ghanam (a monastery excavated by the Palestinian Department of Antiquities, located

during the Persian invasion.[70] All these factors make it a plot of land in an area that could be claimed, built, and exploited without seizing any private property (as did, in fact, happen in other cases, such as at al-Ḥallabāt and Qasṭal).[71]

CONCLUSION

The first-stage results of reviewing the architecture of Khirbat al-Mafjar in the framework of its historical and natural contexts reveal a remarkable new panorama that completely changes our previous perception of the setting of the complex and its physical transformation and change in use. Most of these changes took place not after the collapse of the Umayyad caliphate and the almost-contemporary earthquake of 749 CE but during the Umayyad period itself, thus revealing an interesting and rich evolution of architecture and urban-planning concepts during the short life of the Umayyad caliphate. The complexity revealed seems not to represent an isolated case but to be common to many Umayyad palaces, requiring a detailed revision of their respective chronologies. Accordingly, the idea that most of the Umayyad palaces were the result of a single building phase is an incorrect assumption that no longer corresponds to the evidence found in our ongoing research.[72]

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southwest of Mafjar and across this wadi branch) and Mafjar were still visible in 2012. I documented and photographed these traces. The crossing of the aqueduct at this point is of great significance to the present discussion, as it demonstrates that water was brought from ʿAyn as-Sulṭān to the area of Mafjar even before the Umayyads built the new aqueduct from the source of the Wadi al-Nuʿayma (to the northwest) specifically to serve the developing Umayyad complex. This confirms the existence of pre-Islamic structures on the "island" surrounded by the ravines created by the Wadi al-Nuʿayma's branches where Mafjar is located. This apparently pre-Islamic aqueduct could have still served the first Umayyad complex built by Sulaymān, which may have used those preexisting infrastructures that would have served, according to my hypothesis, as a monastery (perhaps Dayr al-Mughāyfir), established on the remains of the abandoned Roman fort.

70 Hirschfeld 1992, 16. It is worth noting that a conspicuous collection of column shafts with protruding carved crosses was reused in the *qaṣr*'s portico. They may have originated from a monastery in those very premises, but it is possible they came from Dayr Abū Ghanam (yet unpublished).

71 Besides, these abandoned monasteries could provide spolia and construction material, such as the columns with crosses used in the courtyard of the *qaṣr*.

72 Research conducted in the past decade on several Umayyad palaces in Jordan by the team under my direction is unveiling similar situations in most of the palaces analyzed. The results are being published in different academic forums. For a general overview, see Arce 2011.

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7 A GRAPE PRESS DISCOVERED AT KHIRBAT AL-MAFJAR

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The grape press in the Northern Area of Khirbat al-Mafjar / Hishām's Palace was excavated by Dr. Awni Dajani on behalf of the Department of Antiquities of Jordan between 1957 and 1967. Unfortunately, there do not appear to be any records or finds from these first excavations. The joint project of the Ministry of Tourism and Antiquities of Palestine and the University of Chicago began cleaning these trenches in 2011 and revealed a vat and floor paved with white mosaic. During the second season of 2012, the grape press was designated as Area 6, and fill in its unexcavated portions was removed along with accumulations from modern agricultural activities.

From its architecture, the grape press may be dated to the Umayyad period; it consists of a treading floor surrounded by a corridor, a sedimentation pit, and twin collection vats. The complete surface of the grape press is paved with white mosaic. Evidence in the floors and collapsed roofing suggests a destruction partially effected by the earthquake that struck Palestine in 749 CE.

Since ancient times, Palestine has been called "the land of the grapes" because its climate and soil conditions are suited for growing them and, from June/July to September, for harvesting them. The vintage season varies according to the variety of grape and the particular regional climate. In the area of Jericho, the vintage season commences in June—somewhat earlier than in other regions of Palestine because of the high temperatures there.

The earliest indications for viticulture in Palestine are seeds (grape pips) from excavations at Jericho found in an Early Bronze Age context (ca. 3000 BCE). Seeds contemporary with them were also unearthed at Lachish.[1]

THE VINEYARDS OF JERICHO IN HISTORICAL SOURCES

Throughout the ages, many geographers and travelers visiting Palestine have noted the widespread cultivation of vines in the area of Jericho. Among the most interesting accounts of these visitors are those of Antonious Placentinus (the Martyr; traveled ca. 570 CE), who said of Jericho, "There grows a vine from which on Ascension Day and at Pentecost baskets full of grapes are gathered. These are sold on Mount Scopus in Jerusalem, where one also can find for sale wine made of those grapes";[2] Bishop Arculf (ca. 680 CE), who noted, "the whole site of the city is covered with corn-fields and vineyards";[3] and the Arab voyager Ibn Ḥawqal (978 CE), whose interesting observation reads, "The Dead Sea exudes a substance called *al-ḥumriyah*, which the inhabitants of Zoar use to increase the yield of their vines, and also for Palestinian vines."[4] This comment suggests that the inhabitants of Zoar, at the southern end of the Dead Sea, and those

1 Goor 1966, 46.

2 Goor 1966, 57.

3 Arculfus 1848, 7.

4 Ibn Ḥawqal 1992, 160.

of Jericho, in the north, smeared the stems of vines with bitumen to prevent damage by certain insects and pests, thereby increasing the yields from these plants.

Archaeological evidence at Khirbat al-Mafjar indicates that vine plants were widespread in the Umayyad period, for there the vine leaf and bunches of grapes appear frequently on stone and stucco sculptures, as well as on pottery vessels and mosaic pavements (figs. 7.1 and 7.2).

DESCRIPTION OF THE GRAPE PRESS

The grape press is rectangular in shape, with the longer (20.1 m) extension oriented south–north and with a width of 14.2 m (fig. 7.3).[5] The building is constructed of well-dressed limestone. The press installation consists of a treading floor, sedimentation pit, and two collection vats. Access to the grape press is through a door on the eastern side with three shallow steps (1.7 m in width).

The treading floor (locus 6013) has internal dimensions of about 6.4 × 6.4 m. The walls were built

Figure 7.1. Lamp with grapes and vine.
Courtesy of Ministry of Tourism and Antiquities.

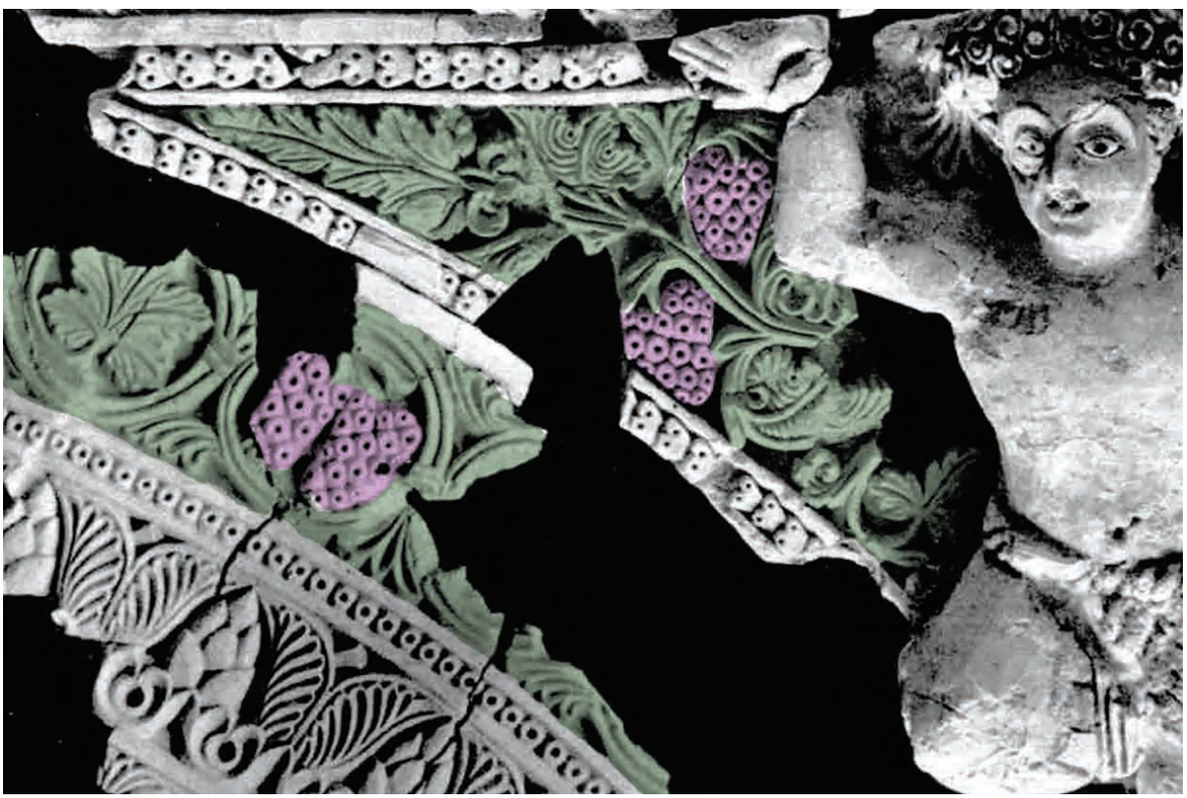

Figure 7.2. Stucco decoration with grapes (Hamilton 1959, pl. XLIV.5).

5 The grape press was designated Area 6, excavated in 2012 and 2013 by Bassam Helmi, Sufyan Edess, Tony Lauricella, and Greg Williams. The project was directed by Dr. Donald Whitcomb and Dr. Hamdan Taha.

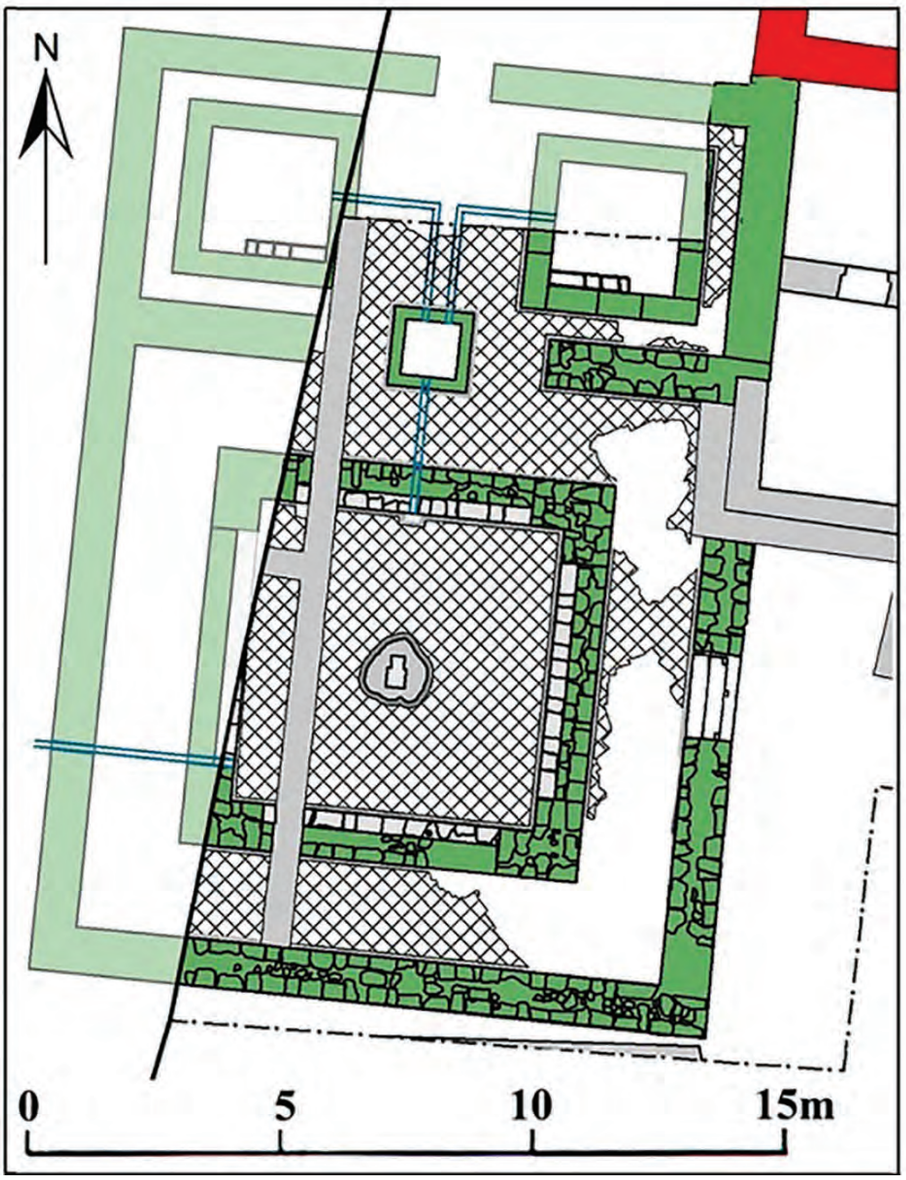

Figure 7.3. Grape press at Khirbat al-Mafjar, top plan. Prepared by Donald Whitcomb and Awni Shawamra.

of well-dressed stone, and against the inner side of the walls around the treading floor were benches for workers to rest during the strenuous treading process. All the interior walls were covered with waterproof mortar (lime mixed with ash, small stones, and grog) to a thickness of 2 cm to prevent the grape juice from being absorbed into the walls of the press. The treading floor was paved with white mosaic, and at its center was an irregular, flat basalt stone in which was a slotted rectangular hole for fastening the base of a single fixed-wooden-screw press used for secondary crushing of the grapes. Around the treading room was a corridor (locus 6015) about 15 cm higher than the crushing floor. The corridor allowed grapes to be dumped into the crushing room without entering it, thereby preserving the cleanliness of the treading floor.

The sedimentation pit on the northern side of the crushing floor (locus 6018) was square in shape (1.16 m on each side and 70 cm deep) and covered with a plaster layer 2 cm thick. The grape juice passed through a pipe (locus 6004) into a plastered settling pit on the northern side. The ceramic pipe was 13 cm in diameter and declined some 10 cm to the sedimentation pit, 50 cm above its bottom. On the opposite, northern side of the pit were the holes of two ceramic pipes of the same size leading toward two large vats for the grape juice. While the vat to the northwest lies beyond the fence of the archaeological site, the matching

Figure 7.4. Fallen vaulting and pier in eastern vat. Courtesy of Ministry of Tourism and Antiquities.

vat to the northeast was excavated. Its opening for the pipe shows a decline of 17 cm from the settling pit to the collection vat to facilitate the flow of the juice.

The northeastern collection vat (locus 6022) is square in shape (2.6 m on each side) with a set of narrow stairs against the south wall descending to the bottom, which was covered with white mosaic pavement. The stairs and walls of the vat were covered with a thick plaster layer consisting of lime, crushed pottery, ash, and stone gravel. In the great amount of roof tiles that were found, the vaulted ceiling remains could be seen near the press's surface. A central pier of fine masonry held the vaulted ceiling to protect the grape juice from the weather, sun, and dust (fig. 7.4). All the surfaces around the vat were paved with white mosaic.

THE EXCAVATIONS

In the 1950s, Dr. Awni Dajani excavated perhaps half the grape press, for which work there are no records (fig. 7.5). The stratigraphy within the building appears very disturbed, with very few sherds or artifacts; three general phases may be suggested. (1) The structure dates to the Umayyad period, to judge from its masonry and orientation with the Red Building of the Northern Area (see chapter 5). A series of stone weights lying on the crushing floor suggests it was in use until the second phase. (2) During the ʿAbbāsid period, the east wall of the grape press was incorporated into the defensive wall that thickened the periphery of the Northern Area buildings. Another wall, built of rough limestone, is intrusive; it runs across the middle of the press from north to south. Stubs of other walls suggest that a separate building lies west of the fence, which limited the edge of the archaeological site. (3) The final phase consists of agricultural soils of recent times. This debris and fill, including a human cranium, may be dated to the period after 1948.

Figure 7.5. Excavation of grape press, looking northeast. Courtesy of Ministry of Tourism and Antiquities.

THE PROCESSES OF GRAPE-JUICE PRODUCTION

Grape presses are usually situated within vineyards, especially those types of presses hewn in the bedrock. Other types, built of stone and mortar, are often found within the confines of a town or city.[6]

Farmers harvest grapes by putting bunches of fruit into baskets and carrying them to a grape press. There, the grapes are laid on the treading floor and trodden by the feet of workers to extract the juice; a secondary crushing of the grape skins uses a single fixed-wooden-screw press. The grape skins and other remains are placed into a circular basket made of fabric in separate layers. The lower part of the wooden screw is fastened tightly in the stone pit. Pressing is done by means of a wooden cylinder fixed to the spiral and turned by horizontal levers. Gravity causes the grape juice to flow downward through a ceramic pipe into the filtration or sedimentation pit, at the bottom of which the grape pips or sludge from the juice is deposited. Then ceramic pipes transmit the juice to collection vats.

The operation of the single fixed-screw press can be clearly observed in the mosaic pavements of the churches of Saint George, Lot, and Procopius at Khirbat al-Mukhayyaṭ, Mount Nebo (figs. 7.6 and 7.7), which date to the sixth century CE.[7] The al-Mafjar grape press bears similarities to several nearby wine presses. Two of them are smaller but close parallels—the one at Khirbat Shuwayka in Ramallah (fig. 7.8)[8] and the press at Mishmar Ha-ʿEmeq (fig. 7.9).[9] Others include those at Tyre/Qabr Hirām in Lebanon,[10] Emmaus (Park Ayalon),[11] Khirbat Yajuz,[12] and Nesher-Ramla Quarry.[13]

6 Garey and Jeffrey 1998, 154; Palmer 2009, 122.

7 Saller and Bagatti 1949, 13–15; Dauphin 1985, 122; Piccirillo 1993, 177–84; Melhem 1995, 29.

8 Salah 2005; Abu Khalaf et al. 2006, 72–73.

9 Avshalom-Gorni, Frankel, and Getzov 2008, fig. 1.

10 Frankel 1999, 140.

11 Hirschfeld 1983; Avshalom-Gorni, Frankel, and Getzov 2008.

12 See Avshalom-Gorni, Frankel, and Getzov 2008 for a discussion, esp. fig. 8; also Khalil and al-Nammari 2000.

13 Ayalon 2015, 61–63. We are grateful to Dr. Hagit Torge of the Israel Antiquities Authority, who herself recently participated in the excavations of the megacomplex of wine presses at Yavne in Central Israel (Viezel and Torge 2022), for referring us to this publication. For a recent, thorough discussion of wine presses, see Dray 2024.

Figure 7.6. Mosaic depicting screw press from Khirbat al-Mukhayyat/Nebo (from Lewit 2014).

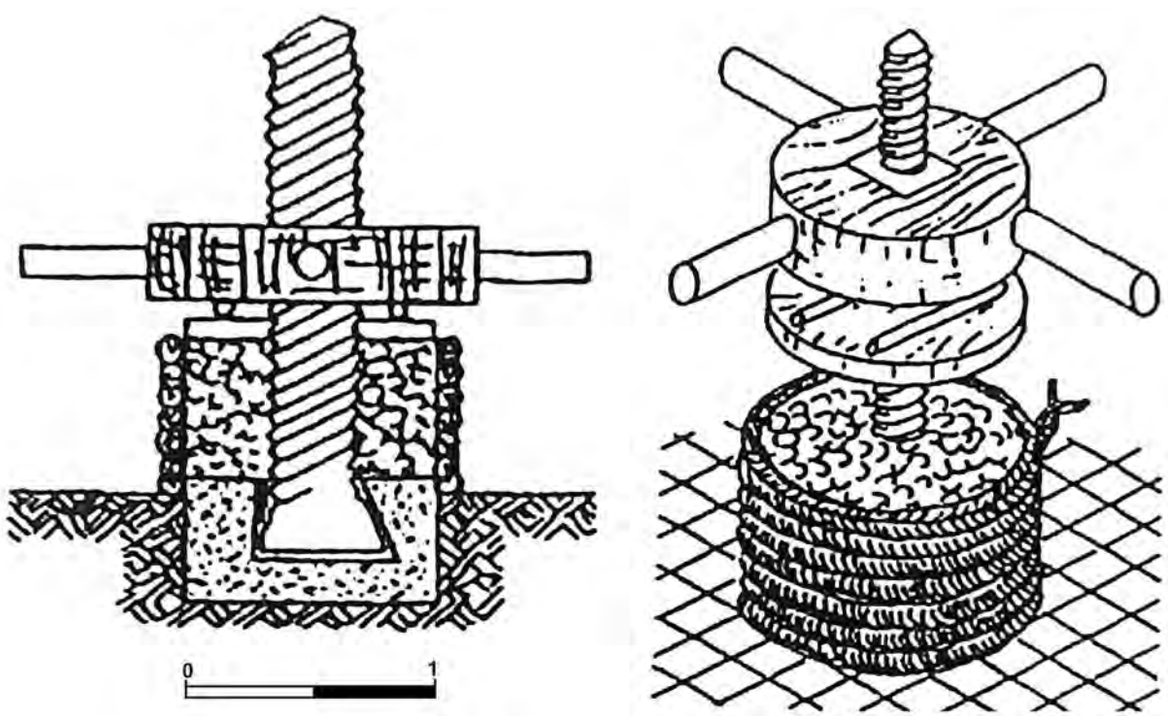

Figure 7.7. Reconstruction of a screw press (Frankel 1986, 47).

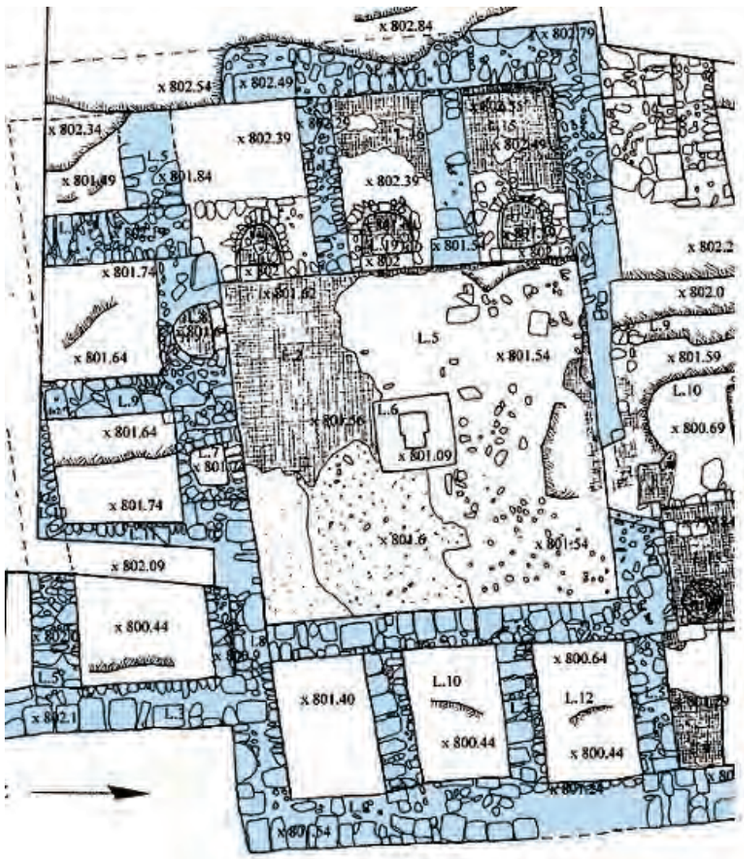

Figure 7.8. Khirbat Shuwayka, grape press plan (Abu Khalaf et al. 2006, 11).

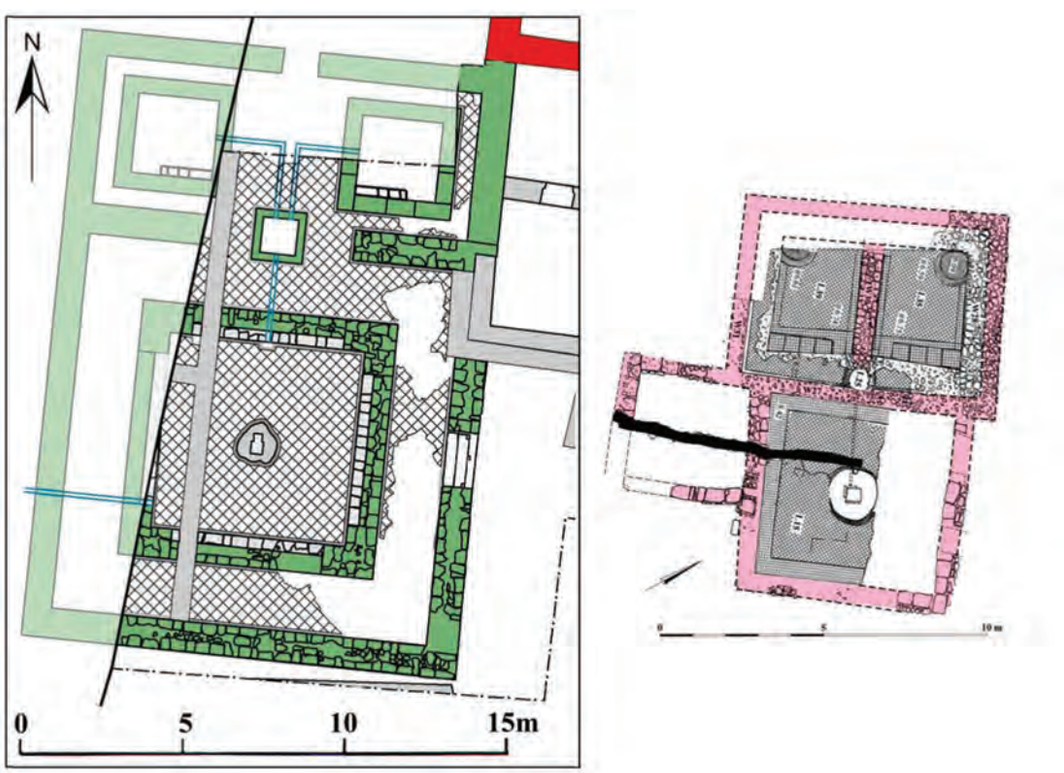

Figure 7.9. Comparison of presses at Khirbat al-Mafjar and Mishmar Ha-ʿEmeq (Avshalom, Frankel, and Getzov 2008, fig. 1).

CONCLUSIONS

The grape press in the Northern Area of Khirbat al-Mafjar (fig. 7.10) represents the apex in the technological development of grape presses from the Byzantine to the Islamic period, as testified not only at al-Mafjar but at many other sites in the region as well.[14] The continuation of this industry was important for the economy of Khirbat al-Mafjar, as well as for the prosperity of the region during the Umayyad period. While grape juice is most famously used for making wine through the process of fermentation, one should bear in mind that some grape juice was used to produce *malban* (a leather prepared with semolina and grape juice) and vinegar (*khall*), as well as to produce *dibs* (molasses) by boiling the juice.[15]

The press found at this site is distinct in its planning, size, and design. It was undoubtedly the central installation serving a wide range of vineyards spread around Khirbat al-Mafjar.

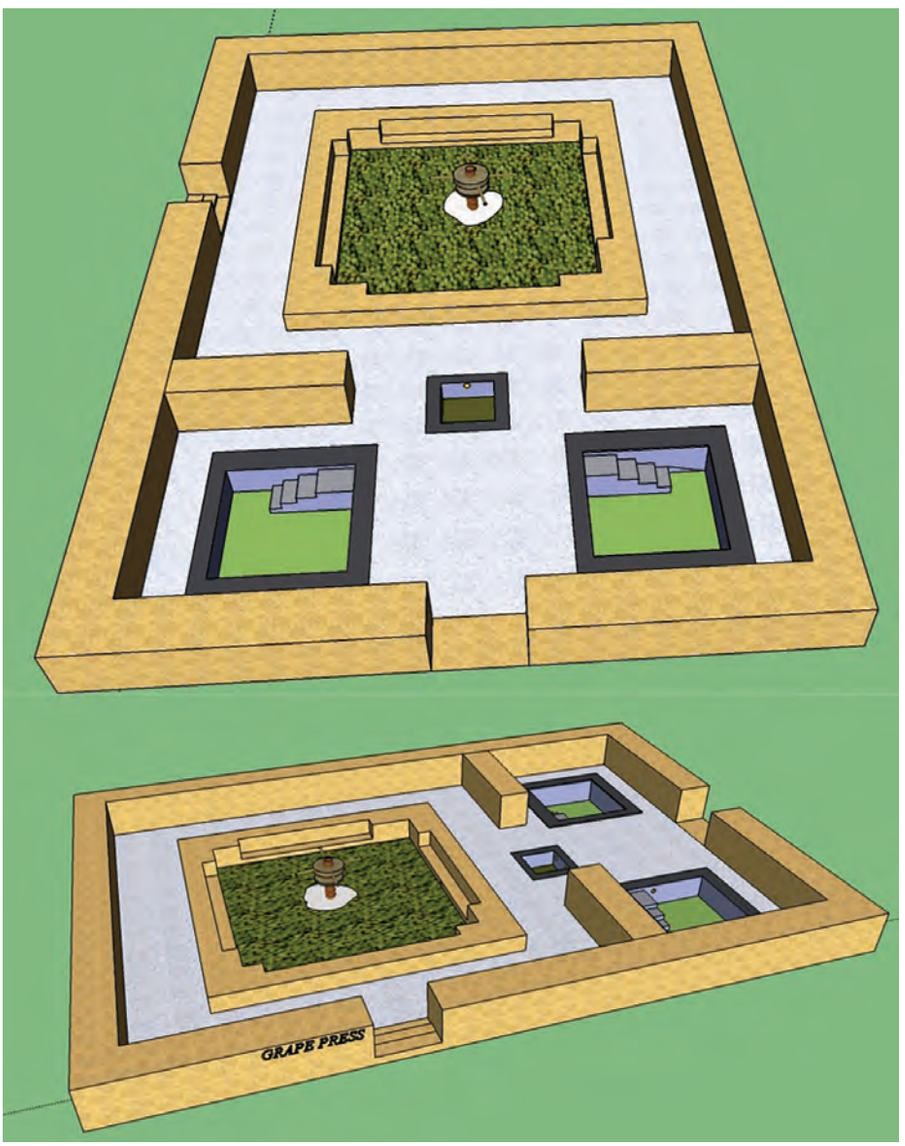

Figure 7.10. Reconstruction of excavated remains of al-Mafjar grape press (SketchUp design by Awni Shawamra).

14 For a thorough bibliography and references to this type of press and its wide distribution, see Ayalon 2015, 213–14 (appendix 1.3).

15 On these products, see Amr 2015.

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8 DOWN TO DOWNTOWN: JERICHO IN LATE ANTIQUITY AND RECENT EXCAVATIONS AT TELL AL-ḤASSAN

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University of Chicago

In September 2012, the Palestinian Department of Antiquities and Cultural Heritage (DACH) conducted four weeks of excavation at the site of Tell al-Ḥassan, located about 500 m north of Jericho's city center, adjacent to the Arab Bank (fig. 8.1). What follows is a preliminary discussion of the results of this work.

These excavations are part of the Tell al-Ḥassan Project (THP),[1] which is an extension of previous salvage work at the site. From December 2009 into January 2010, DACH carried out excavations in a plot of land across from the Arab Bank on the eastern side of the Khirbat al-Mafjar / Qaṣr Hishām road. The impetus for these excavations was to evaluate the land in advance of a large construction project. Three 5 × 5 m squares revealed walls of the late Roman, Byzantine, and early Islamic periods, so the planned construction was suspended.

Then, in February 2012, further excavations explored a smaller plot of land across the street from the 2010 work, again in response to an application for construction. These excavations exposed similar walls and materials, along with a mosaic floor composed of medium-sized white tesserae. Construction also halted in this plot, and excavators prepared for the September excavation season.

The team included the authors of the present report, then graduate students from the Institute for the Study of Ancient Cultures of the University of Chicago (Michael Jennings and Anthony Lauricella), and one archaeologist from the Palestinian Department of Antiquities and Tourism (Sufyan Edeass). Dr. Ibrahim Iqtait illustrated the pottery and area top plans. Muhammad Siq cleaned the excavated coins, which were studied by Dr. Tasha Vorderstrasse of the University of Chicago. The field team consisted of two groups: students from around the West Bank with degrees in archaeology (mostly from al-Quds University) and workmen from Jericho.

SITE BACKGROUND: 1934 EXCAVATIONS AT TELL AL-ḤASSAN[2]

In 1934, a farmer accidentally discovered a mosaic pavement in the course of digging a drainage canal at Tell al-Ḥassan. This discovery led to excavations directed by D. C. Baramki under the aegis of the Mandatory Department of Antiquities. In an article published in 1936, Baramki discusses two strata of occupation:

1 The THP would, above all, like to thank Dr. Hamdan Taha for the opportunity to conduct this excavation. His commitment to giving younger scholars a chance to work in Palestine was essential to the genesis of the Tell al-Ḥassan Project. Likewise, DACH's Jericho director, Iyad Hamdan, deserves special gratitude and appreciation for his hard work and vision in making this project come to fruition and ensuring its success. We authors would like to thank our advisor, Donald Whitcomb, for his support and guidance of this project. The THP also wishes to thank Jehad Yasin for indispensable advice on excavation strategy and organization, and Ignacio Arce for analysis of the excavated architectural features. Finally, major gratitude is due to Ibrahim Iqtait for his excellent illustration work.

2 Note that the title of Baramki's article refers to the site as Tell Hassạn, as opposed to Tell al-Ḥassan, as the area is known today. This difference is typical of sites in Jericho, which in recent centuries have often switched names or pronunciations; in referring to Qaṣr Hishām, F. J. Bliss states: "I was first told that its name was Khurbet el Nuwei'meh . . . later I heard the name el Mefjir applied to it. . . . Warren called it Khurbet es Sumrah (or the Dark Ruin)" (Bliss 1894, 177).

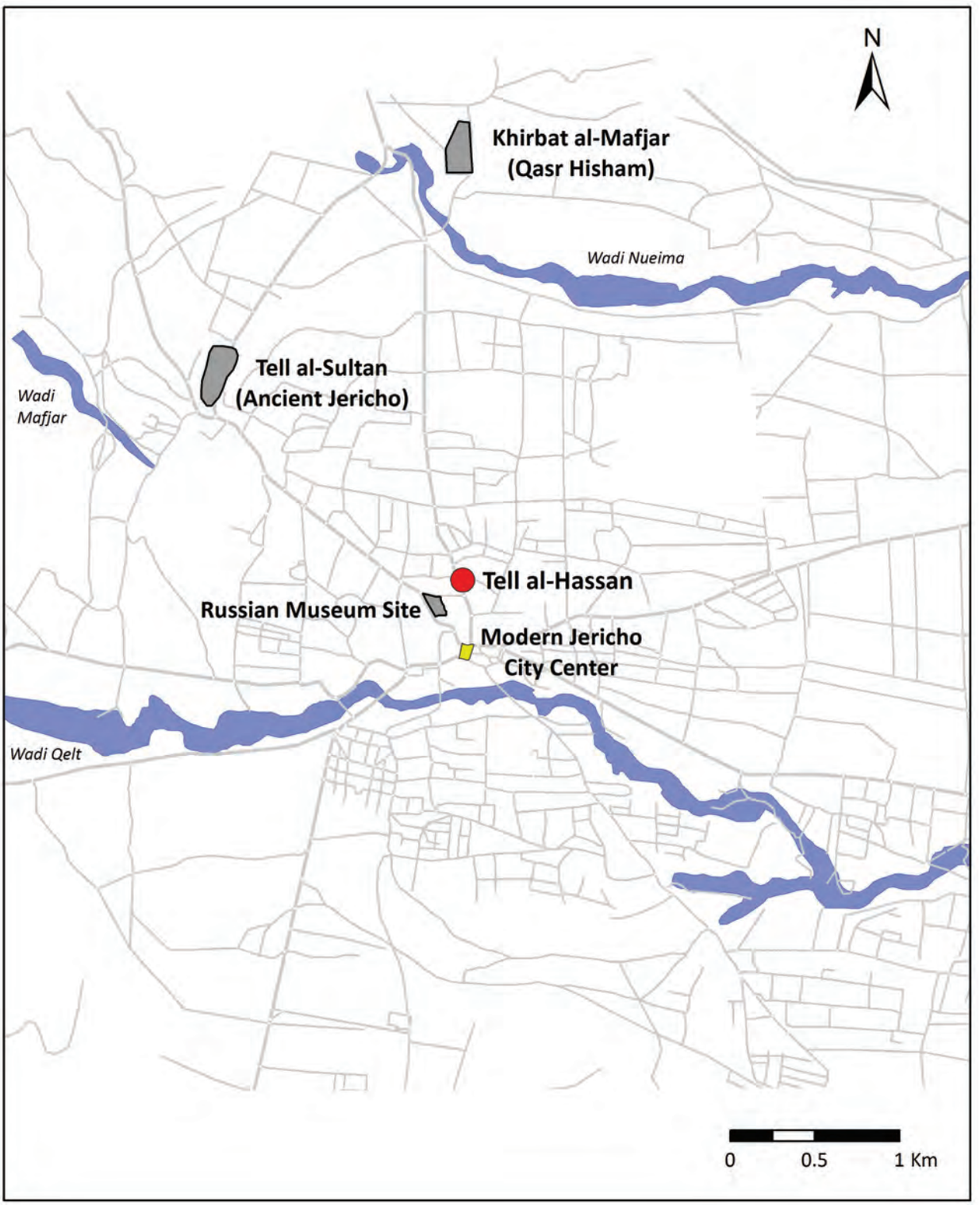

Figure 8.1. General location of Tell al-Ḥassan.

Byzantine and early Islamic.[3] The main structure he found was a 25 × 20 m Byzantine basilica with a central nave and two lateral aisles. Much of the plan is conjectural,[4] as most of the walls were completely robbed out, but it seems clear that a set of rooms and a portico stood along the the basilica's northern side. Baramki found mosaic floors throughout the basilica, including in the attached chambers. The decorations consisted mostly of geometric patterns in white, black, and red tesserae. The excavators were able to hypothesize the courses of the walls by following either the edges of mosaics or, if the mosaic no longer remained, the edges of the cement preparation layer below.[5] The area south of the basilica was not excavated.

Baramki and researchers following him have identified the basilica at Tell al-Ḥassan as the Church of the Holy Virgin. Procopius relates that this church, located somewhere in Jericho, was restored in the sixth century by the emperor Justinian (r. 518–65 CE). It seems that the church at Tell al-Ḥassan originally dates to the fourth to fifth centuries, as some sections of the mosaic resemble those found in the Church of the Nativity in Bethlehem.[6] In any event, the Tell al-Ḥassan basilica is the most impressive known structure of the Byzantine period in Jericho and likely played a central role in the vitality of the town.

Baramki devotes only two brief paragraphs to the post-Byzantine occupation at Tell al-Ḥassan; he states that "the Arab period includes miscellaneous rooms not built on any specific plan, and the only interest attaching to them is the fact that a large amount of the Early Byzantine material was reused in their construction."[7] Well-dressed stone blocks were reused to construct new walls or to extend existing walls of the basilica. No detailed stratigraphy of the excavations has been published, but from Baramki's description it is evident that floor levels remained the same, with instances of continued use of the mosaics. This evidence indicates that there was no long, intermediary transition period of destruction, collapse, or abandonment between the basilica and later structures. From the photos and report, it is difficult to determine the function of the early Islamic structures. Baramki describes the walls as "intrusive" and "crudely built," but on the other hand there is a pavement composed of flagstones and a doorway paved with marble slabs.[8] That there is substantial use of spolia from earlier structures does not preclude substantial occupation and investment in new building.[9]

Baramki published a series of storage-vessel caps he called "Arab stoppers,"[10] but only an examination of the Rockefeller storerooms reveals the large number he found—more than forty. Clearly, after its abandonment as a church, this structure underwent a major change in use.

Other published ceramics include jugs with trefoil rims, basins, Byzantine fine ware, and early Islamic wares with finger-molded decorations.[11] A handful of coins were excavated, with several sixth-century issues and six illegible coins dating to the Umayyad period. Taken altogether, the finds constitute compelling evidence for continued occupation of the site into the early Islamic period.

LOCATING THE BASILICA AT TELL AL-ḤASSAN

We have initial indications of a substantial archaeological site at Tell al-Ḥassan in files from the British Mandate period in Palestine. These files are located in the Rockefeller Museum in Jerusalem.

3 Baramki 1936, 82.

4 Note that there is a discrepancy in the plan's labeling: Baramki's article uses "existing," while *The New Encyclopedia of Archaeological Excavations in the Holy Land* entry on the site (Foerster 1993) uses "conjectural." Based on the original plan in the archives of the Rockefeller Museum, the plan in Baramki's article is the correct one.

5 Baramki 1936, 85.

6 Foerster 1993, 696.

7 Baramki 1936, 82.

8 Baramki 1936, 85.

9 See, e.g., the recent results of excavations at the ʿAbbāsid House (Area 5) in Khirbat al-Mafjar / Qaṣr Hishām (Whitcomb, chapter 5 in this volume).

10 Baramki 1936, pl. 58.

11 Baramki 1936, pl. 47.1.

Examination of reports from inspectors of antiquities in Jericho from 1922 to 1943 finds repeated mention of ancient materials in the land around the Coptic church. In a report filed in May 1933, inspector of antiquities S. A. S. Hussein writes: "I inspected the site, which lies North East of the Copt Convent, known as Tell Hassan. I found that the proprietor was digging in his land, to render it fit for the plantation of trees. I understood from the guard that about five months ago the above mentioned was digging at another place in his plot of land, he struck old ruins, he was then stopped by Mr. Baramki from proceeding any further. This suggests that the ruins run extensively."[12]

In another typical report, filed on June 23, 1922, junior inspector J. Lederman states: "The court of the convent was extensively dug up . . . with the intention of clearing the ground for planting trees. The place seems to be an ancient site of some importance; foundations of cut stones, shafts of columns, ornamental stones, etc., were discovered and a mosaic is also said to exist in the same court."[13]

Lederman also mentions stone slabs with Greek epigraphy. Some of these architectural fragments seem to have been taken to the "Museum in Jerusalem," undoubtedly the Palestine Archaeological Museum (now the Rockefeller Museum).[14] In another report, from May 21, 1933, Inspector Hussein writes that he inspected land north of the Coptic convent belonging to one Dawood Eff. El Taher and found that much old masonry had been removed, including column bases and door elements.[15]

The emerging picture painted by the reports is that of a major archaeological site. All excavations in the area around the church revealed ancient ruins. We learn from a report filed by Inspector Salem on January 14, 1937, that recent digging by the Coptic priest Philippus had uncovered a 6 × 4 m reservoir with steps and an adjacent well 6 m deep, along with ceramic tubing, pottery, and marble columns.[16] Baramki adds that further digging in the same month revealed a second cistern and various architectural fragments, including a capital decorated with lotus leaves, a small Corinthian capital, small broken columns, and pieces of mosaic.[17] These finds are notable in the light of the THP Area 2 excavations, with its basin and ceramic pipes.

Unfortunately, Baramki's 1936 report does not give details about the exact location of his excavations. Happily, more specific indications are found in *Gerico e dintorni*,[18] a systematic description of sites and the historical topography of Jericho published in 1951 by Croatian priest Augustin Augustinovic (1917–98), who lived and worked in Jerusalem. Augustinovic places the basilica on his map of Jericho, though the map is at a large scale and the location is more schematic than precise. His written account offers more detail, placing the church—which by the time of Augustinovic's visit had been reburied—along the eastern side of the road to Qaṣr Hishām. This same road divides THP Areas 1 and 2.

Retracing Augustinovic's account yields further details. Across the street to the west, he visited a modern house with ancient stones in its courtyard, including a column, five bases, and three capitals, presumably once part of the Tell al-Ḥassan basilica. He writes that immediately south of this house, "a short distance southwest of Tell al-Ḥassan," is the Coptic church.[19] This information would put the basilica excavated by Baramki just north of THP Area 1 (see fig. 8.2 for this reconstructed location).

RESULTS FROM SEPTEMBER 2012 TELL AL-ḤASSAN PROJECT (THP'12)

One of the first considerations for the THP was the best way to incorporate data from the previous salvage excavations conducted by the Palestinian Department of Antiquities. We designated as Area 1 the area

12 Hussein, "Extract from Inspectors' report. 21-5-33." Reference no. ATQ/207.

13 Lederman, "Report. Chief Inspector of Antiquities, Jerusalem. June 23rd, 1922."

14 Lederman, "A/Director of Antiquities. Jerusalem, 13th July, 1938." Reference no. ATQ/722.

15 Hussein, "Extract from Inspectors' report. 21-5-33." Reference no. ATQ/207.

16 Salem, "Inspector of Antiquities report. Jericho, 14th January. 1937." Reference no. ATQ/207.

17 Baramki, "Report from 28th October, 1940." Reference no. ATQ/207.

18 Augustinovic 1951.

19 Augustinovic 1951, 84.

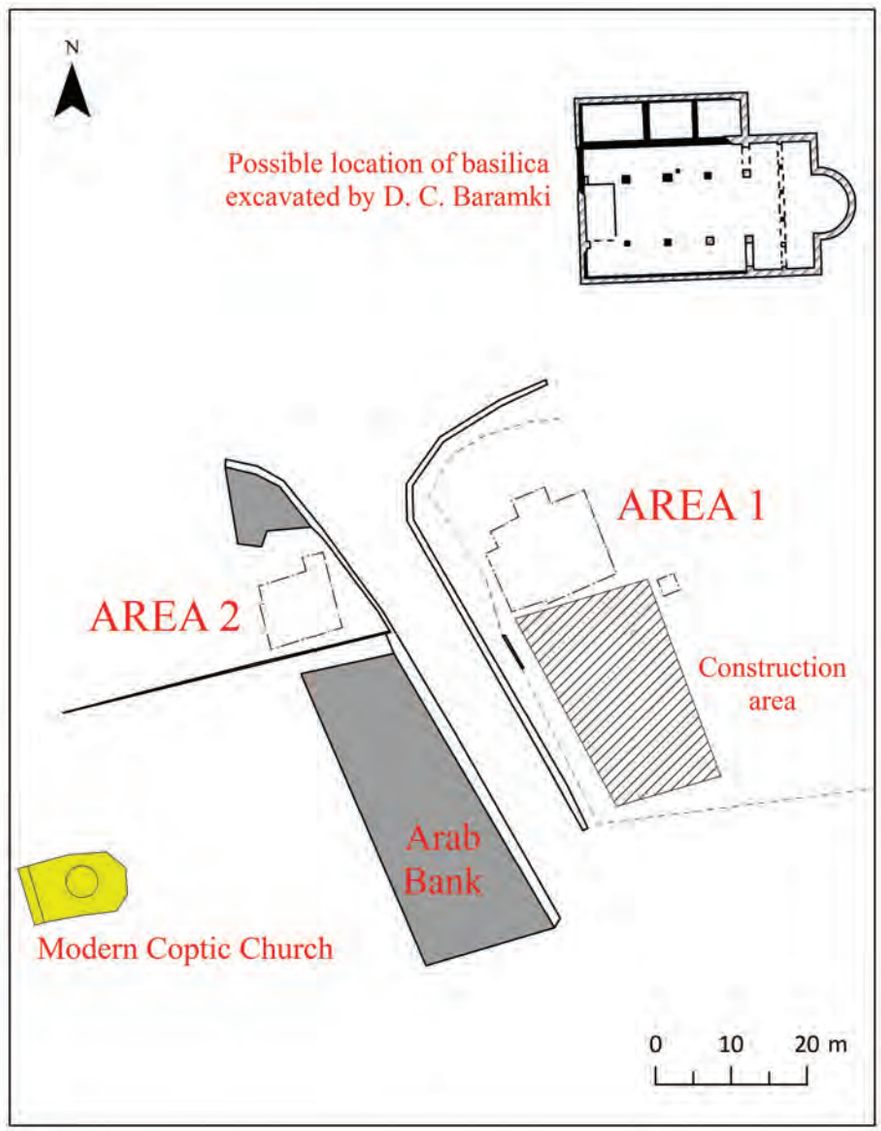

Figure 8.2. Map of Tell al-Ḥassan environs, with location of excavated areas.

excavated in 2009–10, east of the Qaṣr Hishām road, and as Area 2 the area west of the road, excavated in February 2012 (fig. 8.2).[20]

AREA 1

Area 1 is located on the eastern side of the Qaṣr Hishām road across from the Arab Bank and Area 2. At the beginning of our season, we cleaned and expanded beyond the trenches left from the 2009 excavations of the Department of Antiquities. Locus numbers for our season continued from the last locus assigned in 2009. Our work exposed a total of 190 m^2 and found extensive architectural, ceramic, and numismatic finds. Unlike Area 2, which shows ample evidence for multiple phases of use and a complicated stratigraphic

20 We continued the numbering system developed for the Jericho Mafjar Project at Qaṣr Hishām; in this system all locus numbers are unique, within each locus the square and area are marked, and within each square number the area is marked. For example, if the fourth square opened in Area 1 is designated 1400, the seventh locus excavated in that square would be 1407; if the first square in Area 2 is 2100, the twenty-fifth excavated locus would be 2125; and so forth.

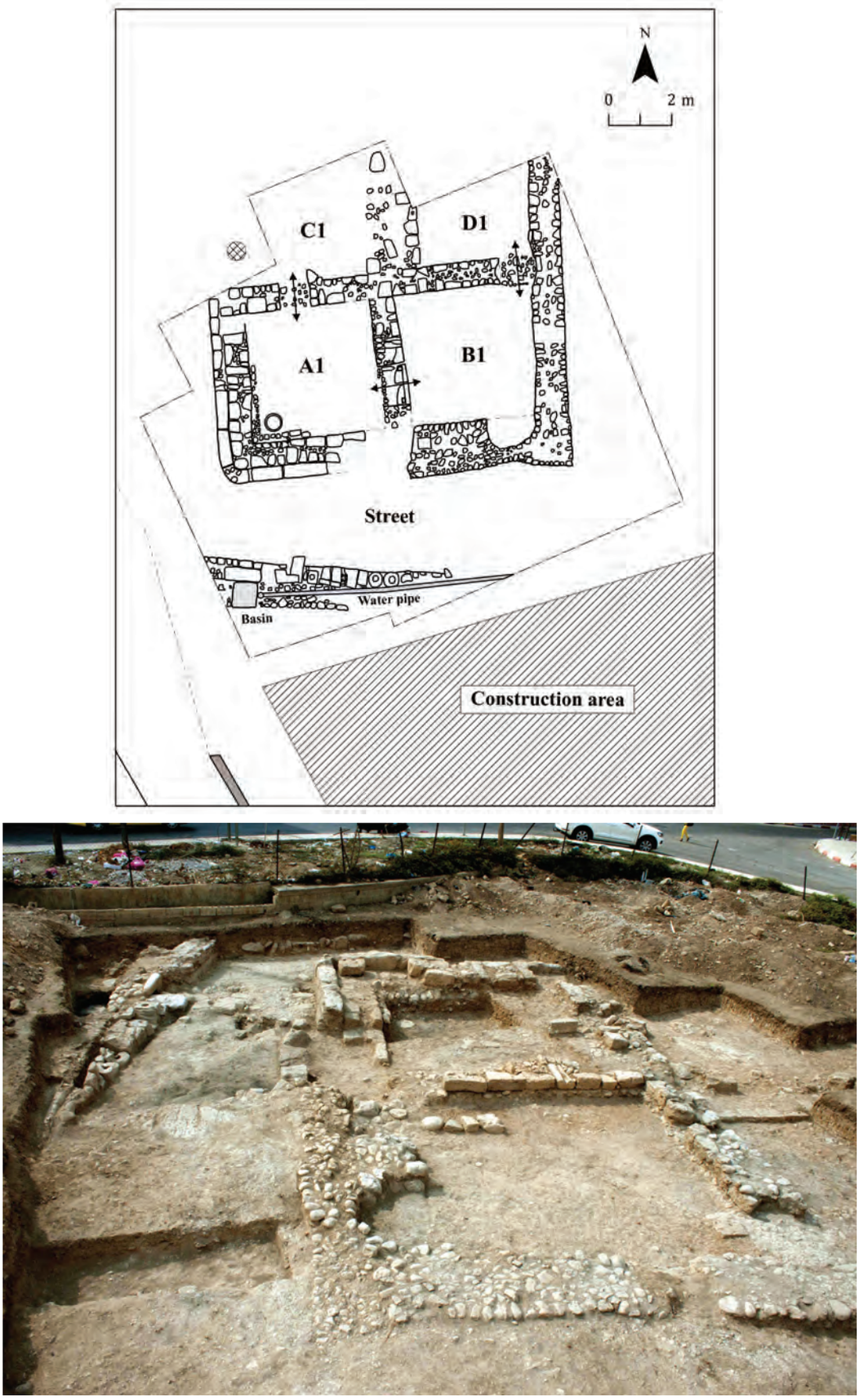

Figure 8.3. Area 1. *Top*, plan; *bottom*, general view.

history, Area 1 yielded no sealed contexts. All its architecture was covered by only two depositional layers: topsoil, then a layer of darker soil.

The area, after the end of one season of excavation, consists of three main elements: a large, multiroom structure (presumably square) oriented to the cardinal points; a water delivery system running roughly east–west; and a street separating the two (fig. 8.3). A small sounding made to the east shows that there is further unexposed architecture that maintains the same general orientation.

The square structure was shown to be a composite of several building phases, though the precise relationships among them are unknown. The southwestern corner of the building is both the best constructed and best preserved. Here, a well-made wall of worked stones was doubled with an outer course of large boulders facing the street. The dividing walls within the structure form at least two rooms measuring 4 m^2. These walls are built of irregularly shaped stones, some worked, including reused pieces. The foundation of the east wall of the structure was built of small, rounded wadi stones. A semicircular niche is incorporated into room B1 at the southeastern corner of the building and may have had traces of plaster. The function of this feature is unclear.

The street is an open area nearly 2.5 m wide that runs roughly parallel to the orientation of the building. It was filled with several layers of rounded and weathered pebbles and was largely free of ceramics and coins. The water system consists of segments of ceramic pipes 17 cm in diameter joined together with plaster and covered with a cap of small stones. On the street side of this installation is a series of hollow stones laid in alignment but functionally unrelated to the pipe. These may be reused pieces of an older system.

The location and nature of the architectural finds suggests that we have here a glimpse of a public portion of Jericho. The fact that the water channel passes close to the building but does not appear to feed it directly indicates that this segment of the channel is one part of a larger network and not specific to the building. The wide street, kept clear of debris, was likely a pedestrian thoroughfare. The open space outside the building to the east (possibly another, north–south street) was completely free of stones, debris, and trash.

Indeed, while there was little patterning of finds within the building, the ceramic finds as a whole are dominated by storage vessels. Two large, nearly complete dolia were found in the southern half of the large building (fig. 8.4). We also found a well-preserved red ware oil lamp of the "candlestick" type (Magness's Form 3C) with the familiar inscription "the light of Christ shines for all."[21] It is found throughout Palestine at Byzantine and early Islamic sites, including in Jericho at the nearby Russian Museum site. The most intriguing small find, however, was a small lead disk stamped with Arabic letters reading "Muḥammad rasūl Allāh," perhaps a merchant's weight (not illustrated).

AREA 2

Area 2 is located across the street from Area 1, north of the Arab Bank and Coptic church. As in Area 1, the upper layers of Area 2 have been disturbed and redeposited. Unlike in Area 1, however, structural features were deeper because the upper layers are thicker and a series of floor surfaces allowed for some stratified contexts. The ceramic corpus, together with a great quantity of coins, point to a utilitarian or small-scale commercial context: the majority of the ceramic forms can be classified under the category of "food conservation" (e.g., jars, basins, jugs) and table wares (e.g., plates, cups, dishes, small bowls). The ceramic and numismatic finds suggest that the phases most represented are Byzantine and early Islamic. Besides coins, the principal object excavated was a small Byzantine lamp that corresponds to Magness's Form 2, "Small Candlestick Lamp," which she dates to the first half of the sixth century.[22] It is molded without a handle and decorated with raised strokes that radiate out from the filling hole, and it displays a Byzantine cross between the filling and wick openings. A ceramic sherd with Arabic writing in Kufic style also surfaced.

21 Magness 1993, 253.

22 Magness 1993, 251.

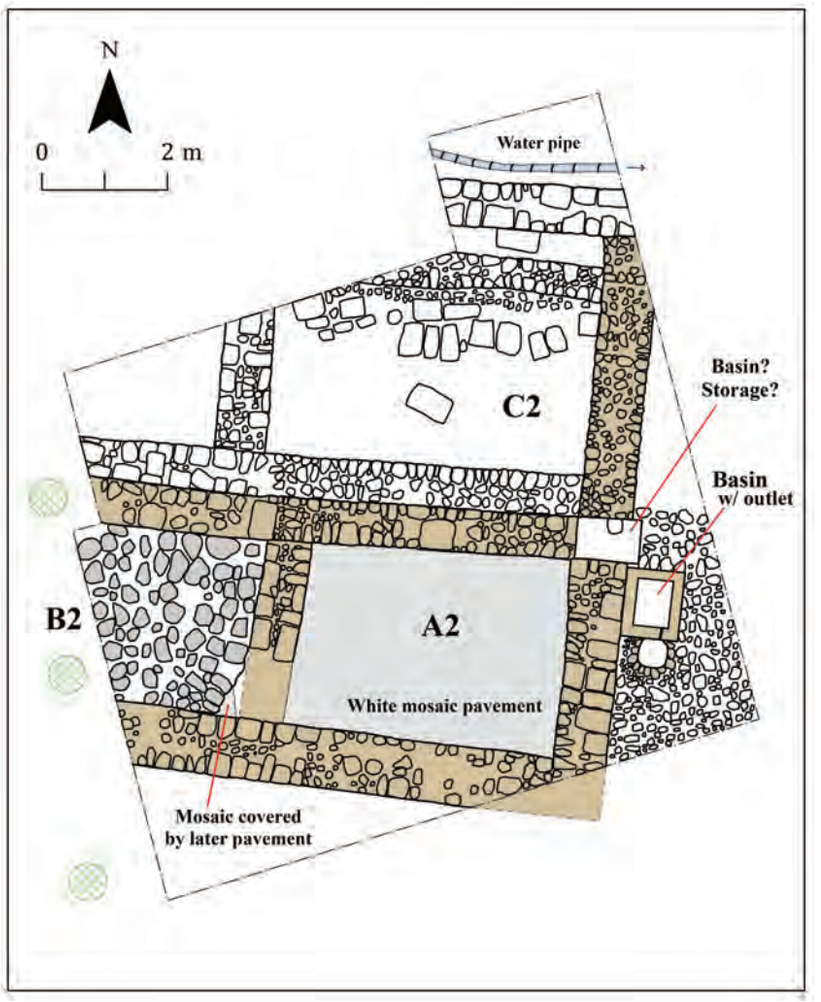

Figure 8.4. Area 2. *Top*, plan; *bottom*, general view.

The distinctive archaeological features that emerged in Area 2 include a structure comprising at least three rooms, with a small basin (fig. 8.4). Two of these rooms (A2 and B2) were paved in white mosaic, but this pavement survives in only one of them. The function of the mosaic (as opposed to a packed-earth floor) is difficult to explain. It is composed of medium-sized white tesserae with no decoration. If the mosaic served aesthetic purposes, one would expect at least a border of some kind around the edges. We could surmise that the mosaic was installed to make the floor easy to clean. Unfortunately, the walls of room A2 are not preserved enough to discern any type of outlet. Presumably, the function of the mosaic is related to the small, 1 m^2 basin that protrudes from the structure like a niche. The basin, belonging to the same phase, is too small to be industrial; perhaps "utilitarian" is a better description. It is constructed of stone with a mortar-lined interior and fixed to the walls by a layer of ribbed pottery sherds.

In the southeastern corner of the basin is a small outlet drainage pipe. It fed into what was likely a ceramic jar; no vessel remains *in situ*, but traces of a small pit left open in the course of constructing the exterior pavement suggest that one was installed here. The presence of some type of collection vessel seems clear. Without one, the liquid would have passed through the outlet directly into the soil.

Determining the type of liquid is difficult. The basin seems too small to be a wine or olive press, even for simple domestic use. More importantly, it drains outside the structure. What kind of liquid does one not want inside a home but must keep? We might hypothesize that residents used this area for slaughtering on a small domestic scale. They would hang an animal on a hook above the basin and allow the blood to drain out and into a jar. Residents would have considered the blood unclean and so would not have kept it inside or simply jettisoned it in the public area—hence the need to collect it.

It is also possible that the structure is a date press. Unfortunately, we made no determinative finds. Without further excavation, it may be impossible to determine the structure's function.

On the opposite side of the outlet, adjacent to and north of the basin, we excavated a rectangular pit with a semicircular step built into one of its sides. It was constructed at the same time as the three walls that would otherwise intersect at that point. The pit was filled in with stones and ash but no artifacts. It is not clear how it functioned or related to the surrounding architectural elements. No connection to the basin presently exists. The precise rectangular form suggests that some type of structural element also stood there—perhaps another basin or storage bin.

To the west lies another room (B2). This room also contained a white mosaic pavement, but interestingly at a diagonal angle offset from the walls. White tesserae in a diagonal pattern often framed a colored mosaic design. Only a small corner of the mosaic is visible here because a stone pavement from a later phase lay directly on top of it. The pavement abuts rather than covers the remains of three visible walls of the room, indicating that these walls were still in use at the time of the pavement's construction.

The pavement was redone, but the structure of the room was not changed where visible. It is strange that the rough pavement consists of stones of different sizes—a technique more typical of exterior space. Unfortunately, the pavement continues west into unexcavated land. It would be interesting to see whether further excavation of this room might give more evidence of later phases of occupation and changes of function.

A third space (C2) lies north of the room with the intact mosaic pavement and basin. Only two of the walls remain, but the seemingly square room is based on a compact *ḥawwāra* lime surface layer approximately 23 cm thick. We did not find a modern robber trench and so assume that the other walls were robbed in antiquity. Considering also the later pavement over the mosaic, this structure underwent many changes of design. In any event, a fill layer and then another surface layer lie under the *ḥawwāra* surface. This second surface layer is compact and not as thick as the *ḥawwāra* surface but is still clearly visible. The loci under the surface are especially notable because they contained a large concentration of coins,[23] many of which seem to be late Roman.

23 THP'12 unearthed seventy-five coins in these loci. The February salvage campaign found at least fifty examples that were part of the same layer; see below.

POTTERY

Analysis of the pottery recovered during THP'12 is still in initial stages, but we can offer some comments on it. As there is no discernible difference between the materials of Area 1 and Area 2, the ceramic finds from both areas are presented here together. The key studies that aided our analysis are J. Magness's comprehensive examination of pottery from Jerusalem,[24] P. Watson's important work at Pella,[25] J. Hayes's catalog of African Red Slip vessels,[26] and reports from excavations at sites in the region. Analyzed as a whole, the pottery is similar to Byzantine and early Islamic assemblages from other sites in Syria-Palestine.

Storage Jars and Amphorae

The THP'12 ceramic corpus includes a large quantity of amphorae, containers used primarily for the transport of wine or as domestic containers for storing water along with a range of other products, such as oil, figs, salted fish, wheat, beans, nuts, barley, and olives (fig. 8.5). Among these vessels, the most common type excavated in the THP'12 season was the "bag-shaped" amphora—a batch term for vessels with wide-ribbed, globular bodies—especially Late Roman 5/6, which was produced locally (northern Palestine) and exported throughout the Mediterranean. They are sometimes decorated with white paint; white paint was recorded on ribbed body sherds of both dark-gray and red-orange fabric. We also have examples of tall, cylindrical Gaza amphorae of gritty dark-brown ware with no neck.

Palestinian bag-shaped jars have an extensive chronological range, from the fifth century into the early Islamic period. In the deepest sounding in Area 2, we excavated a thin-walled example (fig. 8.5.1, THP12.2125.C1) of coarse, red-brown ware with a parallel from Pella, which Watson identifies as an early form in its evolution.[27] One piece with a folded collar rim (fig. 8.5.2, THP12.2123.C1), found in fill between two surface layers, is similar to a form found at Pella and described by Watson as the most characteristic sixth-century form.[28] Found in the same locus was a jar of hard-fired, coarse, dark-brown ware (fig. 8.5.3, THP12.2123.C2) that corresponds to Magness's Form 7, dated to the seventh century.[29]

The general evolution of bag-shaped jars sees longer necks as time goes by. The most common form associated with sites in Jerusalem is Magness's Form 4. One example (fig. 8.5.4, THP12.2106.C1) excavated at Tell al-Ḥassan, made of hard-fired brown fabric with a ridge at the base of the neck, matches her Form 4 variant C, with a suggested date from the late sixth into the seventh century.[30] Similar forms are also present in the pottery assemblages from Ramla and Tiberias.

Many storage jars from Tell al-Ḥassan find parallels excavated at Pella. Item THP12.2302.C2 (fig. 8.5.5) is similar to an example Watson dates from the mid-sixth century to the beginning of the seventh century.[31] Forms typical of the eighth century were also recovered. Jars with tall, solid necks without any basal ridge and simple, tapered rims (figs. 8.5.6 and 8.5.7, THP12.2114.C6 and THP12.1501) have a parallel from Pella dated from the second half of the seventh century into the ʿAbbāsid period.[32] Another eighth-century type of red-brown ware (fig. 8.5.8, THP12.1602.C1) has a wide body and a ridge at the base of the neck; compare Magness's Form 6 variant B.[33]

24 Magness 1993.

25 Esp. Watson 1992a, 1992b.

26 Hayes 1972.

27 Watson 1992b, fig. 8.62.

28 Watson 1992b, 239 and fig. 9.64.

29 Magness 1993, 231, no. 1.

30 Magness 1993, 223–26.

31 Watson 1992b, fig. 9.67.

32 Watson 1992b, fig. 9.74.

33 Magness 1993, 230, no. 1.

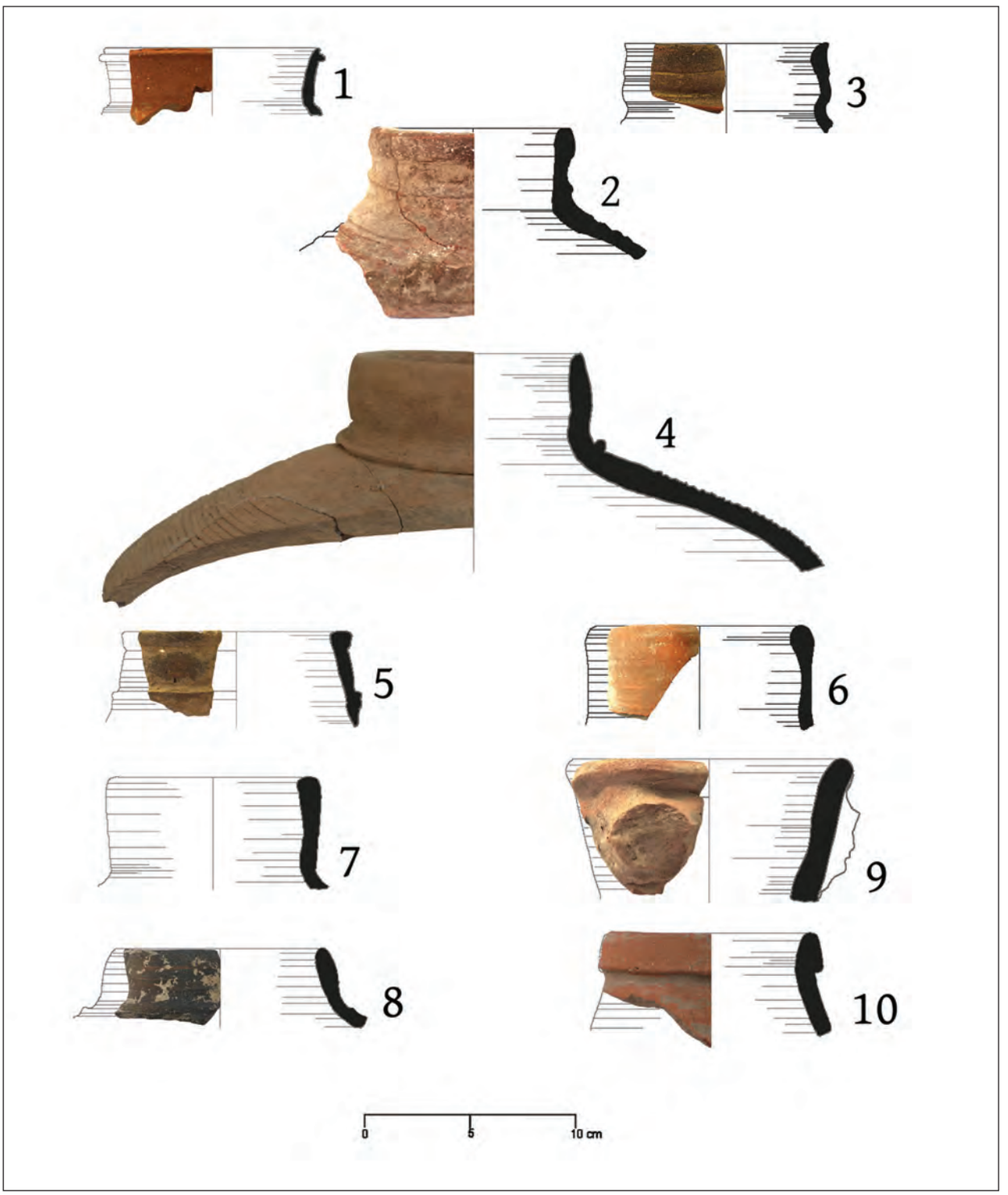

Figure 8.5. Storage jars and amphorae from Tell al-Ḥassan (1–10).

Finally, we have several examples (e.g., fig. 8.5.9, THP12.1503.C1) of Late Roman 1 amphorae, with a moderately gritty fabric hard-fired to a pale pinkish-brown color. This type has widespread diffusion, including at Jerash and Pella.[34] It is common in sixth- and early seventh-century contexts. Of particular interest is that it is believed to have originated either in northern Syria (Antioch[35]) or Cyprus, where many Late Roman 1 kilns have been discovered. Rim sherds of vessels imported from North Africa (e.g., fig. 8.5.10, THP12.1103.C1) were also recovered.

Cooking Pots

The repertoire of pottery from the THP'12 season includes a substantial collection of cooking vessels (fig. 8.6.11–16). They are generally of a coarse red ware burned to dark gray, with many medium-sized quartz inclusions, some small lime grits, and pebbles. The principal forms include lids, casseroles, and pots.

The lid forms are very common from the Byzantine and early Islamic periods. They likely had button handles with a steam hole. The ribbed, flaring form (fig. 8.6.11, THP12.1402.C3; fig. 8.6.12, THP12[missing basket number]) is found throughout the region—for example, at Nevé Ur,[36] Capernaum,[37] and Pella.[38] The lids were generally used to cover casseroles; one example from THP'12 of coarse terracotta fabric (fig. 8.5.13, THP12.2125.C2) has a parallel at Pella, but, as with the lids, the chronology is broad.[39]

We have many examples of cooking pots made of thin, brittle, gritty red-brown ware with globular bodies, curved bases, and usually a pair of loop handles. There are both forms with flaring necks and neckless forms. Of the necked forms, one example (fig. 8.6.14, THP12.2302.C3) has a triangular rim and a carinated transition from neck to shoulder. We also have many examples of Magness's Form 4C, common for the seventh century.[40] The neckless forms have many regional comparanda. Two examples of coarse terracotta ware are similar to cooking pots found at Pella: one (fig. 8.6.15, THP12.1204.C1) has a parallel from Watson's Phase 2, 500–525 CE,[41] and another (fig. 8.6.16, THP12.2114.C10) has a parallel from her Phase 3a, 525–51 CE.[42]

Basins

The majority of basins recovered (fig. 8.6.17–19, fig. 8.7.20–24) were deep, flat-based vessels, many of them decorated on the exterior with bands of either combing or incised wavy lines. The majority are buff ware, with fine grits and some medium white grits and small-to-medium voids. Body shapes are either straight or flaring. They comprise a variety of rim forms, including flattened rims (e.g., fig. 8.6.17, THP12.2103.C2), in-turned, rounded rims (e.g., fig. 8.6.18, THP12.1302.C1), and out-turned rims (e.g., fig. 8.6.19 and fig. 8.7.20, THP12.2114.C13 and THP12.1202.C4).

Many of the basins are difficult to date because they continue without major changes in form from the Byzantine period to the tenth/eleventh century. One large bowl (fig. 8.7.21, THP12.2114.C15), with a single wavy, incised line and made of buff ware with fine grits, is similar to an example excavated by Pritchard in Jericho at Tulūl Abū ʿAlāyiq.[43] This type of decoration appears in the sixth century and continues well into

34 Watson 1992b, fig. 10.78.

35 Initial examination of the coin finds reveals that some of them, too, were minted in Antioch.

36 Shalem 2002, 160, fig. 9.4.

37 Sodini and Villeneuve 1992, fig. 11.1.

38 Watson 1992b, fig. 1.1.

39 Watson 1992a, pl. 109.8.

40 Magness 1993, 220.

41 Watson 1992b, fig. 1.9.

42 Watson 1992a, pl. 111.1.

43 Pritchard 1958, pl. 51.6.

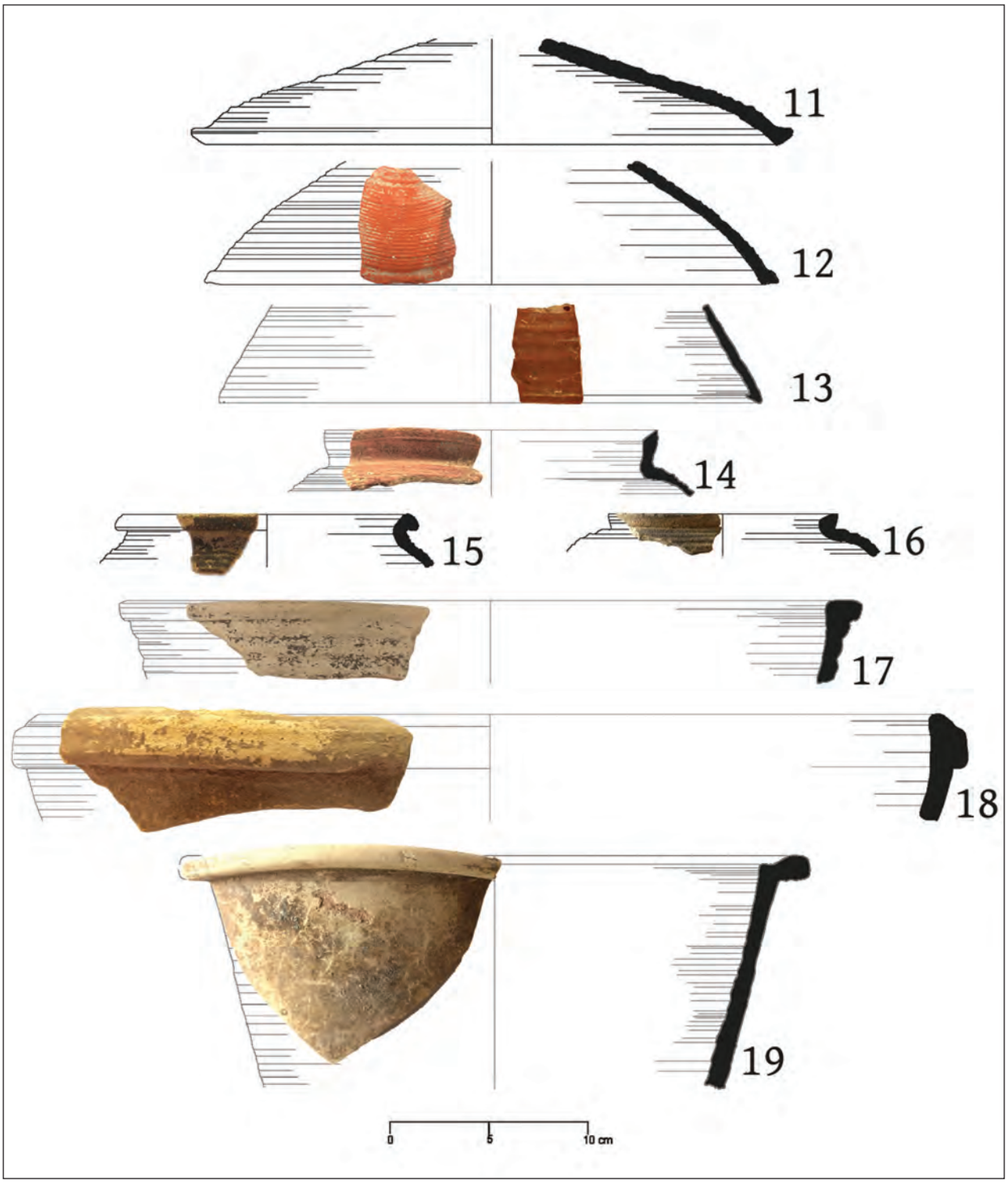

Figure 8.6. Cooking pots (11–16) and basins (17–19) from Tell al-Ḥassan.

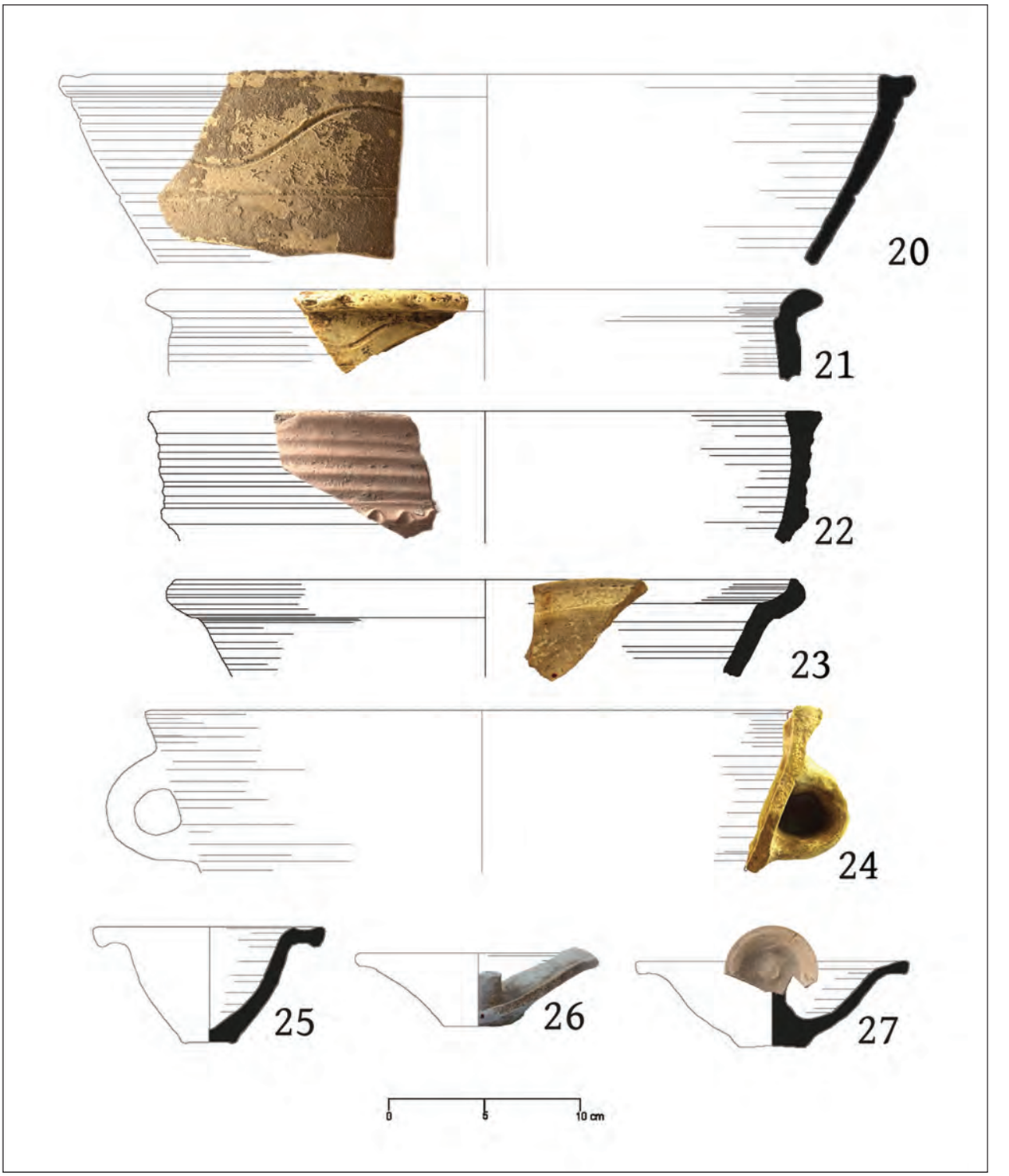

Figure 8.7. Basins (20–24), and lids and stoppers (25–27), from Tell al-Ḥassan.

the early Islamic period.[44] Finger impressions or "pie crusts" are another frequent type of decoration found in the corpus of basins. One example (fig. 8.7.22, THP12.2301.C1), of pinkish fabric with many small dark grits, has a flat rim with a band of ridges on the exterior wall, below which is a horizontal strip of clay with finger impressions.

Some examples can be given a preliminary date based on similar pieces excavated in Syria-Palestine. For example, Locus 2125, the deepest sounding conducted in Area 2, yielded a hard-fired basin fragment (fig. 8.7.23, THP12.2125.C3) with a grayish core and light yellow-brown exterior slip corresponding to Magness's Rilled-Rim Basins example number 4, dated to before the mid-sixth century.[45] One basin with an indented triangular rim is similar to a form that is common at Pella in the second half of the sixth to the early seventh century.[46] Finally, the THP'12 corpus includes numerous examples of Magness's Arched-Rim Basins Form 3, dated from the mid-sixth century to the late seventh or early eighth century, including pieces (e.g., fig. 8.7.24, THP12.1402.C6) similar to her illustrated example number 4.[47]

Lids and Stoppers

Many lids and stoppers, predominantly of yellow-buff but also of pinkish-red ware, were found (fig. 8.7.25–27). They include both Magness's Form 1 (e.g., fig. 8.7.25, THP12.1402.C7) and her Form 2 (e.g., fig. 8.7.26, THP.12.2103.C7; fig. 8.7.27), which she dates to the mid-sixth through mid-eighth centuries.[48] They have everted flaring rims and either flat or disk bases. More common in the THP'12 corpus is Form 2, which has a high, central knob handle; Baramki published an example in his Tell al-Ḥassan report.[49] Regional comparanda of this form are numerous, including many cream-ware examples from 750–850 CE layers at Pella, contexts in Syria dating to the second half of the seventh century (Dehes and Dibsi Faraj),[50] and as far away as Istanbul and Egypt.

Dolia

The two largely intact dolia excavated in Area 1 (e.g., figs. 8.8.28–8.8.29, THP12.1504.C5 with base; THP12.1504.C6) are made of red-orange ware with medium grit and a cream slip on the exterior. They have an incised zigzag decoration below the rim. Regional comparanda come from near and afar—from Jericho at Tulul Abu ʿAlayiq[51] and Capernaum on the Sea of Galilee.[52] This type of dolium is often decorated with red painted lines, but ours are not.

Jugs, Juglets, Cups, and Other Small Containers

We excavated several examples of a well-known light-red ware jug (fig. 8.9.30, THP12.2201.C1). This form has a single spout and handle, an omphalos base (similar to fig. 8.9.31, THP12.2104.C5), and sometimes a filter. Comparanda have been excavated near Beth Shean at Nevé Ur[53] and Mesillot,[54] and also at Jerash.[55]

44 Sodini and Villeneuve 1992, 205.

45 Magness 1993, 203.

46 Watson 1992b, 241 and fig. 11.91.

47 Magness 1993, 209.

48 Magness 1993, 247–48.

49 Baramki 1936, 87, fig. 3.6.

50 Sodini and Villeneuve 1992, fig. 11.4–6.

51 Pritchard 1958, pl. 51.2.

52 Sodini and Villeneuve 1992, fig. 1.4.

53 Shalem 2002, 168, fig. 15.4.

54 Porat 2006, 188, fig. 7.4.

55 Sodini and Villeneuve 1992, figs. 5.2 and 5.3.

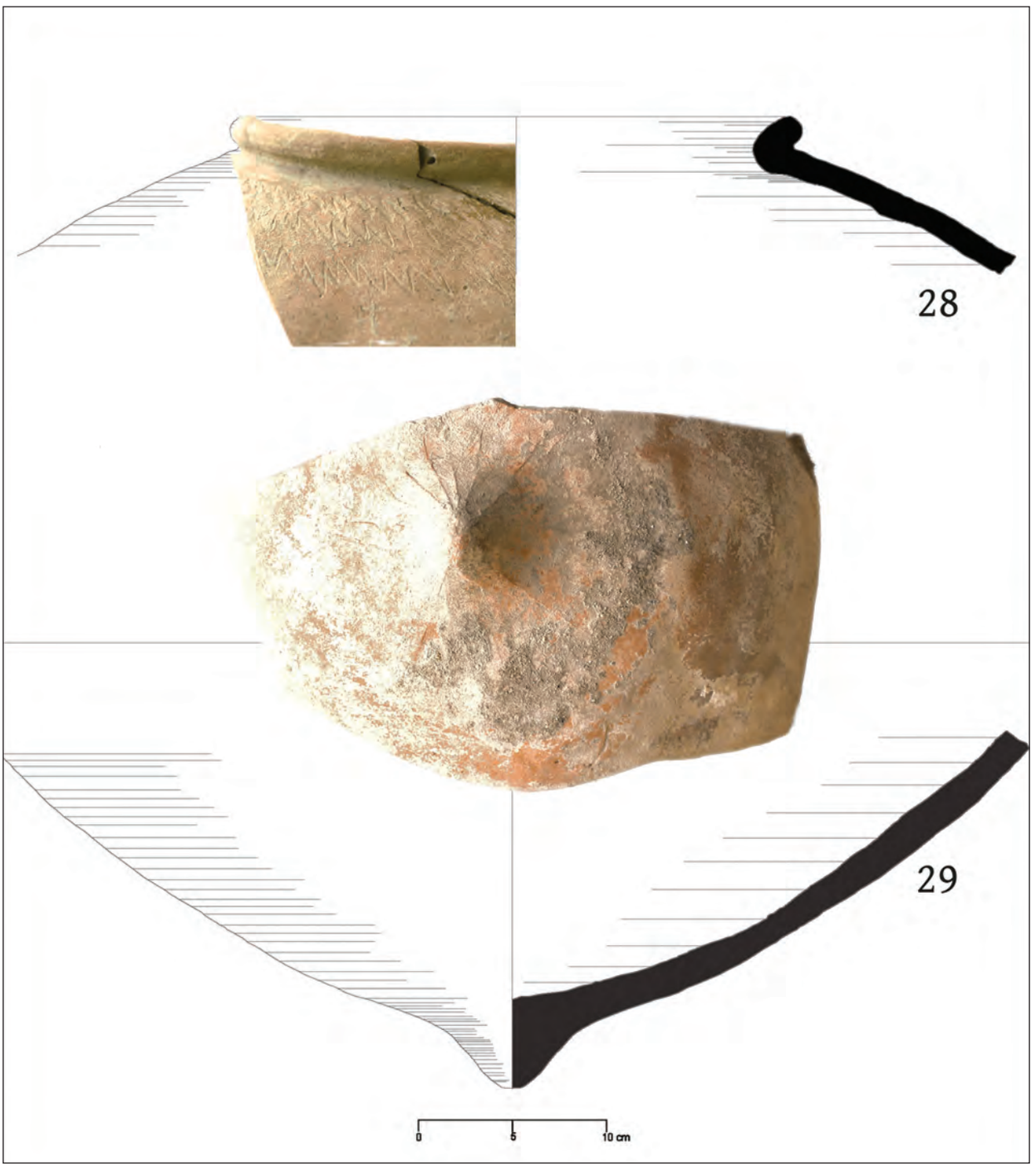

Figure 8.8. Dolia from Tell al-Ḥassan (28–29).

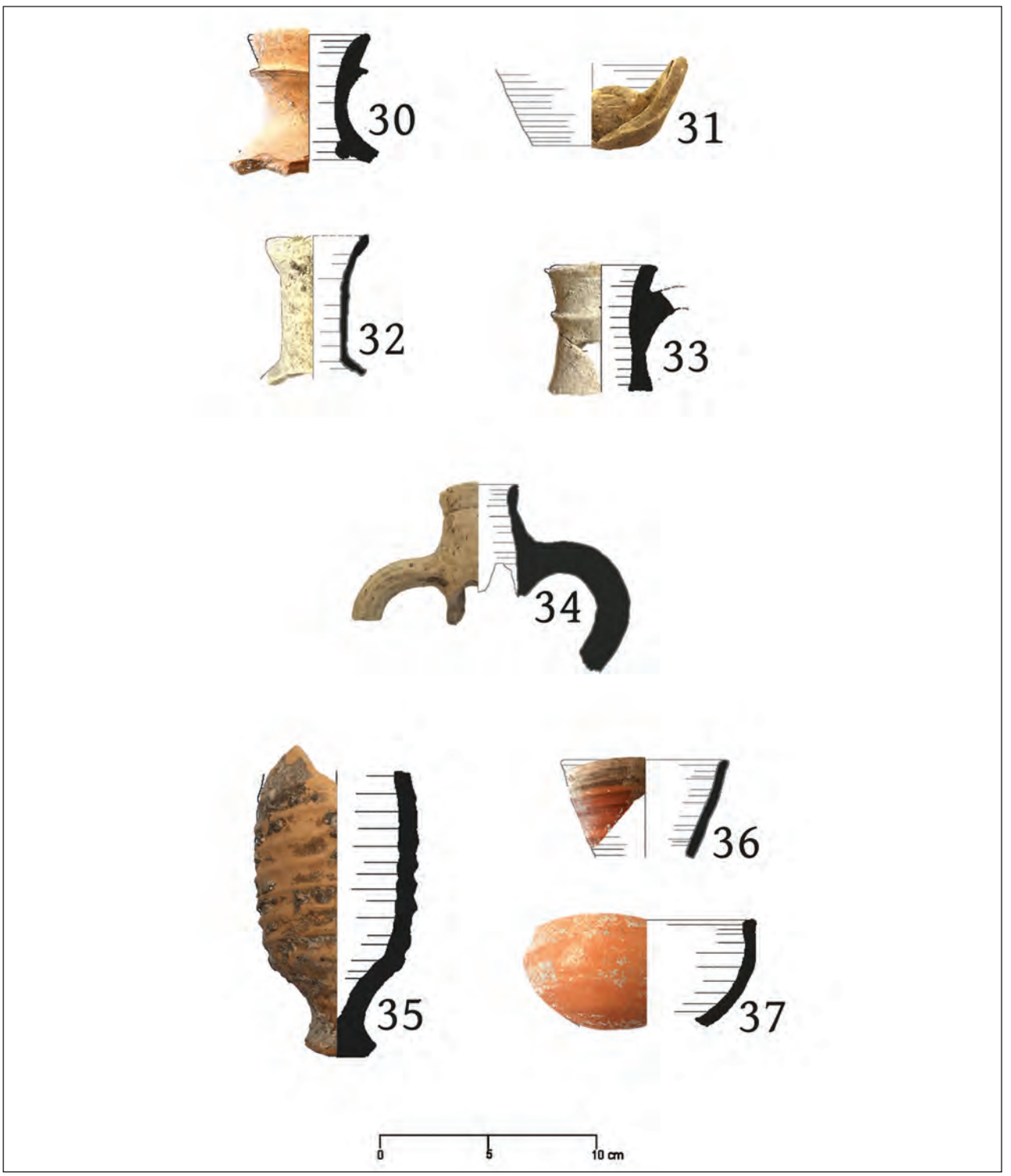

Figure 8.9. Juglets (30–34), unguentaria (35), and fine ware cups (36–37) from Tell al-Ḥassan.

Other jugs and juglets were found in a variety of forms, including a gray buff-ware juglet with a narrow neck and trefoil rim (fig. 8.9.32, THP12.2201.C3); jugs of buff ware with medium-sized grits and either one or two handles at the neck (fig. 8.9.33, THP12.2201.C2; fig. 8.9.34, THP12.2106.C2); and jars in a variety of wares with two handles at the top of the rim itself. Baramki published similar juglets from his excavation at the site.[56] We also excavated several examples of what may be termed "unguentaria" of both reddish-brown and buff wares, thick walled and with medium-to-large grits and exterior ridges (e.g., fig. 8.9.35, THP12.1803.C3). These vessels were small containers for special purposes (e.g., to contain perfumes, medicines, and the like) produced and diffused in the eastern Mediterranean between the sixth and seventh centuries.

Fine Byzantine ware cups were less common than African Red Slip bowls (see below) but still present. One example (fig. 8.9.36, THP12.2114.C19) is hard fired and thin walled, with a grayish core and reddish-brown exterior with burnished bands. It is similar to Magness's Fine Byzantine Ware bowls of Form 1F, which she dates to the second half of the sixth century through the seventh century, while another rim (fig. 8.9.37) is the more typical Magness Form 1B, which ranges from the mid-sixth century through the early eighth century.[57] Baramki published one example of Fine Byzantine ware from Tell al-Ḥassan.[58]

Tableware Bowls and Dishes

Good quantities of tableware bowls were excavated in both areas (fig. 8.10.38–43). Some were likely produced locally, but there is a large collection of African Red Slip ware, which was produced in northern parts of Tunisia and had widespread diffusion throughout the Mediterranean. It begins to be found in quantity especially from the sixth century onward. Comparanda in Hayes's study of Late Roman pottery give a chronological range for the examples excavated at Tell al-Ḥassan from the second half of the fifth century to the mid-seventh century.

Several examples of Hayes's Form 91 and Form 104, both common later forms found throughout Syria-Palestine, were recovered. In her study of the ceramic corpus from Pella, Watson follows Hayes's descriptions and classifications. Hayes's Form 104C, a large dish type that dates to the period 550–625 CE and was found in abundance at Pella,[59] is also represented at Tell al-Ḥassan (e.g., fig. 8.10.38, THP12.1201.C4). Hayes's flanged bowls of Form 91D, dated to 600–650 CE, were found in both Area 1 and Area 2 (figs. 8.10.39 and 8.10.40, THP.1702.C4 and THP12.2105.C2).

The assemblage also contains samples of late types of Phocean (Late Roman C) Red Slip ware, produced on the western coast of Asia Minor since the fourth century. Forms 3F (fig. 8.10.41), 10C (fig. 8.10.42), and 3C (fig. 8.10.43) are types known to have been produced into the seventh century, if not the early eighth century.

COINS

Perhaps the most intriguing historical artifact type found in the THP'12 season was coinage. More than 300 coins were excavated, about 100 of them in Area 1 and 200 in Area 2. Similar to the ceramic corpus, there is no significant difference between the numismatic profiles of Areas 1 and 2, though Area 1 does seem to have a slightly higher concentration of early Islamic coins. Further cleaning is required, but initial examination reveals that the large proportion of the coins are either late Roman or post-Reform Umayyad/ʿAbbāsid, with fewer early Byzantine and almost no Arab-Byzantine coins. The early Byzantine coins all date to before the Islamic conquest, though they probably continued to circulate later. The mints are still being determined, but the early Byzantine coins come from a variety of eastern Mediterranean locations, with Constantinople being predominant, while the post-Reform Umayyad/ʿAbbāsid coins seem to be primarily

56 Baramki 1936, 87, figs. 3.2 and 3.4.

57 Magness 1993, 197, no. 3 (Form 1F); 195, no. 1 (Form 1B).

58 Baramki 1936, 87, fig. 3.5.

59 Watson 1992b, fig. 13.105.

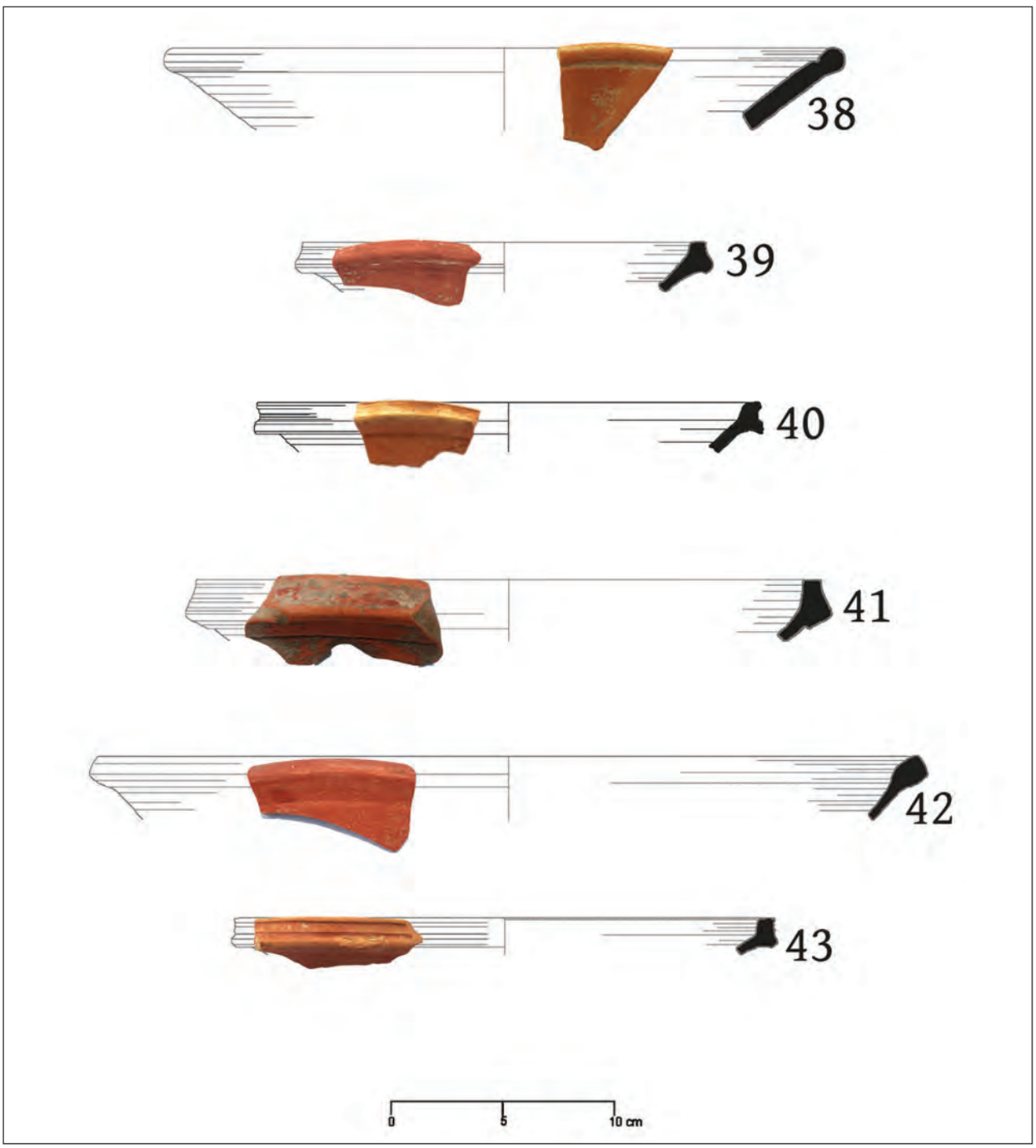

Figure 8.10. Tableware bowls and dishes from Tell al-Ḥassan (38–43).

from local mints. This change is not surprising given the fact that there were no local mints in Palestine in the early Byzantine period. The coins will be the subject of a future publication by Dr. Tasha Vorderstrasse of the Institute for the Study of Ancient Cultures of the University of Chicago.

CONCLUSIONS

From the preliminary analysis offered thus far, we can reach some general conclusions, to be expanded in the future. The ceramic and numismatic assemblages from Tell al-Ḥassan offer strong evidence that it was an active part of Jericho, with continuous occupation in the Byzantine and early Islamic periods. Furthermore, the pottery indicates that Jericho was part of a wider commercial network that brought products from around Syria-Palestine and the Mediterranean. Missing, however, are ceramic types typical of Umayyad and ʿAbbāsid contexts in the Jericho area—for example, from Khirbat al-Mafjar. This lacuna suggests that while settlement at the site continued to be active throughout the seventh century, at some point in the eighth century the occupation may have shifted to other locations within Jericho.

The tools for understanding evidence of continued occupation into and throughout the early Islamic period in Palestine need refinement. Our knowledge of Jericho's urban history has come largely from archaeological investigation, and the THP'12 season continues the Palestinian Department of Antiquity's commitment to the systematic exploration of Byzantine and early Islamic Jericho—a period that remains enigmatic, especially because of the paucity of reliable historical sources.

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9 THE INFLUENCE OF ISLAM ON FRANKISH VISUAL CULTURE*

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If one were pressed to define "Frankish visual culture" (i.e., the visual culture of the Latin Christian inhabitants of the Kingdom of Jerusalem from 1099 to 1291), that definition would include a place of manufacture in the Levant and formal characteristics drawn from Western, Byzantine, and Islamic traditions.[1] And yet, while countless articles and book chapters have been dedicated to identifying and understanding the Western and Byzantine elements on which Frankish culture relies, far fewer words have been dedicated to those of Islam. This disparity reveals one of the frustrations attendant to the art-historical study of the twelfth- and thirteenth-century Levant. A volume on insights into Islamic archaeology seems a perfect place to begin redressing this situation, especially as joining archaeological to art-historical findings both enlarges and fills in the material field, with the promise of discipline-transforming results. The present endeavor pledges a less ambitious yield. Still, in gathering and analyzing long-recognized instances of Islamic influence on Frankish culture, and proposing the existence of Islamic influence in new spheres, the hope is to take a step toward transformation nevertheless.

To be clear, the above-stated frustration is not with scholarship but instead with limited remains—a consequence of the destruction and loss that accompanied the end of the Latin Kingdom of Jerusalem, on the one hand, and the uncertain attribution that belongs to heterogeneous productions, on the other. Even so, an Islamic influence is an anticipated ingredient of Frankish culture not only because of what might be defined as sensible or necessary context-specific borrowings, such as the use of Islamic ceramics from Syria and Egypt on Frankish tables or of Islamic defensive technologies in Frankish fortifications, but also and especially because of the occasional objects that announce a more calculated debt to Islamic culture.[2] One of the best examples of the latter are the twelfth-century ivory covers made for the prayer book of the queen of the Latin Kingdom of Jerusalem (British Library, Egerton 1139), wherein material (ivory) and decorative motifs (largely abstracted vegetal designs) together disclose an Islamic kinship (fig. 9.1).[3] An Islamic influence is also an anticipated ingredient of Frankish culture because of contemporary texts that testify to the real role Islamic artisans and art played in Frankish society. Writing in 1263, the anonymous Templar of Tyre, for example, tells us that a proposal from the Mamlūk sultan Baybars to exchange prisoners—

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1 See, e.g., foundational works such as Boase 1938–39; Buchthal 1957; Folda 1995; B. Kühnel 1994.

2 On the Frankish use of Islamic ceramics, see Stern 1997, 2009; Stern and Waksman 2003. Boas (1999, 143–50) gives a good summary of the Egyptian and Syrian ceramic finds in Frankish contexts. The relationship between local/Islamic fortifications and Frankish fortifications has been long debated. Piana (2016) provides a recent and particularly compelling discussion of this issue, including its reasons and means. Rather than trace fortification elements and principles to preexisting exemplars, Ellenblum (2007, esp. 189–257) discusses them as reflections of and responses to local siege tactics.

3 On the date and patronage of this manuscript and its covers, see Buchthal 1957, 1; Folda 1993; 2012, esp. 448–59; B. Kühnel 1994, 82. On problems of origin associated with these ivory covers, see most recently Cutler 2010.

Figure 9.1. Psalter of Queen Melisende, ivory cover, back, circa 1140 (London, British Library, Egerton 1139). Photo: British Library Board.

captive Christians for captive "Saracens"—was refused by the military orders because they (the Saracens) had proved too valuable as craftsmen.[4] To this note we might add the observations of Wilbrand of Oldenburg, who visited the Levant in the early thirteenth century and included in an account of his travels a description of upper-class Frankish homes full of Islamic decorative arts and of Franks themselves dressed in textiles from places such as Damascus and Baghdad.[5] In other words, the ivory covers of the queen of the Latin Kingdom of Jerusalem's prayer book offer solid evidence for what seems promised by the literary record: an interest among Latin Christians in Islamic forms. Yet, as already indicated, these book covers are one example of a disappointingly small number of Frankish products with clear references to an Islamic artistic tradition. Despite this lack, I would argue that Islam is indeed one of the most important factors determining Frankish forms. In contrast to references to traditions associated with the West and with Byzantium, however, references to the traditions of Islam appear mostly obliquely, so we must look for them more deliberately.

One reward of this deliberation is something like a potentially reconstituted corpus of relevant objects. Joining empirical data with imaginative multiplication, it is, at the very least, the recognition of how the present corpus of relevant objects might reasonably be expanded. Any survey of extant Frankish works would show that the luxury object was a major locus for Islamic influence. The luxury object tends toward two main characteristics: it is costly in material and design, and it is small in size. Indeed, its typically small size is the reasonable counterpart to its preciousness. Particularly fine examples of the luxury object include the ivory book covers with which this essay began, wherein preferred Islamic artistic material and Islamic decorative motifs appear, and a thirteenth-century chronicle, a so-called *Histoire ancienne jusqu'à César*, wherein celebrated Islamic subjects of banqueting and hunting depicted according to Islamic conventions surround its first and most important illumination (British Library, Add. 15268; fig. 9.2).[6] Given the problems of survival peculiar to works of great expense and small size, especially when produced in places marked by radical political and demographic transformation, it is no surprise that such Frankish objects should no longer be many. In thinking about Islamic influence, however, we might be mindful that their numbers today surely fail to correspond with their one-time prevalence.[7]

Another reward of this deliberation, and one more tangibly productive, is the recognition of Islamic influence in the presence of absence. More specifically, the reward is the recognition of Islamic influence in the paucity of figural decoration on the facades of Frankish churches. This aspect of the Frankish facade, I suggest, constitutes a response to Islam and its aniconic practices in the religious realm. Because the Eastern churches that the Franks encountered in this region certainly also lacked external decoration, by custom, and because local Eastern Christians certainly worked on Frankish structures and so affected their form, an argument must be made for crediting Islam with this austerity, or near austerity.[8]

To this end, I point to three relevant and suggestive accounts of Frankish construction in the Levant. The first account concerns the beginning of Frankish settlement in this place and finds in this moment a desire for assigning elaborate pictorial programs to the facades of buildings. This desire is best indicated by the Frankish addition to the Church of the Holy Sepulchre in Jerusalem (dedicated in 1149), which involved attaching a basilical structure to the east of the existing Byzantine rotunda and supplying it with internal

4 Templar of Tyre 1887, 167, §318. For "craftsmen" the Templar of Tyre uses the phrase *gens de mestier*, which might be translated "people of skilled profession, trade, or craft." Kedar (1990, 153) discusses this passage as well. Holmes (1977, 12–13) writes about Frankish homes being decorated by "Arabs."

5 Wilbrand of Oldenburg 1859, 45–46; see also Richard 1996. Related evidence for this appreciation of Islamic craftsmanship among the upper class is John of Ibelin's bestowal of Arab garments, among other things, upon Frederick II (Philippe de Novare 1970, 51, from Cutler 2004, 255). Fulcher of Chartres (1973, 271) discusses the general Eastern orientation of the Franks.

6 For a more extensive discussion of this manuscript, see Mahoney 2010; for a discussion of the frontispiece alone, see Zeitler 1997.

7 The general association between Islam and precious objects is treated in Hoffman 2001. On related objects in church treasuries, see Shalem 1998; Rogers 1998, esp. 70.

8 On the contributions of local workmen to Frankish building, see Ousterhout 2004; Georgopoulou 2004. Allen (1988) has made a similar argument for the lack of images in early Islam.

Figure 9.2. Creation, *Histoire ancienne jusqu'à César*, second half of the thirteenth century (London, British Library, MS Add. 15268, fol. 1v). Photo: British Library Board.

and external decoration. Of primary interest here is the external decoration of the church's southern and main entrance. Full appreciation of the original pictorial program that once appeared here so prominently is complicated today by damage and loss. Nevertheless, we know that above the westernmost door was a lintel containing scenes from the last days of Christ's life and that above the easternmost door was a lintel incongruously containing an inhabited scroll, both of which are now in the Rockefeller Museum in Jerusalem. These lintels were executed in relief, while above them mosaic tympana contained, arguably, a scene of the Virgin and Christ Child and a scene of Mary Magdalene encountering Christ after his resurrection (both now lost).[9] Such elements—depicted figures and their portal location—closely match artistic traditions in the West, such as those represented by the Cathedral of Saint Lazare in Autun, France (ca. 1130–46) and the Church of San Zeno in Verona, Italy (1138), to cite well-known and contemporary examples, even if the program as a whole is without clear parallels.[10]

The facade of the Church of the Holy Sepulchre appears all the more revealing when considered within its more immediate artistic context, which brings us to the second telling aspect of Frankish construction. Also in Jerusalem and near the Church of the Holy Sepulchre lies the Church of Saint Anne, a contemporaneous Frankish building project (ca. 1140).[11] As with the Church of the Holy Sepulchre, the building of Saint Anne's included the fabrication of a striking facade, with the aisle widths of the interior indicated by external buttresses, a second story suggested by a horizontal band, and a deeply inset portal and windows.[12] Yet the facade of the Church of Saint Anne contains no external decoration, aside from Islamic cushion arches and lozenged hood-molding around the portal, an egg motif on the horizontal band, and, around the central window, a framework of Corinthian-inspired columns and capitals, gadroons, and acanthus-leaved hood molding (fig. 9.3). In other words, the facade of the Church of Saint Anne contains no external figural decoration. There are less extreme examples of austerity within the Latin Kingdom; it has been suggested, for example, that the almost-coeval facade of the Church of Saint John in Sebaste (ca. 1145) once contained a series of historiated capitals and that sculptural remains found in a Nazarene grotto (and elsewhere) were intended for the facade of the Church of the Annunciation in Nazareth (ca. 1150).[13] Nevertheless, it is certainly the more modest, underadorned facade type that dominates Frankish building endeavors.

9 A full description of the original exterior of the Church of the Holy Sepulchre is provided by Pringle (2007, 54–56). That there were mosaics in these tympana is certain; their content, however, is less so. For the lost mosaics in twelfth-century sources, see the pilgrimage account of Theoderic, who says, "Before the face of the Church and between the doors the Lord Christ stands in goodly dress, as if he had just risen from the dead. At his feet Mary Magdalene lies on her face, but not touching his feet" (Wilkinson, Hill, and Ryan 1988, 287). An inscription recorded by John of Würzburg seems to refer to the same content; he writes, "On the space over the lintel of the Church of the Holy Sepulchre" there is an inscription that reads, "Why, woman, weepest thou? Thou seek'st a man, yet him dost worship now! Thou should'st remember me. But while I live, I'll not be touched by thee" (Wilkinson, Hill, and Ryan 1988, 261). Fourteenth-, fifteenth-, and seventeenth-century sources mention the Virgin and Christ Child (Pringle 2007, 55). For a reproduction of the lintel, see Lindner 1992. For pictures of the mosaic remains in the area of the tympanum, see Folda 1995, esp. pl. 7.10e. Folda (1995, 225) also offers a nice interpretation of the facade's original appearance.

10 The mosaic over the northern portal of San Marco's west end in Venice, Italy (ca. 1260), which has as its subject the translation of Saint Mark's relics, may preserve San Marco's earlier facade. If so, San Marco seems to have had a mosaic tympanum and thus to offer a roughly contemporary comparison that includes not only subject matter and location but also medium. A late eleventh-century and thus slightly earlier example from a similar multifaith context appears on the Royal Pantheon of the Basilica of San Isidoro in León, Spain (Martin 2003). I thank Richard Leson for calling my attention to this nice comparison. As with the examples cited in the body of the text, these facades are not identical with that of the Church of the Holy Sepulchre.

11 This is a safe but not definitive date for this church; certainly it was completed by about 1165, when John of Würzburg visited. Pringle (2007, 154) lays out the date debate.

12 For a more detailed description of the original appearance of this church, see Pringle 2007, 150–51.

13 Boase (1977, 101–2) has proposed that a number of disembodied and relocated capitals, purportedly from the site of the Church of Saint John, once decorated its exterior—an idea motivated by the expectation of finding here a richly decorated facade. Such an assumption is found as well in Pringle's remark, "It is clear . . . that the door is a later construction . . . , probably replacing a more elaborate portal" (Pringle 1998, 292, and 296 for discussion concerning the date of this church). In this same work Pringle also provides a description of the Frankish Church of the Annunciation, which was largely destroyed by the Mamlūks in the thirteenth century, and compiles the extensive literature treating the original appearance of the main

Figure 9.3. Church of Saint Anne, facade, Jerusalem, circa 1140. Photo by S. D. Kirkland.

Acknowledging how difficult it is to make sweeping assessments about a culture defined by so much loss, I propose that the Church of the Holy Sepulchre embodies the original aesthetic desires of the Franks, while the Church of Saint Anne embodies their reconsideration (despite the conventional completion dates assigned to them, which suggest more readily the reverse). Such material conditions, albeit not their impetus, are indirectly supported by contemporary pilgrimage sources, which attest no other external figural program than the one installed on the facade of the Church of the Holy Sepulchre.[14]

This adjustment, which is pervasive enough to resist explanations of patronage or finances, can be attributed to an awareness of Islam's prohibition of figural forms in religious contexts.[15] Although there is no direct report of such an awareness in primary texts, an avoidance of figural forms in Islamic religious contexts would have been very much in evidence locally. Particularly prominent examples of aniconism would have included the mosaic that once surrounded the gate to the Ḥaram al-Sharīf and the mosaics within and without the Dome of the Rock and al-Aqṣā Mosque. The identification of these Islamic spaces as religious is confirmed by such actions as the Frankish reconsecration of the Dome of the Rock as the *Templum Domini* and the Frankish continued support of Muslim prayer in al-Aqṣā Mosque after its

portal (Pringle 1998, 123–38). Two important (opposing) arguments regarding this original appearance include those of Z. Jacoby (1981) and Folda (1986).

14 Wilkinson, Hill, and Ryan 1988, 261, 287. Pringle (2007, 55) cites descriptions of the Church of the Holy Sepulchre provided by later visitors.

15 A discussion of the changing understanding of Islam in the twelfth and thirteenth centuries can be found in Hamilton 1997. I am preparing a manuscript that more fully treats the Frankish facades as a by-product of this particular facet of the eastern Mediterranean environment.

reevaluation as the *Templum Solomonis*.[16] There is also the testimony of contemporaries such as ʿImād al-Dīn (al-Kātib al-Iṣfahānī, 1125–1201), historian and secretary to Nūr al-Dīn al-Zankī and Ṣalāḥ al-Dīn, who wrote of the ornamentation (now lost) added to the Dome of the Rock while in Latin hands: "Over the place of the (Prophet's holy) foot they set an ornamented tabernacle with columns of marble, marking it as the place where the Messiah had set his foot; a holy and exalted place, where flocks of animals, among which I saw species of pig, were carved in marble."[17] The mention of pigs in the Dome of the Rock, a most uncommon element of Christian narrative, is in all likelihood either the by-product of a misperception born of its author's horror at the presence of images in this holy space (not to mention the horror of the monument's usurpation) or an intentional exaggeration meant to provoke this horror. Whichever it is, ʿImād al-Dīn's statement reveals the attention that depicted living creatures might attract at this time and in this place and the attitudes that might be attached to them. In so doing, it suggests a general atmosphere wherein the use of images was at issue.[18] Material support for this claim that the almost always plain exterior of the Frankish church was a response to the environment in this particular respect is further provided by the existence of robust figural programs within the quieter or less public (Frankish) church interiors, such as those found within the Church of the Hospital of Saint John at Emmaus in Abū Ghūsh (after 1141) and the Church of the Nativity at Bethlehem (1169).[19] Interestingly, a shift in decorative conventions that is almost identical to the one I am identifying in architecture defines Frankish pilgrimage souvenirs. In this area, too, the earliest objects contain figural decoration—predominantly schematic drawings of Christ entombed in the Church of the Holy Sepulchre, which conform to a Byzantine tradition that dates back to the sixth century—while the later, thirteenth-century objects contain no figural decoration at all (fig. 9.4).[20] If it were not so tempting to reduce these later pilgrimage objects to generic types catering to the "unanticipatable" destinations of a thirteenth-century pilgrim, we might just recognize the effect of a dialogue with Islam in this shift as well and thus see the consequences of this confrontation more broadly.[21]

The best evidence that the Franks knew about and felt the need to respond to the figural prohibition of Islam is presented by one of the robustly decorated interiors referred to above, the third and final telling aspect of Frankish construction. This evidence is the interior of the Church of the Nativity in Bethlehem, which once contained an elaborate mosaic program, installed by 1169 through the combined efforts of Frankish and Byzantine rulers.[22] The upper walls of the body of the church announced in radically abbreviated text the doctrinal decisions made at church councils, including that of Nicaea, where it was officially declared that figural forms in devotional contexts were permissible.[23] The sanctuary of the Church of the Nativity, by which I mean its entire eastern end, presented a very full record of the life of Christ in images including, for example, poignant scenes such as Doubting Thomas, wherein Thomas investigates the wound in Christ's

16 On the Haram al-Sharif mosaics that were present at the time of the First Crusade, see Folda 1995, 225, and his discussion there of decoration mentioned by an eleventh-century Muslim visitor, Nāsir-i Khusraw. On the Latin changes to the Dome of the Rock, see Folda 1995, 251–53. Usāma ibn Munqidh (1095–1188) mentions the continued use of al-Aqṣā Mosque as an Islamic devotional space during the twelfth century (Gabrieli 1969, 79–80).

17 Gabrieli 1969, 169.

18 ʿImād al-Dīn also mentions the Frankish idolatrous worship of the True Cross, "to which all Christians prostrated themselves and bowed their heads" because "it was their God" (Gabrieli 1969, 136–37).

19 On the decoration of the Church of the Hospital of Saint John at Emmaus, see Carr 1982; G. Kühnel 1988. On the decoration of the Church of the Nativity, see Hunt 1991a; G. Kühnel 1987.

20 For the twelfth-century ampullae, see Pitarakis 2012. For a more general discussion of twelfth- and thirteenth-century ampullae, see Syon 1999.

21 On the relationship between ampullae decoration and pilgrimage practices, see Syon 1999, 112. On pilgrimage in the thirteenth century, see D. Jacoby 2001.

22 This information is recorded in a dedicatory inscription; for the Latin, see De Sandoli 1974, 198–99; for the Greek, see Cutler 1986–87, 179. A description and assessment of this inscription is published in Spingou 2018. I am currently working on a book, one chapter of which will treat the Church of the Nativity program comprehensively. In the meantime, see Mahoney 2018.

23 For a transcription of the text, see Quaresmius 1989, 321–22. Walter (1970) discusses the broader tradition of "representing" church councils.

Figure 9.4. Lead ampulla, Acre, thirteenth century (Jerusalem, Israel Museum, IAA 99-53). Photo by A. Hay.

side received during his crucifixion. In drawing attention to the body and its affliction, Thomas shows that the Christian God had become man, a thing tangibly present in the world and thus admitting of pictorial representation. Even without fully fleshing out this mosaic program, such elements clearly indicate that the issue of images was not only on the mind of Muslims like ʿImād al-Dīn but also on the mind of the Franks.[24] It is difficult to imagine a better explanation for this preoccupation than the intellectual and spiritual confrontation with Islam during the twelfth and thirteenth centuries. Indeed, the acumen of the Frankish response can be measured by the reuse of Frankish portals in Islamic structures, such as the madrasa of Sulṭān al-Nāṣir Muḥammad b. Qalāwūn in Cairo (1295–1303), and by the reuse of Frankish religious structures in general (fig. 9.5).[25]

I point to these forms of influence to gesture toward an Islam that is far more present in Frankish culture than it would seem at first glance. But, in addition to arguing for the great influence of Islam, the goal of the present project is to build a representative corpus on which we might make claims with regard to this influence. The discussion to this point has centered on certain—that is, widely accepted—examples of Frankish manufacture that can, accordingly, be treated as certain examples of Frankish culture. I now to turn to a group of objects that is more difficult to classify. Unlike those of the archaeologist, the art historian's "recent advances," to cite the theme of the seminar from which this volume emanates, rarely entail the discovery of new objects. Perhaps I can offer, however, an advance in scholarship that effectively uncovers objects as "Frankish."

Two types of objects have long intrigued art historians of the eastern Mediterranean, one belonging to the realm of metalwork, the other to the realm of glass.[26] Each of these types can be represented by a single object. The first is a canteen of brass with silver inlay containing geometric, vegetal, and animal ornamentation; scenes apparently of ceremonial martial parading, banqueters, haloed processors, and the life of Christ; and inscriptions in Arabic wishing the object's owner well (fig. 9.6).[27] The second is a gilt and enam-

24 The forms that dominate the nave of this church have long been recognized for their similarity with those in the Umayyad Dome of the Rock in Jerusalem and Great Mosque in Damascus (see, e.g., Hunt 1991a). I discuss this similarity in the chapter mentioned in note 22 above.

25 Folda (2005, 673 n. 93) provides a good discussion of this portal's uncertain origin. More general discussions of this portal include Enlart 1928, 2:15–23; Georgopoulou 2004; D. Jacoby 2004, esp. 133 n. 117; Z. Jacoby 1982a. For a concise introduction to the madrasa itself, see Behrens-Abouseif 2007, 152–56. On the conversion of Frankish churches into mosques, Georgopoulou 2004 offers a good starting point.

26 The metalwork group contains fifteen members according to Katzenstein and Lowry (1983) and eighteen according to Baer (1989) and Hoffman (2004). These works are also some of the main treatments of these objects. The glass group consists of ten objects (Carswell 1998; Georgopoulou 1999). For additional and particularly relevant discussions of glass, see Pfeiffer 1970; Rogers 1998.

27 Schneider (1973, 156) provides transcriptions and translations of the inscriptions.

Figure 9.5. Frankish portal, madrasa of Sultan al-Malik al-Nasir Muhammad, Cairo, thirteenth century. Photo: Jaroslav Folda Archive, History of Art and Architecture, DePaul University.

eled glass beaker with haloed figures in ecclesiastical garb set within a landscape of domed buildings and framed by a vegetal scroll at the bottom and an Arabic inscription praising the sultan at the top (fig. 9.7).[28] Based on elements of style, form, and medium, there is no question that these works were made by regional Islamic artists—the canteen by an Ayyūbid artist in Syria or Egypt and the beaker by a probably Mamlūk artist in Syria. It is the Christian content that makes these objects difficult to classify, as it raises questions

28 A translation of this inscription is available in Georgopoulou 1999, 301.

Figure 9.6. Canteen, front, brass with silver inlay, Syria or Egypt, circa 1250 (Washington, DC, Freer Gallery of Art, F1941.10). Photo: Freer Gallery of Art, Smithsonian Institution.

about the intended market. Thus it has been suggested that they were either for an Islamic audience interested in Christian forms, for an Eastern Christian audience, or for a Frankish audience.[29]

The particular way in which Islamic and Christian traditions come together in both of these objects allows us to treat them as a single phenomenon and, moreover, to propose a single solution to the abiding problem of audience. These objects were obviously special items made to meet known demands; in other words, they were not mass produced. I propose that those demands are best interpreted as the demands of a Frankish patron. There is an argument to be made about how this conclusion just makes good sense. One might point, for example, to an interest in Islamic forms that is well documented in other Frankish arenas, to a lack of concern for the Arabic content of the inscriptions, to comparable objects that show up in the West, and so forth. Even the erroneous and surprising iconography of the canteen—an upside-down cross, for example, and the absence of the crucifixion from a series of "life of Christ" scenes—seems to have been overlooked or disregarded out of a desire for the object itself. But an appeal to recent scholarship on the dynamics of production in contemporary Eastern Christian art in Lebanon and Syria promises something better. Indeed, this area of study—the coeval and local Eastern Christian artistic traditions—is one of the most promising for the understanding of Frankish art and has been so since Nurith Kenaan-Kedar's article

29 See note 26 above, esp. Georgopoulou 1999; Hoffman 2004.

on local sculpture in twelfth-century Jerusalem.[30] This area of study is promising because, on the one hand, in providing more examples of artistic creation and illuminating the dynamics of that creation, we become increasingly better able to understand artistic creation in the twelfth- and thirteenth-century Levant in general, and on the other hand, within Eastern Christian artistic creations there are clear instances of Frankish patronage. The work of scholars such as Erica Dodd, Lucy-Anne Hunt, and Mat Immerzeel has been particularly effectual, as it exposes not only a world of Eastern Christian art that has long been neglected due to difficulty of access and poor preservation but also a world of shared artists.[31] It is the latter that is particularly important for the project at hand. Thus the contributions of these scholars allow us to look at a thirteenth-century icon of the Eastern mounted soldier saint Sergios, for example, and claim that the Frankish woman depicted with him commissioned this uniquely Eastern devotional object to be made by a Syrian artist.[32] What this means is that not only were local artists trained to work in Frankish workshops, not only were local laborers enlisted in the raising of churches, not only were local products purchased in markets because they were needed or admired, but also local artists were sought out and approached with specific commissions that married an interest in the local environment with a desire to announce religious affiliation, as evidenced so clearly by the Saint Sergios icon.[33]

Figure 9.7. Beaker, glass with gilt and enamel, Syria, circa 1260 (Baltimore, Walters Art Museum, 47.17). Photo: Walters Art Museum.

An identical dynamic is to be found in the canteen and beaker—that is, an interest in the local environment (the Islamic motifs and subjects in the canteen and the domed buildings of the beaker; the media and Arabic inscriptions of both) and a desire or even obligation to announce religious affiliation (the scenes from the life of Christ on the canteen and the ecclesiastical figures on the beaker; see figs. 9.6 and 9.7). In other words, there seems to be a larger context of Frankish patronage, involving objects of emphatically local manufacture and Christian imagery, within which these objects neatly fit. The metal- and glasswork exemplified by the canteen and beaker are, of course, things owned by Franks, not things created by Frankish

30 Kenaan 1973a, 1973b.

31 E.g., Dodd 2001, 2004; Hunt 1991a, 1991b; Immerzeel 2004, 2009.

32 For a reproduction of this icon, see Folda 2005, fig. 199.

33 Foundational articles treating workshop makeup and artisan ethnicity within the context of Frankish artistic production include Z. Jacoby 1982b; Hunt 1991a; Ousterhout 2004. Folda (2005, 305–8) discusses artists and workshops in general and in doing so provides a thorough review of relevant literature.

artists. Still, they are examples of the Franks affecting manufacture, which is also an important aspect of Frankish culture and the means by which that culture was influenced by Islamic traditions.

With this idea of affecting forms even if not creating them wholly, I turn to a final category of Islamic influence on Frankish visual culture. This category involves reuse, as exemplified by the well-known large marble slab from Ascalon (fig. 9.8). This slab bears a twenty-two-line Fāṭimid inscription commemorating the building of a defensive tower in 1150 and the coats of arms of two Franks; Moshe Sharon has dated the addition of these coats of arms to 1240.[34] Reuse, of course, is not necessarily interesting or meaningful.[35] For example, a Fāṭimid stone with decorative relief was reduced, flipped over, and carved anew prior to its insertion into the exterior of the Church of the Holy Sepulchre.[36] As loaded as this reuse seems, the fact that it was never discernible indicates practical rather than symbolic motivations. In the case of the Ascalon marble slab, however, the twelfth-century Arabic inscription has become the very surface for the thirteenth-century coat of arms, reoriented in the process but not hidden. This visible manipulation, in fact, suggests a reading of the Arabic text as an embodiment of Islam, an Islam subdued and bent to the Frankish will; it suggests, in other words, that reuse here is interesting and meaningful indeed.[37] The effectiveness of declaring triumph in repurposing materials and forms of clear Islamic origin is likewise seen in the many

Figure 9.8. Reused marble slab with Fatimid inscription, stone and paint, Ascalon, thirteenth century (Jerusalem, Israel Museum, IAA 95-3731). Photo by A. Hay.

34 This marble slab is fully discussed and translated in Sharon 1995. An idea of the content of the text can be gained from the following abbreviated quotation (transliteration as in the original): "[He] has ordered the construction of this blessed tower, the Exalted Master, the Righteous, the Commander of Armies, the Glory of Islâm, the Helper of the Imâm, Protector of the Qâdis of the Muslims and the Guide of the propagandists of the Believers, Abû al-Hasan ʿAlîaz-Zâfirî the slave of our lord (the Caliph) Allah's blessing be upon him, may Allah support the religion through him and benefit Amîr al-Muʾminîn by the lengthening of his life, and perpetuate his position and elevate his authority. (This work was accomplished) by his Mamlûk the Amîr, the Commander, the Splendor of the Caliphate and its support, the Possessor of perfect/noble qualities and their Beauty . . . the Succor of the Muslims, the protector of the State and its Sword, the Glory of the country and its Crown the Virtuous, the Right Arm of Amîr al-Muʾminîn, Abû Mansûr Yâqûtaz-Zâfirî al-ʿÂdilî, may Allah perpetuate his authority and power, and (may He) support him, and grant him His assistance . . . and this was in Dhû al-Qaʾdah of the year five hundred and forty four (March 1150)" (Sharon 1995, 74–75).

35 The literature on reuse is immense. Some particularly relevant works include Kinney and Brilliant 2011; Flood 2009; Hansen 2003.

36 Richmond 1931. For a reproduction, see Folda 1995, pl. 7.9r.

37 Hillenbrand (1999, 384–86) makes a related point regarding Islamic reuse of Frankish architectural components. For a recent, broad discussion of spolia, including their meaningful potential and interpretive limitations, see Kinney and Brilliant 2011.

mosques and shrines that were converted into churches by the Franks.[38] The most famous and prominent example of this type of reuse under the Franks is the Dome of the Rock, which was physically converted into the Christian *Templum Domini*, or Temple of the Lord, by the addition of a cross on its exterior and a few new mosaics in its interior and which became a major ingredient of Jerusalem's identity as a Frankish city, to judge by its prominent inclusion on "Crusader" maps and its regular appearance on royal seals.[39] Although not identical, and although it is unpopular to locate meaning in currency, this may also be the intended flavor of the mid-thirteenth-century Frankish gold bezant famously associated with the visit of the papal legate Eudes of Châteauroux.[40] Eudes arrived in the Levant to find the Franks minting imitation Fāṭimid dinars, which, most problematically, praised Muḥammad and provided a *hijrī* date. Prompted by Eudes's ensuing outrage, Pope Innocent IV demanded a new coin type. The Franks did not change the coin's material, script, or design, but the text was Christianized with phrases such as "One God, One Faith, One Baptism," which above all omitted the name of Muḥammad, and with a date "in the year of the Messiah," as well as the insertion of a few crosses.[41] In this instance, then, instead of making new use of old materials, new use is made of an old Islamic-styled currency, with the Arabic language and Kufic script manipulated to celebrate the Christian God.

Two basic claims about Frankish culture arise from these considerations. One is that Islamic influence was abundant and pervasive and is worth attending to. The other is that, once attended to, this influence is marked by a variety of consumers and their variety of interests in and responses to this environment. The private luxury objects announce the worldliness and cultural openness of the elite (royalty in the case of the ivory book covers with which we began, the upper class in the case of the *Histoire ancienne* manuscript); the church facades represent the fears and doctrinal engagement of, at a minimum, an ecclesiastical community; the metalwork and glass reflect aristocratic desires for situating identity within a geographically specific landscape; and the objects of reuse underscore the politics and power struggles of those attempting to govern this place. In short, these objects represent multiple and complicated responses to the Levant, albeit by those members of society with the position and means to mold visual culture, whether through purchasing practices or commissions and whether through works for a large or small audience.[42]

This picture accords well with that derived from other sources. On the one hand, miniatures that accompany the text of chronicles written in this place similarly invoke Islam in contradictory ways.[43] References might be used as a means, for example, of situating a story within a certain place (as when the ruler of Egypt is pictured sitting on a camel throne), of labeling figures as high-ranking adversaries (as when Nebuchadnezzar's general is pictured seated on the ground inside a tent entertained by a boy and his tambourine), or of portraying communal endeavors (as when figures in Arab dress are pictured working together with figures in Western dress).[44] On the other hand, stories and observations recorded by contemporaries testify at one moment to a Frankish population that has fully adapted to the exigencies of life in the Levant, as when Fulcher of Chartres remarks, "We who were Occidentals have now become Orientals."[45] At another moment we learn about Franks who meet in meaningful ways with the Arab population, as when Usāma ibn Mundiqh describes Frankish inhabitants who have made themselves familiar with, for example,

38 This phenomenon is underdiscussed, but Georgopoulou 2004, esp. 116–17, deals with it a bit. Pringle documents it in his four-volume *Crusader Churches of the Latin Kingdom* series (published 1993–2009).

39 For nice and easily accessible reproductions of maps belonging to the Frankish period, see Levy-Rubin 1999; for seals, see Schlumberger 1943.

40 Metcalf 1999, esp. 167–69. The conventional understanding of the politics of coinage may be summarized by Metcalf's remark that "trade and profit won out over dogma" (Metcalf 1999, 169). See also Bates and Metcalf 1989.

41 Translations of the Arabic texts are from Georganteli (2012, 152) and Folda (2005, 359).

42 More everyday objects also have a role to play in Frankish visual culture, of course. For more on them, see the references in footnote 2 and Boas 1999, 143–55; 2010.

43 For the *Histoire ancienne jusqu'à César*, see Mahoney 2008, 2010. For the *Histoire d'Outremer*, see Luchitskaya 2000.

44 For reproductions of these miniatures, all from the *Histoire ancienne jusqu'à César* (London, British Library, MS Add 15268), see Folda 2005, CD nos. 339 (fol. 64r), 360 (fol. 181r), and 367 (fol. 226r).

45 Fulcher of Chartres 1973, 271.

the Muslim direction of prayer and dietary laws.[46] And at yet other moments we read of a Frankish intolerance of, and presumed superiority to, this Muslim population in manufactured charges of idolatry.[47] In the light of these examples, we might see the Frankish visual culture presented here as complementing, but also clarifying and complicating, our understanding of Islamic influence in this place and at this time. The art historian of the Franks now has only to hope that more objects will be found in archaeological contexts, thereby increasing the size of our corpus and providing more instances of clear conditions of use—and thus more discrete grounds for meaning.

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46 Gabrieli 1969, 78–80.

47 E.g., Ralph of Caen 2005, 144.

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10 CONCLUSION: NEW DIRECTIONS FOR ISLAMIC ARCHAEOLOGY IN THE TWENTY-FIRST CENTURY

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This volume comprises a series of reports on research conducted into the history and material culture of the Islamicate world. Yet it may also be seen as a "state of the art" demonstrating both the scientific legitimacy and the interdisciplinary nature of the field and highlighting the societal relevance that Islamic archaeology has achieved (e.g., in constructing identities or for developing tourism-based economies). Even though the contributions to this volume were not written or selected out of an ambition to assess Islamic archaeology itself, they provide a good opportunity to reflect on our developmental trajectory and, despite our many successes, to critically assess where our field still needs to mature. Such an assessment must occur on many platforms and by all of us engaged in the field, and this chapter is hardly meant to cover all the problematic issues that Islamic archaeology faces today; rather, it is intended to serve as a review of Islamic archaeology's epistemology and practice.

Since the 1990s, scholarly assessments of how far Islamic archaeology has advanced have been largely positive and often marked by a degree of excitement.[1] But considering that it is usually proponents of the field who write such assessments, this excitement is perhaps less than surprising. One factor in the growth of Islamic archaeology is, of course, the contemporary Islamic world's legitimate interests in promoting this field of study.[2] All the same, there can be little doubt that in the past hundred years the archaeology of Islamic civilization has dramatically expanded our understanding of Muslim societies and made significant contributions to our understanding of both historical and contemporary Islamic culture. Islamic archaeology has not merely shed light on an archaeologically and, at times, historically obscure period—it has evolved into a champion of postcolonial thought and revision.[3]

Islamic archaeology has indeed accomplished much—a growing number of universities and research institutions now offer postgraduate degrees and sustain professorial chairs in Islamic archaeology; books providing introductory overviews of the field are published regularly, and a peer-reviewed journal dedicated solely to the archaeology of Islamic societies was launched in 2014.[4] The most important yet often overlooked contribution of Islamic archaeology has nonetheless been the now-pervasive tendency to deal with Islamic strata and material culture with the same care and precision afforded other archaeological remains. No longer is it acceptable to remove or ignore certain periods; it is simply bad form—and in most countries, downright illegal. This validation of historical and social processes pertaining to Islamic history is largely the result of those pioneering individuals and studies that brought a marginalized cultural horizon

1 E.g., Vernoit 1997; Northedge 1999; Walmsley 2004; Whitcomb 2009; Cytryn 2024.

2 Petersen 2014, 4064.

3 While rarely made explicit in archaeological work on Islamic cultures, the development of our field has given a voice to a previously marginalized cultural heritage; see, e.g., Rico 2014.

4 *Journal of Islamic Archaeology* (Equinox). In the early 1990s, a French scholarly journal titled *Archéologie islamique* (Centre national de la recherche scientifique, France) was launched but was discontinued some years later. There exist other journals dedicated to Islamic archaeology, such as the Egyptian *MISHKAH*, but they have not managed (and indeed most of them were not intended) to encompass the full scope of Islamic archaeology.

to everyone's attention.[5] Despite this positive development, many aspects of Islamic archaeology remain problematic and, in essence, detrimental to our field.

A PAUCITY OF PARADIGMATIC THOUGHT

Islamic archaeology is a fragmented archaeology, at least in part because of the enormous geographic and chronological scope of Islam as a cultural phenomenon. Yet the fragmentation also stems from the fact that Islam is a living religion and a highly diversified cultural sphere. As such, it dramatically exceeds the scope of major branches such as classical archaeology. At the same time, it is more constricted in that it is subject to a historical filtering that not only serves as an important explanatory framework but also results in as diverse and complex a data corpus as any. And lastly, as was stressed in this volume's introduction and has been amply demonstrated in the contributions, Islamic archaeology has impressive potential for being interdisciplinary in that it consistently draws on sister disciplines (e.g., history, ethnography, anthropology, history of religion, and sociology) and lies at the forefront of the fruitful intersection of archaeology and the natural sciences.[6] The potential for cross-disciplinary collaboration is here exemplified by the contribution on Quṣayr ʿAmra,[7] which not only sheds new light on this site but has also resolved questions pondered by scholars for more than a century.

The potential for cross-disciplinary collaboration is one of the key traits that all endeavors in Islamic archaeology share; therefore, one might suggest Islamic archaeology as a possible firmament for comparative analyses that exceed geographic or chronological frameworks. Thus, when Amir Gorzalczany expands our understanding of Ramla's production apparatus and how it was an integral part of developing a strong early Islamic economy,[8] or when Gideon Avni uses an interdisciplinary approach to date and characterize early Islamic field systems,[9] we gain an opportunity for discussing broader implications for the Islamic world—regarding both the results and also the methodology. Similarly, when Michael Jennings and Anthony Lauricella demonstrate that even small projects, narrowly focused and with limited resources, have the potential to revise a town's history,[10] it should not only be seen as prospective for the site in question but also considered and contextualized for the entire field of Islamic archaeology.

Despite such potential, most Islamic archaeologists remain context specific in their analyses by focusing on regionalist narratives rather than situating results in a more encompassing scheme. This inclination is understandable considering the scope and thematic breadth that falls under the term "Islamic archaeology." Yet more and more, the great diversity of subject matter is leading to a disintegration of the discipline into regional and chronological specializations—so much so, in fact, that people now speak of a "Mamlūk" or an "Ottoman" archaeology,[11] or an "archaeology of Islamic Spain." This fragmentation is explicable and springs from the indexations established by major but early proponents such as K. A. C. Creswell and Jean Sauvaget. Yet it has deterred scholarship from inserting results into an overarching methodological or theoretical framework for Islamic archaeology in general.[12] In my opinion, the difficulties we face in for-

5 The list is long, but examples include scholars such as Max van Berchem in epigraphy; K. A. C. Creswell and Jean Sauvaget for their architectural and urban studies; Gaston Migeon, Henri Saladin, and others for setting out an "Islamic" perspective in art history; Ernst Herzfeld and Friedrich Sarre, Daniel Schlumberger, and Oleg Grabar for helping bridge the gap between art history and archaeology; and archaeologists such as Robert Smith at Pella, James Sauer at Hesban, and Charles K. Wilkinson at Nishapur for pushing the Islamic periods fully into the archaeological limelight.

6 van der Leeuw and Redman 2002.

7 Palumbo and De Palma, chapter 3 in this volume.

8 See chapter 2 in this volume.

9 See chapter 1 in this volume.

10 See chapter 8 in this volume.

11 Whitcomb 2009.

12 A brief note should be made about the ongoing discussion of the term "Islamic archaeology." Although it is the most widely used name for our branch of archaeology, some have argued that it should be expressed differently. Suggestions include names such as "the archaeology of Islam," "the archaeology of Islamic lands," and "the archaeology of Islamicate

mulating a broadly recognized theory of Islamic materiality have caused a degree of stagnation in Islamic archaeology.

Diversity has been part of the problem. It is difficult to demonstrate stable cultural trends between ninth-century Uzbekistan, twelfth-century Spain, and nineteenth-century Qatar, though noble and fruitful attempts have been made to do so. In the early 1990s, Japanese scholars published a comprehensive, and in many ways pioneering, historiographical study of Islamic urbanism.[13] On the one hand, it was divided into specific regions that were analyzed by specialists able to understand and explain the distinct trajectories of research and knowledge formation pertaining to them; on the other hand, there was a clear recognition of the Islamic world as a greater whole. In a subsequent review, Suraiya Faroqhi[14] suggested that the Japanese willingness to perceive the Islamic world in this manner was related at least in part to not being constrained by Europe's colonial history and the interpretative framework shaped by the postcolonial discourse that followed it. Yet one of the authors still notes a growing tendency for urban studies to dissolve into a plethora of "particularist" studies at the expense of more "common paradigms."[15]

This critique is important and may just as well have been launched at Islamic archaeology. In our case, however, the tendency toward regional and chronological indexation is not necessarily a bad thing. In fact, regions such as East Africa have to some extent been archaeologically vindicated because they were first studied as nodes partaking in the Indian Ocean trade.[16] Nevertheless, the consequence has been that new branches of archaeological research, such as Swahili archaeology, have crystallized into coherent platforms of inquiry of their own.[17] But where does this development leave Islamic archaeology?

Perhaps we are going about it the wrong way. Perhaps it is time that we deliberately and strategically divide context-specific questions from broader, overarching themes so that the return to sites such as Khirbat al-Mafjar / Qaṣr Hishām[18] and al-Ṣinnabra[19] not only illuminate local and regional contexts (as important as they are) but also inform a broader debate about the materiality of Islamic culture. While recognizing how and why biased and orientalist concepts have warped the interpretation of Islamic monuments in Palestine is important, it is hardly still news. What would be refreshing would be a sense of disciplinary obligation to consider and expound what implications the context-specific realizations have for Islamic archaeology in general and how they might be proposed to colleagues working in different regions or periods.

This approach may seem straightforward and logical, yet that it is rarely practiced in a systematic way begs the question whether we have already become so fragmented that the only thing binding us together is the fact that many of our particularisms are too limited in scope to constitute proper fields of study in themselves, so we cling to an increasingly hollow concept. Or should we perhaps perceive Islamic archaeology together with other archaeological branches as a form of taxonomy, as providing conceptual stepping-stones for achieving a more nuanced and neutral understanding of the world and its history, as a way of giving unheard indigenous or marginalized cultures a voice?

The notion is attractive but ultimately not very fruitful. One might argue that archaeology has the potential to produce more balanced narratives about world history, but this characteristic is not particular to Islamic archaeology. If, on the other hand, we maintain that Islamic archaeology has legitimacy as a coherent and finite field of inquiry, then we need to address the paucity of paradigmatic thought explicitly,

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societies," but ultimately all these monikers refer to the same core concept—what Andrew Petersen describes as "the investigation of the material culture and historical record of Muslim peoples and societies" (Petersen 2014, 4063). While Islamic archaeology rightly and indubitably encompasses many peoples and societies that are not Islamic *per se*, the ongoing debate regarding the most appropriate term seems to be more a distraction from the real problems than a fruitful discussion in itself and is therefore omitted from this essay. For an introduction to the discussion, see Northedge 1999; Whitcomb 2009.

13 Haneda and Miura 1994.

14 Faroqhi 1997.

15 Miura 1994, 158–59.

16 Horton 2004.

17 Pradines 2014.

18 Whitcomb, chapter 5 in this volume; Arce, chapter 6 in this volume.

19 Daʿadli, chapter 4 in this volume.

and from many angles. From a cultural perspective, Islam is an explicit social and ideological framework within which groups of various descriptions and convictions advance along different trajectories. Yet in the concrete analyses of the groups partaking in such an overarching framework, one can break the subject matter down to the level of a single individual, potentially detaching anything or anybody analytically from an overarching whole. This is what we have. So if we are to continue to develop Islamic archaeology as a discipline, then we must focus at least some of our energy on formulating a theoretical apparatus that compensates for this fragility in the overarching framework. Moreover, we must continually make the effort to frame our results and conclusions within that overarching framework.

One of the avenues open to us is allowing the search for patterns in the immense diversity to become a focal point in archaeological research. The imposing of geographic constraints on archaeological research is both logical and fruitful, as distinct regional dynamics and premises are decisive factors in cultural formation. Yet regions such as Portugal, Indonesia, and Mali are not just geographic peripheries of Islam but unique cultural hybridizations that, each in their way, influenced the formation of habitus and ideas throughout the Islamic world. What is needed—in addition to more archaeological research into these regions—is a concerted and systematic effort to integrate them more firmly within a coherent field of inquiry so that the extensive archaeological work that has been done in Mértola,[20] for example, ceases to be a detached pocket of local knowledge and becomes part of a broader debate on how Islam as a way of life shapes material realities everywhere it exists. If we can acknowledge the mutual contributions between Islamic archaeology and studies of Crusader materiality,[21] surely we can elevate our thinking to find and explicate the benefits of juxtapositions within the Islamic world as well.

Timothy Insoll is one of the few scholars who have engaged seriously with this problem. He viewed the isolation of Islamic archaeology from other archaeologies as detrimental to our field and attempted to rectify this problem by outlining a broad interpretative framework for the archaeology of Islamic societies. When he published *The Archaeology of Islam* in 1999, it was a completely new type of work in the repertoire of our field, consisting as it did of a metamorphosis of critical review and the initial formulation of an overarching theoretical apparatus. Insoll fully acknowledged that Islamic culture manifests itself in a plethora of ways, but he also argued that Islam promulgated certain ideas and ideals that unified and, to a degree, streamlined the cultures embracing it. Consequently, he argued, living a "Muslim life" should, in principle, generate specific categories and forms of material culture that could provide a sound empirical basis for comparative analyses across geographic and chronological delineations. His attempt was a bold one and stirred the kind of debate that it was meant to, but his ideas never fully took root, in part because there is no sustainable definition of "Muslim life," and thus the debate was soon muted.

In hindsight, Insoll was perhaps taken too literally; his hypothetical positioning was countered either by a theoretical rejection of the premise or by archaeologists too entrenched in the context of their specific work to appreciate what he was trying to accomplish. Undoubtedly, there are numerous examples of archaeological contexts that do not fit generalized classification criteria, but this reality has not detracted from the development of theoretical generalizations and paradigms in other branches of archaeology. Ultimately, Insoll's critique and proposal were not developed enough to support a full methodological framework for Islamic archaeology, nor were they likely intended to do so; rather, they were an attempt to articulate an approach to building such a framework in the first place, and for that he should be commended.

Since *The Archaeology of Islam* appeared, a number of introductions to our field have been written, each one providing its own account of Islamic archaeology's development, application, and merits. But these works also fail to address the lack of a theoretical apparatus. Instead, they either constitute regional overviews that highlight questions and issues raised by archaeological fieldwork[22] or, as is the case with

20 Several decades of interdisciplinary research have been conducted on the region of Mertolá primarily (but far from exclusively) by local scholars. An overview of the last thirty years of publications can be found on the webpage of the Campo Arqueológico de Mertolá: http://www.camertola.pt/en/info/curriculum-cam (accessed April 2018).

21 Mahoney, chapter 9 in this volume.

22 E.g., Rosen-Ayalon 2006; Walmsley 2007.

Marcus Milwright's volume,[23] declare the field to be so variegated that specific case studies must be selected to achieve any kind of meaningful overview. This observation is not a critique of these works but rather an exemplification of the daunting task at hand, and it underscores the fact that any one scholar will be hard pressed to achieve it single-handedly. For our discipline to progress, frameworks must be defined that in spite of ever-increasing diversity and variation bind Islamic archaeology together as a coherent field. As far as I can see, the only way we can achieve this goal is if everyone pitches in. But the question remains, pitch in to what? At the moment there is no agreed-upon platform or reality that can encompass the diversity of Islamic archaeology. We are charged with creating one.

Paradigms are a hallmark in the social sciences, a characteristic that distinguishes fully fledged and healthy branches of archaeology from regionalism and unbridled specialization. So why is it that despite the growing number of proponents and practitioners in our field—as well as an expanding chronological and geographic canvas on which to work—Islamic archaeologists continue to resist the formulation of unifying paradigms?

In addition to the diversity and scope of the field, the origins and early development of Islamic archaeology also play an important role. Springing largely from art-historical traditions, Islamic archaeology began as a form of antiquarianism that responded almost exclusively to demands in the art market. Then, during the early twentieth century, the Islamic built environment became a focal point for architectural historians such as Creswell and Sauvaget, in part as a result of Max Weber's considerations on occidental/oriental urbanism.[24] It was, however, only in the latter half of the twentieth century that archaeology became a broadly recognized means of studying historical Islamic societies.

The efforts by early advocates of an archaeological practice were often conceived in direct opposition to the amateurish approaches that art historians were taking to stratified deposits.[25] This conscious and hard-won departure from art history has since caused Islamic archaeologists to dismiss sweeping generalizations as orientalist constructs. Consequently, looking for patterns and defining general frameworks has, for many of us, become synonymous with an antiquated understanding of, and approach to, Islamic societies. This view is not without merit or validity, but we must be careful that our discipline's history does not stand in the way of its future.

It is ironic that a consequence of the otherwise prudent departure from art history seems to be an apprehension to engage in the search for patterns or structure. Yet if we wish to continue the positive trajectory that Islamic archaeology has enjoyed for the past fifty years or so, I believe it will be of crucial importance that we abandon this tendency and start to distinguish between the sweeping generalizations of orientalism and an up-to-date methodology of identifying and considering patterns within a broad and variegated corpus of material.

In many ways, the past few decades of archaeological fieldwork have created fertile ground for this type of broader comparative analysis. Insoll defined a range of domains in which "Islamic" patterns could be distilled and analyzed. These domains included urbanism, social institutions, the domestic environment, diet, and death. All of them remain key themes worth investigating, and compared to what Insoll had to work with, we now have a much stronger empirical basis from which to define such categories. The reorientation of research design toward more surveys and landscape analyses also aligns smoothly with a renewed focus on cultural patterning and constitutes a fitting domain for analyzing Islamic material culture in a transcending theoretical perspective.

A final note should be made on the lack of synergy between historical and archaeological research. While we as archaeologists draw on historical interpretations—and as a whole are drawing increasingly competently on indigenous historical sources—there is no broader debate in archaeological circles than

23 Milwright 2010.

24 Weber 1966.

25 Good examples of the gradual transition from fieldwork driven by art history to actual archaeology are found in Hamilton's treatment of Khirbat al-Mafjar (Hamilton 1959) and later in the Harvard expedition to Qaṣr al-Ḥayr al-Sharqī (Grabar et al. 1978). More recently, Sheila Canby (2000) pointed out that art history and archaeology have fundamentally different aims and approaches.

that on new explanatory frameworks from historical research and how archaeology might fruitfully draw on them. Examples include recent revisionist works such as Garth Fowden's *Before and after Muḥammad* (2014) and Peter Webb's *Imagining the Arabs* (2016), which reflect years of important work that should be informing the archaeology of Islam's formative centuries. Yet from personal experience I find that such informing is very rarely the case.

Ultimately, constructing a theoretical framework of inquiry for Islamic archaeology will require an identification and acknowledgement of the delineating features that bind Islamic archaeology together. To achieve this goal, we must continue to challenge ourselves—in thinking, in the field, in interpretation and publication, and in the classroom—so as not to limit the significance of our work to the specific context in which it takes place.

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Insights into Islamic Archaeology and Material Culture explores the evolution of this dynamic field, highlighting new methodologies, interdisciplinary approaches, and shifting paradigms. Stemming from a 2013 seminar in Jerusalem, the volume critically examines whether the means and goals of Islamic archaeology have changed significantly from those that defined the discipline's major advances in the twentieth century. The book's fourteen contributors reassess long-held perspectives, emphasizing the need to move beyond orientalist interpretations and historiographic dependencies and instead foster a more neutral and analytical approach to early Islamic material culture. The collection showcases research on key sites such as Quṣayr ʿAmra, Khirbat al-Mafjar, and al-Ṣinnabra and offers fresh views on settlement patterns, agricultural economies, and the sociopolitical functions of Umayyad palaces, among other topics.

The volume also highlights the interplay among archaeology, conservation, and cultural heritage studies, illustrating how technical advances—such as the conservation of Quṣayr ʿAmra's frescoes—have reshaped scholars' understanding of early Islamic visual culture. Its essays challenge established narratives of cultural decline following the rise of Islam, demonstrating instead a dynamic period of adaptation, innovation, and exchange still reflected in later eras, as evidenced by Islamic interactions with the Frankish world. Through its diverse perspectives, *Insights into Islamic Archaeology and Material Culture* serves as both a critical reassessment of the field's past and a blueprint for its future, fundamentally advocating for an inclusive, methodologically rigorous approach that integrates archaeology with the broader humanities and social sciences.

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