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The Secretary
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The Anglo-Israel Archaeological Society

Editorial

For the opening paper of this volume, Dennis Mizzi has written a clear and concise summing up of the Dead Sea Scrolls, seventy years after their discovery in a cave in the desert. This single discovery has had a monumental impact on our understanding of ancient Judaism, and fundamentally enlarged the body of primary resources from Roman times available for modern study. Yet, the chronology of the site remains a major issue, and particularly questions concerning the origins of the site, whether a Roman villa or religious centre. For many scholars, consensus is far away.

Following this study, there are three on Roman lamps, the first by Renate Rosenthal-Heginbottom on 'factory-made' lamps found in modern Israel. Using both petrographic analysis and a detailed study of the iconography, a clear distinction can be made in the discussion of 'Romanisation', between the indigineous Jewish inhabitants and the new population of non-Jews who came to Palaestine after the destruction of the Temple in 70 CE. The second study, by James R. Strange and Mordechai Aviam examines mass production of oil lamps using moulds made either on the site of Shiḥin or nearby. Their excavation at the site uncovered not just stone moulds for Roman lamps, but also a production centre with a small kiln. This work sheds new light on where lamps were made and their trade in the ancient world. The following research by Anastasia Shapiro starts with an analysis of the petrography of the lamps from Shiḥin to identify the sources from which the clay used in these lamps came. The lamp clay came from two local sites.

Ido Wachtel, Roi Sabar and Uri Davidovich have written a carful study examining a single site, Bronze and Iron Age Tell Gush Halav (Roman Gischala), with an integrated approach, using both field survey and salvage excavations. Their study shows that the size of site has been often misunderstood. Instead of a large and cental site in Galilee, it was rather of medium size, part of a chain of sites along the Meron range.

Moving back in time to the 4th millennium BCE, Samuel Atkins studied the interactions between northeast Africa and the southwest Levant. The earliest commercial exchanges, and routes of transport are evidence of local identities

that indicate both a growth and later withdrawal from foreign ventures. The 1st Dynasty in Egypt consolidated power while at the same time brought more control over trade.

Michel Freikman and Alla Nagorskaya examine the megalithic architecture of the Shephelah region in Israel, and show how this type of architecture, thought to be totally absent from this region, is far more prevalent than ever considered. Often, what was found was mis-identified or poorly dated. The newest data shows that they belong in the EBI period, although many have been destroyed, or their stones used for later construction.

Orit Peleg-Barkat presents her second preliminary report on her excavations at Horvat Midras, a Hellenistic and Early Roman site that was considerably more well off than other nearby sites. The most important find of the excavation so far is the large funerary monument and a monumental podium.

To those who helped in producing this volume, I owe a debt of thanks, and in particular to the reviewers and those who helped proof the texts. This year, Kimberly Czajkowski jumped in the deep end and produced a formidable collection of reviews. Rachael Sparks has been an enormous help again in getting this issue ready for print. Eitan Klein, the Deputy Director of the Unit for the Prevention of Antiquities Looting for the Israel Antiquities Authority, has kindly taken over the responsibility for writing our *Reports from Israel*, which can be found both in this journal and on our website. To all, I owe my gratitude.

Concerning subscriptions, annual membership of the AIAS will include a mailed copy of the journal as well as access to the Society's other activities. Further details, contact information and a membership form are to be found on the AIAS website: http://www.aias.org and see our Facebook page: http://www.facebook.com/IsraelArchaeologyLondon for more up-to-date information and news.

David Milson
Editor

Contents

Book Reviews

Qumran at Seventy: Reflections on Seventy Years of Scholarship on the Archaeology of Qumran and the Dead Sea Scrolls[1]

Dennis Mizzi
University of Malta

Qumran is probably one of the most renowned and disputed sites in the ancient Near East. In large part this is because of the discovery of the Dead Sea Scrolls in caves in its immediate vicinity. The year 2017 marks the seventieth anniversary of the discovery of these scrolls, which changed the scholarly landscape of ancient Judaism and biblical studies and also put Qumran on the archaeological map. In celebration of this important milestone, this paper traces seventy years of scholarship on the archaeology of Qumran, with a view to highlighting key methodological issues surrounding the many heated debates about its nature and function as well as its relationship to the scrolls.

Introduction

The year 2017 marked the seventieth anniversary of the discovery of the Qumran Dead Sea Scrolls.[2] This collection of Jewish texts has been dubbed by many as one of the greatest archaeological discoveries of the 20th century, and it has proven instrumental in shedding critical, new light on ancient Judaism and the transmission of biblical texts. It is no exaggeration to say that, in many ways, the discovery of the scrolls was a complete game changer, and thus it is very fitting that it is being celebrated. Nonetheless, the scrolls cannot be isolated from their context, without which a crucial part of their 'identity' would be missing. Therefore, any anniversary celebration of this important textual corpus should also be a celebration of Qumran, the site that gave us the Dead Sea Scrolls.

This brief article presents an overview of seventy years of scholarship on the archaeology of Qumran. The history of research is eventful, and the scholarly discussion on the site's archaeology is quite complex, filling pages upon pages of books and journals. Inevitably, this paper will present nothing but a few simplified snapshots of some salient facets of this exciting field.

A Brief History of Qumran

The site of Qumran has become intricately intertwined with the story of the Dead Sea Scrolls. The term 'Qumran' itself is used unequivocally with reference to this field of studies. However, there is more to the site than just the scrolls. The story, actually, begins several millennia ago. What follows is a concise and filtered history of Qumran. There are numerous debates and disagreements on multiple aspects of the site to the extent that a general paper of this sort would require disclaimers for many statements. Therefore, the ensuing narrative strives to present as straightforward a narrative as possible, yet inevitably an element of bias remains. In the end, this is the story of Qumran as I see it.

The earliest time when humans visited Qumran and left behind material traces of their presence was during the Pre-Pottery Neolithic and Neolithic periods (12th–5th millennia BCE). The region became populated in the subsequent Chalcolithic period (5th–4th millennia BCE). In both phases, people made use of a number of caves dotting the limestone cliffs to the west of the Dead Sea, and there they dropped a number of stone implements, pottery, and other objects (de Vaux 1962; Patrich 1994; Zelinger 2002; Baruch, Mazor, and Sandhaus 2002; Cohen and Yisraeli 2002; Gopher *et al.* 2013). Probably, the caves were visited seasonally and used as shelters by hunter-gatherers or pastoralists who hailed from major settlements in the vicinity, such as Jericho and 'Ein Gedi. At least one cave was also visited during the early Bronze Age (4th–3rd millennium BCE, Baruch *et al.* 2002: 193–194).

The region then lay dormant for circa three millennia, until a small Israelite settlement, dating to the Iron Age II (8th/7th–6th centuries BCE), was constructed atop the marl plateau above Wadi Qumran, overlooking the northwest shore of the Dead Sea (de Vaux 1973: 1–3, Pl. III; Magen and Peleg 2006: 72–79, 101–102). This marked the erection of the first structures at Qumran, and these were destroyed during the tumultuous events of the Babylonian campaign against Judah (de Vaux 1973: 3; Magen and Peleg 2006: 79). Some of the surrounding caves, including ones that had been occupied previously, were utilized as well (de Vaux 1962; Patrich and Arubas 1989; Baruch *et al.* 2002; Ibrahim 2002a; 2002b), although it is unclear whether or not their use was coterminous with the occupation of the buildings or even whether they were utilized by the same inhabitants. The limited remains left behind, however, indicate that the caves were used only briefly or periodically.

The site lay fallow for several more centuries, and then, in the early 1st century BCE, the Iron Age ruins were used as a blueprint for a new, larger settlement. This phase represents the most intensive and extensive occupation of the site, which lasted for around 150–170 years. The settlement was abandoned and subsequently burned

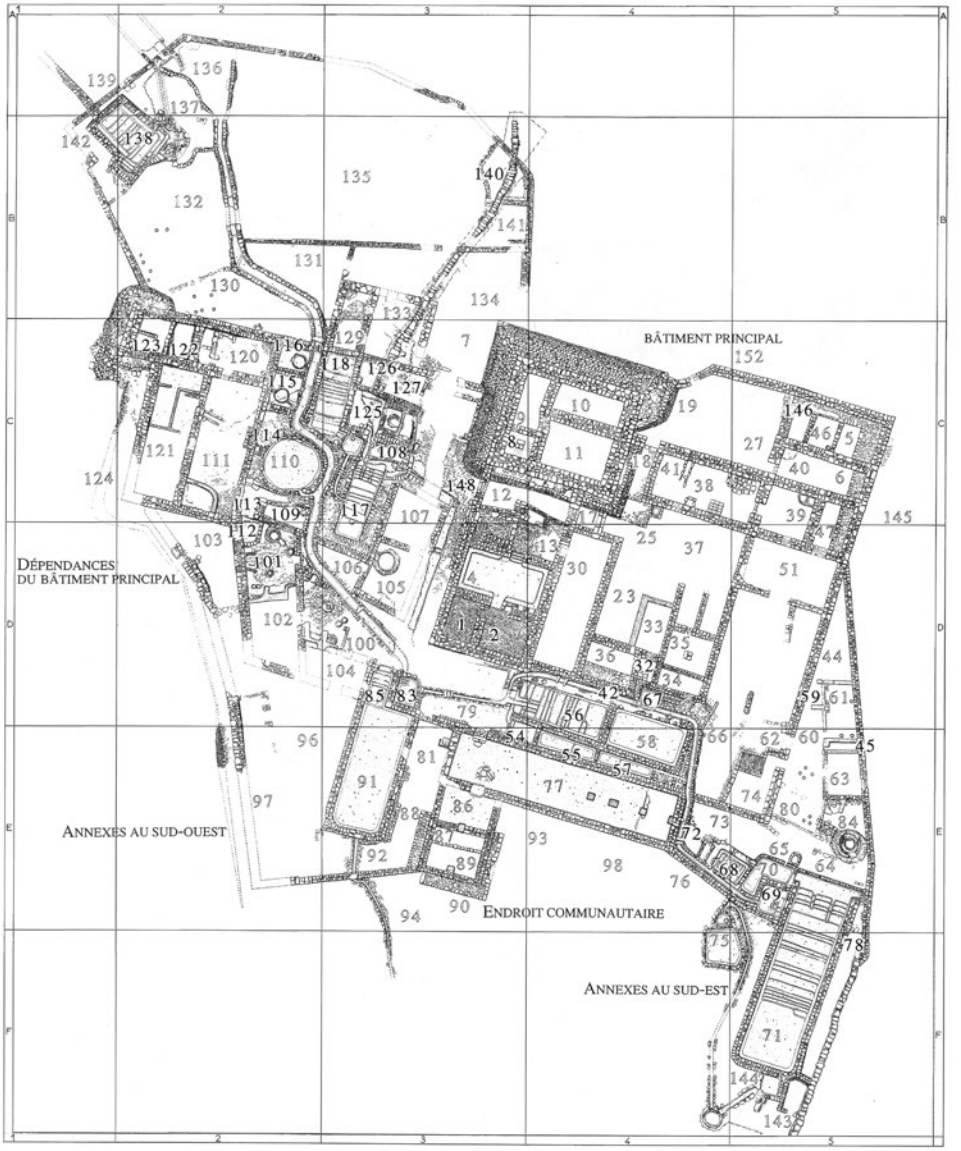


Fig. 1. Plan of the site during the 1st century BCE-CE (courtesy of the École biblique et archéologique française de Jérusalem).

down during the First Jewish Revolt, around 68 CE.[3] At its zenith, the built settlement consisted of a number of interlinked buildings. The main building comprised a two-storey structure with a central courtyard flanked by rooms and with a tower in its northwest corner. To its east, there was a triangular annexe, which accommodated two pottery kilns (L64 and L84) as well as compartments for the storage of pottery

Fig. 2. Aerial view of Qumran, with the Dead Sea in the background. Looking east. (Reproduced with permission of the Allegro Estate; courtesy of the Manchester Museum, the University of Manchester).

(*e.g.*, L45). To the west of the main building, there was another two-storey structure, the lower part of which was largely used as an industrial complex. Among other features, there were four circular ovens (in L101, L105, and L109), a large furnace (in L125), mill-stones (in L100, and in the nearby fills L102 and L104), cisterns (L110 and L117/118), and plastered installations and compartments (in L100, L101, and L121). To the south of the main building, there were further structures (*e.g.*, L77 and L86/89), cisterns (*e.g.*, L56/58, L71, and L91), a pressing installation (L75), and a cobble-paved esplanade (to the south of L77). The area northwest of the main building was characterized by a series of open spaces and plastered basins (*e.g.*, L130, L131, L132, L135, and L136). One of the most conspicuous features of the settlement was the intricate water system which fed water to over ten stepped and unstepped cisterns scattered throughout the site (Figs 1 and 2).

The inhabitants used an inordinate amount of pottery, thousands of sherds found throughout the ruins of the buildings as well as in designated dumps to the north, south, and east. Together with the pottery, remains of glass, stone, and metal vessels, metal tools and implements, clothing accessories, personal items,

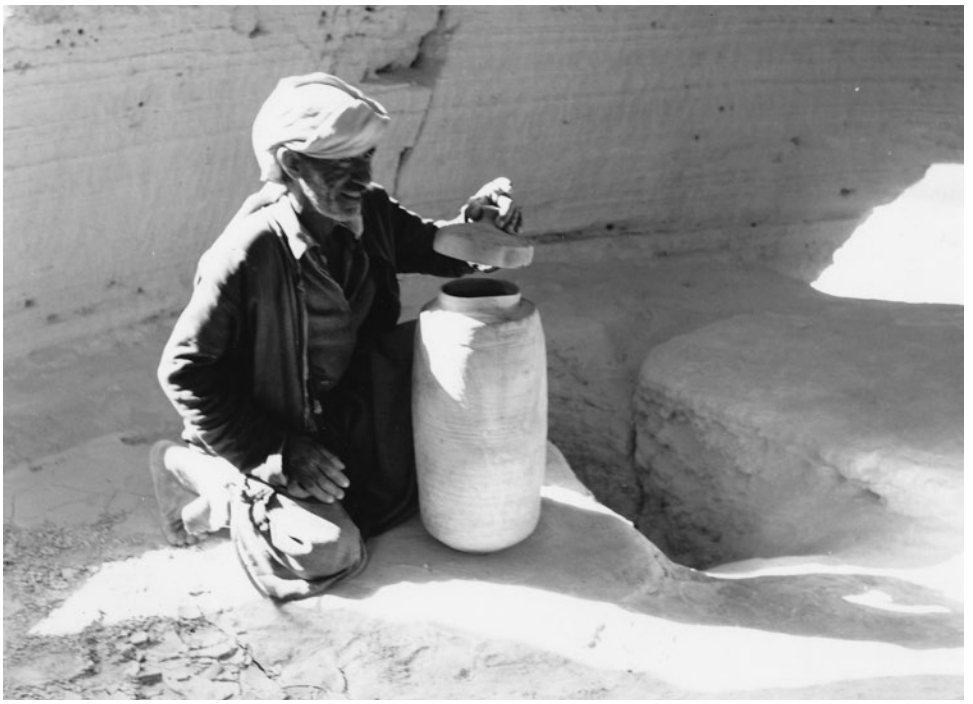


Fig. 3. Cylindrical jar found at Qumran. (Reproduced with permission of the Allegro Estate; courtesy of the Manchester Museum, the University of Manchester).

and a large number of coins (including three hoards of silver coins in L120) reveal important facets of the inhabitants' daily life. The most notable artefacts are perhaps the ovoid and cylindrical jars, which have become synonymous with the site (Fig. 3). Yet, the most enigmatic finds are certainly the animal bone deposits, which comprise animal bones that were placed in the ground either within ceramic vessels or covered by such vessels (for more details on the various archaeological features of the buildings and the excavated finds, see de Vaux 1973: 1–48; Humbert and Chambon 1994; Donceel and Donceel-Voûte 1994; Magness 2002; Hirschfeld 2004; Magen and Peleg 2007; Cargill 2009; Mizzi 2009; Humbert *et al.* 2016).

The 1st century Qumranites buried their dead in a large cemetery to the east of the built settlement. Here, approximately 1,200 shaft graves were dug and marked on the surface by heaps or outlines of stones. The majority of the graves were laid out in orderly rows and oriented north-south, with a small minority oriented east-west. Not all tombs date to the 1st century BCE–CE, although a good number of them probably do. It is also not implausible that some of the interred individuals

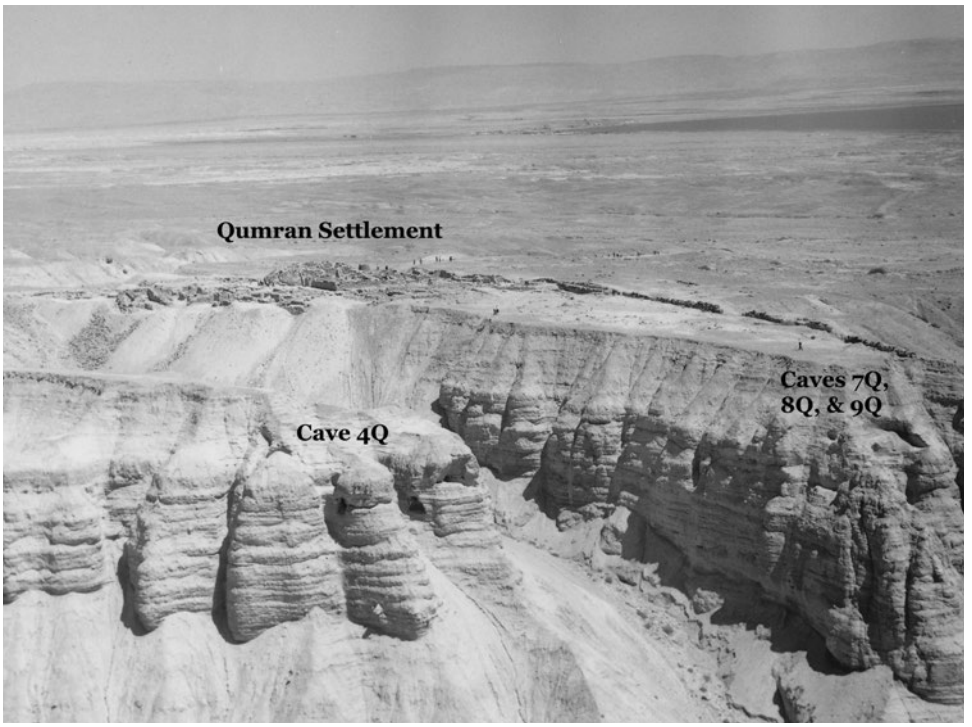


Fig. 4. Rock-cut caves connected with the Qumran settlement. Looking northeast. (Reproduced with permission of the Allegro Estate; courtesy of the Manchester Museum, the University of Manchester).

came from beyond Qumran. Despite the seemingly consistent method of burial, there are a number of possibly significant minor typological variations among the graves (for an overview, see Schultz 2006; Hachlili 2010).

As in previous periods, the caves in the surrounding landscape were exploited as well, and their usage resulted in the deposition of a large quantity of pottery in over fifty of these caves (de Vaux 1962; 1973: 49–52; Patrich 1994; Baruch, Mazor, and Sandhaus 2002; Cohen and Yisraeli 2002; Ibrahim 2002a; 2002b; Itah, Kam, and Ben-Haim 2002). The largest type of pottery consisted of cylindrical jars, paralleling those emanating from the nearby settlement. This is a critical piece of evidence since cylindrical jars were virtually unique to the local settlement, having been manufactured there.[4] Significantly, in all the Judaean Desert caves, such jars were deposited only in the caves of Qumran. In addition, the inhabitants made use of around fifteen or more artificial caves hewn in the marl bedrock in the immediate environs of the built settlement (Fig. 4). Some of these caves were accessible only through the buildings; others were connected to the settlement by

Fig. 5. Cave 1Q. (Reproduced with permission of the Allegro Estate; courtesy of the Manchester Museum, the University of Manchester).

pathways (de Vaux 1962: 26–31; 1973: 52–53; Broshi and Eshel 1999). In the history of the site, therefore, this is the first time we have clear links between the buildings and the surrounding caves.

The Dead Sea Scrolls were discovered in eleven of these caves (Figs 5 and 6). In total, these form a collection of circa nine hundred scrolls containing religious texts, including 'biblical' texts, commentaries and interpretations of 'biblical' material, hymns and prayers, liturgical material, halakhic works, sapiental literature, eschatological texts, and rule texts which define the life and ideology of one or more sectarian groups. The large majority of these works were written in Hebrew, with others written in Aramaic and Greek. The extant scrolls were copied or composed between the late 3rd century BCE and the 1st century CE, and they appear to have been the property of the Qumranites, who then deposited the scrolls—for reasons still not entirely clear—in the caves sometime in the 1st century BCE–CE. Some of the scrolls were placed in cylindrical jars. The other caves could have been used for a wide range of functions, but a good many of the

Fig. 6. The Thanksgiving Scroll (1QHodayot), found in Cave 1Q. (Reproduced with permission of the Allegro Estate; courtesy of the Manchester Museum, the University of Manchester).

limestone caves, most of which were filled with cylindrical jars (plus their lids) and nothing else, probably stored scrolls as well.

Following the revolt, the site was reoccupied by a different group of settlers, who modified the site's layout quite drastically. Only parts of the main building

were rebuilt, and the water channel was diverted to feed directly into L71, the only functional cistern at this point (de Vaux 1973: 41–44). The inhabitants could have comprised a small Roman garrison who occupied the site for a few years, until the end of the revolt (*e.g.*, de Vaux 1973: 41–44; followed by Magness 2003: 62–63). More likely, however, the occupation did not have a military character, and it probably lasted for several decades (*e.g.*, Taylor 2006; Mizzi 2009: *passim*). It is possible that these new inhabitants reused some of the surrounding caves, and it is not implausible that the adjacent cemetery includes burials from this phase of occupation.

This marked the last major habitation at Qumran, but the region continued to witness activity in subsequent centuries. The buildings were used briefly during the Second Jewish Revolt (de Vaux 1973: 45). In later periods, a few late Roman/Byzantine and early Islamic coins were dropped over the ruins of the settlement (Humbert and Chambon 1994: *passim*), implying that the area was visited frequently enough for some coins to be lost in the process. In these same periods, some of the limestone caves were (re)used, probably for brief or periodic visits (see de Vaux 1962; Baruch *et al.* 2002; Cohen and Yisraeli 2002; Ibrahim 2002a; 2002b; Itah *et al.* 2002), and it is possible that new graves were dug in the ancient cemetery adjacent to the buildings (Clamer 2003). Significantly, accounts written in the course of the 1st millennium CE report the discovery of scrolls in jars within caves near Jericho (Driver 1965: 7–15), possibly a veiled reference for the Qumran caves (Stegemann 1998: 68–71, 76–77). Further burials were added to the cemetery in the Ottoman period (Zias 2000), by which time the region had become home to Bedouin tribes. The site continued to experience visitors during the mid-19th and early 20th centuries, when various travellers and explorers carried out explorations in the region (de Saulcy 1853; Poole 1856; Isaacs 1857; Rey 1860; Conder and Kitchener 1883; Clermont-Ganneau 1896; Masterman 1902; 1903; Dalman 1914). Then, one fine day in late 1946 or early 1947, two young Bedouin shepherds stumbled upon a batch of scrolls placed in a cylindrical jar inside one of the caves—and the rest is history (for detailed account of the discovery and the early history of research on the Dead Sea Scrolls, see Fields 2009).

Qumran is a site of many facets, encompassing a diverse array of archaeological features *and* human occupations. While the site has become synonymous with the Dead Sea Scrolls, the site's archaeological and historical scope is wider by far. Nonetheless, since it is the anniversary of the discovery of the scrolls that we are celebrating, the remainder of this paper will concentrate on issues concerning the general period of their deposition. For this reason the above review emphasised the settlement remains from the 1st century BCE to the 1st century CE.

Seventy Years of Excavations at Qumran

Despite the numerous visits to the region in the 19th and early 20th centuries, Qumran did not have an iota of the significance it was to acquire after the 1950s. Back in 1853, Louis-Félicien Caignart de Saulcy noted that the ruins at Qumran, which comprised what appeared to be the foundations of a square enclosure, 'are not easily distinguished, and that it is very probable a hundred successive travellers might pass them by without the slightest idea of their existence' (de Saulcy 1853: 63). Subsequent explorers did note the remains of various walls, a tower, an aqueduct, cisterns, and a cemetery—from which, one tomb was excavated by Clermont-Ganneau (1896, vol. 2: 15–16)—but otherwise, in the words of G. Lankester Harding, by the early 1950s Qumran 'has been chiefly notable for its cemetery of more than 1,000 graves' (Harding 1952: 104). The discovery of the scrolls in various caves close to the ruins changed the trajectory of the site's history, turning this relatively unknown site into a worldwide phenomenon.

The link between the settlement and the scrolls was not established during the first official campaign, which was undertaken in 1949 by G. Lankester Harding (Department of Antiquities of Jordan) and Roland de Vaux (École Biblique et Archéologique Française in Jerusalem). During this expedition, only Cave 1Q—as the first scroll cave came to be known eventually[5]—and two graves from the cemetery were investigated, and the adjacent buildings were thought to be the ruins of a Roman fort from the 2nd or 3rd centuries CE. Subsequently, in 1951, a small-scale excavation was carried out, for the first time, within the ruins of the buildings, leading Harding and de Vaux to make significant modifications to their previous conclusions. Not only was the chronology of the site revised, in light of newly found evidence for a 1st century BCE–CE occupation, but a cylindrical jar paralleling those discovered in Cave 1Q was discovered in one of the rooms, thus creating an apparent link between the settlement, the caves, and the scrolls. Consequently, Harding and de Vaux postulated that the inhabitants of Qumran must have been the very people responsible for writing and depositing the scrolls found in Cave 1Q (Harding 1952: 105; de Vaux 1953a: 105).

Eventually, the convergence of various pieces of evidence led to the conception of the so-called Qumran-Essene hypothesis, whose basic tenet is that Qumran was an Essene/sectarian settlement during the 1st centuries BCE and CE.[6] The evidence included the presence of scrolls in the area of Qumran and their apparent connection to the settlement there; the existence of so-called sectarian texts among these scrolls, including the *Community Rule* (1QS), which seemingly portrays some of the practices and beliefs of a Jewish group which

called itself the Yaḥad; the occurrence of considerable similarities between the group depicted in 1QS and descriptions of the Essenes in Flavius Josephus (*War* 2.119–161; *Antiquities* 18.18–22), Philo of Alexandria (*Every Good Person Is Free* 75–91; *Apology for the Jews* 11), and Pliny the Elder (*Natural History* 5.17); and Pliny's placement of the Essenes in the northwest shore of the Dead Sea, roughly corresponding to the geographic location of Qumran. These connections between the Qumran settlement, the scrolls, and the Essenes provided de Vaux with an impetus to embark on four further seasons of excavations, which were conducted between 1953 and 1956 (de Vaux 1954; 1956), and which resulted in the exposure of most of the built settlement and the unearthing of thousands of artefacts. Circa four km to the south, de Vaux also excavated a small farmhouse at 'Ein Feshkha, which he considered to be a satellite settlement of Qumran (de Vaux 1959; 1973: 58–87). To this day, the results of de Vaux's campaigns remain the backbone for any study of Qumran.

Meanwhile, in 1952, circa two hundred and seventy caves along the limestone cliff west of the settlement were surveyed and/or partially excavated, and a few artificially hewn marl caves in the immediate environs of the buildings were investigated. This expedition yielded important evidence about the use of the caves in their respective periods of occupation, and more scrolls were discovered—partly by Bedouin and partly by de Vaux's expedition—in what came to be known as Caves 2Q–10Q (de Vaux 1953b; 1962; 1973: 50–53; 1977). Four years later, in 1956, the eleventh scroll cave, Cave 11Q, was discovered by Bedouin and eventually excavated by de Vaux (1956: 573–574).

Following these initial campaigns, Qumran continued to attract the attention of a number of investigators. In the early 1960s, John Allegro conducted a number of expeditions in the northwest part of the Judaean Desert as part of his quest to find the treasures of the *Copper Scroll*—probably, the most enigmatic of the Dead Sea Scrolls—which reads like a treasure map. Allegro's work included stints in caves above 'Ein Feshkha and near Cave 11Q as well as within the ruins of the Qumran settlement (Allegro 1964: 7, 162; Brown 2005: 113–151). In the mid-1960s, conservation and restoration work was carried out at the site by Awni Dajani on behalf of the Department of Antiquities of Jordan, and this resulted in the excavation of some material from cistern L110, including a number of stone vessels (Donceel and Donceel-Voûte 1994: 11). Later in the 1960s, ten further graves were excavated by Solomon H. Steckoll (1968; 1969).

The 1970s, 1980s, and 1990s were characterized by a resurging interest in the Qumran caves. Surveys and excavations were undertaken in various limestone caves—including ones which de Vaux's team had already explored—by Pesach Bar-Adon (1989), Joseph Patrich (Patrich and Arubas 1989; Patrich

1994), and the Israel Antiquities Authority (Baruch *et al.* 2002; Cohen and Yisraeli 2002; Ibrahim 2002a; 2002b; Itah *et al.* 2002), supplementing further data on the use and function(s) of the natural caves. In 1995–96, 2001, and 2002, Magen Broshi and Hanan Eshel carried out excavations in a few newly discovered marl caves to the south and north of the settlement as well as in the cemetery, which they also mapped with the aid of ground-penetrating radar (GPR; Broshi and Eshel 1999a; 1999b; 2004a; Eshel *et al.* 2002; Eshel and Broshi 2003). Between 1993 and 2004, Yizhak Magen and Yuval Peleg directed the biggest campaign of excavations at Qumran since de Vaux's, during which they investigated areas within the ruins of the built settlement and excavated more graves as well as various refuse dumps, which yielded thousands more potsherds and numerous other finds (Magen and Peleg 2006; 2007). Minor excavations as well as a GPR survey were conducted on the plateau by James F. Strange in 1996 (Strange 2006), and a few squares were opened on the same plateau in 2002 by Randall Price (2005).

Following this spate of campaigns, there was over a decade-long break. Then, in late 2016 and early 2017, two new excavations were carried out in two previously investigated caves. Oren Gutfeld and Randall Price reinvestigated Cave XII/53, which was formerly explored by the Israel Antiquities Authority. The excavation made headlines worldwide, with the media dubbing it (rather misleadingly) as the twelfth scroll cave, despite the fact that no scroll fragments bearing writing were actually found.[7] The other excavation was directed by Marcello Fidanzio and Dan Bahat, who returned to Cave 11Q with the intention of clarifying the archaeological, historical, and geological profile of the cave as well as de Vaux's work in it.[8]

Appropriately, therefore, seventy years after the discovery of the Qumran Dead Sea Scrolls, there has been renewed interest in returning to the site and the caves that made it famous. The above account simplifies what is a very complicated history of excavations, one that has been entangled with regional political events and intricately intertwined with research on the scrolls. Indeed, in one way or another, the latter have often dictated the archaeological agenda of Qumran, and they have been the primary impetus behind most of the excavations undertaken there. This reality (and its possible ramifications) has to be acknowledged in any assessment of the methodology and results of these campaigns.

Unfortunately, despite this rich history of excavations, a large part of the material remains unpublished or only partially published. At present, therefore, scholars are unable to generate truly holistic interpretations of the site, having to rely on a limited body of selective evidence available through reports of varying depth and quality. In many ways, seven decades later, the field remains stuck in its adolescent years. There is much to learn still, and many more discussions to be had and discoveries to be made. Meanwhile, the publication of a new volume on

de Vaux's excavations (Humbert *et al.* 2016) represents a welcome step forward towards the field's continued growth.[9]

Debating Qumran

In his famous Schweich lectures, delivered in 1959, de Vaux produced a synthesis of his findings at Qumran. This was subsequently published in French (de Vaux 1961) and in English (de Vaux 1973), and the publication remains a landmark study, particularly because de Vaux never managed to oversee the final report on his excavations. On the basis of archaeological and textual evidence (*i.e.*, the scrolls and classical sources on the Essenes), de Vaux concluded that the buildings at Qumran served as a communal centre for a rather large religious (quite possibly Essene) community, the members of which lived in the various caves around the site as well as in tents. The buildings themselves were used for the carrying out of joint activities, such as work, study and prayer, and the partaking of communal meals. According to de Vaux, the Qumranites comprised a celibate male community who led an austere lifestyle, deprived of sumptuousness, and who were, for the most part, cut-off from general society; members of this community were buried in individual graves in the adjacent cemetery. Some of de Vaux's most renowned conclusions include his interpretation of L77 as a dining room (de Vaux 1973: 11–12, 111) and L30 as a *scriptorium*, where some of the scrolls were written or copied (de Vaux 1973: 29–33, 104–105). Crucially, for de Vaux, the scrolls found in the caves constituted the library of this Qumran community. De Vaux reckoned that this settlement was established in the second half of the 2nd century BCE, although it did not reach its fully fledged plan before the beginning of the 1st century BCE. He also concluded that, around 31 BCE, Qumran was abandoned following the devastating earthquake that struck Judaea (*cf.* Josephus, *Antiquities* 15.121), only to be reoccupied by the same inhabitants at the end of 1st century BCE. The site then remained in use till 68 CE, when it was abandoned and subsequently destroyed by the Romans.

Although the basic tenets of de Vaux's interpretation were and remain widely accepted by the scholarly community, scholars have challenged and debated a number of its points. A major point of contention has been the chronology of the site and the architectural development of its buildings (*e.g.*, Laperrousaz 1976; Humbert 1994; Humbert *et al.* 2016; Magness 2002; Hirschfeld 2004; Magen and Peleg 2006; Cargill 2009; Stacey and Doudna 2013; Mizzi and Magness 2016; and *cf.* Mizzi 2015). It is now widely accepted that the settlement was established in the early 1st century BCE and that there was no thirty-year-long occupation gap following the earthquake of 31 BCE. However, many other

details remain contested, and there are several competing models outlining the chronology and architectural development of the buildings. This is the result of a number of factors, among them the absence of a complete publication of de Vaux's field documentation (although great strides have been made in this regard), the lack of stratigraphic precision during his excavations (which means that we have little to no dateable material from critical contexts), and the fact that the site was continuously occupied throughout the 1st centuries BCE and CE (which means that much of the evidence from the earliest phases of the buildings was disturbed by later activity). As a result, many of these hypotheses rely on several assumptions, leading to the creation of entire narratives that are as unstable as a house of cards (see the discussion in Mizzi 2015). Sometimes, we may have to acknowledge the limits of our data and the parameters of interpretation permissible, while realizing that some stories can never be told in full.

The disagreements do not stop there, and challenges have also been directed at the interpretation of several aspects of the site as well as its general character. For instance, some scholars have suggested that, before becoming an Essene/sectarian settlement, Qumran was a villa (Humbert 1994; 2003a; 2003b) or a fortress (Cargill 2009). Others have posited a different take regarding the religious or ritual character of the site, arguing that Qumran was not merely an Essene/sectarian settlement but also had a cultic dimension (Humbert 1994; 2006; and recently Magness 2016), or that it was a ritual purification centre (Cook 1996), or that it was a centre for the production of parchment and scrolls (Stegemann 1998: 51–55), or that it was a scroll-burial centre (Taylor 2012). The enigmatic animal bones deposits, unparalleled at any other site from the period, have attracted countless interpretations with varying nuances concerning their possibly ritual character (*e.g.*, van der Ploeg 1957; Milik 1959; Gärtner 1965: 10–13; Laperrousaz 1976: 218–219; Duhaime 1977; Schiffman 1994: 337–338; Cross 1995: 65, 85–86; Magness 2016; Mizzi 2016b).[10] The question of celibacy, or whether or not there were women at Qumran, has had its fair share of discussion as well, and often this has been tied with debates concerning evidence for women in the cemetery (*e.g.*, Taylor 1999; Zias 2000; Zangenberg 2000; Magness 2002: 163–185; White Crawford 2003; Röhrer-Ertl 2006; Sheridan and Ullinger 2006). There is also an ongoing conversation regarding the population size at Qumran, linked with debates concerning the function(s) of the Qumran caves: how many people lived at Qumran, and did they live within the built settlement or in caves? Proposals have ranged from as few as ten to fifteen inhabitants, to well over a hundred or more (*e.g.*, Milik 1959: 97; Laperrousaz 1976: 99–107; Wood 1984; Broshi 1992: 114; Patrich 1994: 76; 2000; Stegemann 1998: 49; Broshi

and Eshel 1999a; 1999b; Magness 2002: 69–71; Mizzi 2016a). This in turn has implications for the characterization of the Qumran settlement, classified variously as a one-of-a-kind site and home to a breakaway community, as the central settlement or headquarters of a widespread sectarian movement, or simply as one of many sites that formed a network of sectarian settlements (*e.g.*, Metso 1999; 2006; Regev 2003; Collins 2003; 2006; 2010; Hempel 2008; 2013; Schofield 2009; Taylor 2012; Mizzi forthcoming). There are also divergent views on the relationship between Qumran and 'Ein Feshkha (*e.g.*, Magness 2002: 210–223; Hirschfeld 2004: 183, 185, 209; Humbert 2006: 24–27; Taylor 2007: 256), and a wide range of opinions concerning the history and processes of deposition behind the scrolls in the Qumran caves (*e.g.*, Doudna 2006; Doudna in Stacey and Doudna 2013; Stökl Ben Ezra 2007; Pfann 2007; Schofield 2009; Collins 2010; García Martínez 2010a, 2010b; Taylor 2012: 272–303; Popović 2012; White Crawford 2012; Hempel 2013: 303–337; Mizzi forthcoming). The above are only a few select examples of the divergent views on Qumran—there are many more, some focusing on questions regarding the site's connectivity or on issues of trade, economy, industry, and wealth, or on the function of specific rooms and installations, or on notions of ritual purity, or on other matters—and many of these have been put forth by advocates of the Essene/sectarian hypothesis.

Therefore, despite its seemingly monolithic status as the so-called consensus view, there are actually many variants of this hypothesis.[11] Scholars who reject it altogether give the impression of a dissolving consensus, but the reality is there barely ever was one to begin with. In fact, there is no unanimously dominating view of Qumran, even though Magness' monograph on Qumran remains the most popular and most influential treatment of the site (Magness 2002). Consequently, with the exception of archaeologists who deal with specific issues of the site's archaeology, the majority of scholars tend to accept or allude to the Essene/sectarian hypothesis in very general terms, rarely clarifying which variation of the hypothesis they accept. One could say that the field has been in a permanent state of fluctuation.

This has been exacerbated by various critical challenges levelled against the Essene/sectarian interpretation as a whole. The first break from the consensus emerged quite early. Henri del Medico (1957) and Karl Rengstorf (1960) questioned the idea that the scrolls had any connection with the buildings at Qumran, with Rengstorf specifically claiming that the scrolls came from a temple library in Jerusalem. The view was popularized by Norman Golb (1995), who went further and argued that the buildings at Qumran were actually the remains of a fortress rather than the abode of an Essene community.[12] Once the link between the scrolls and the settlement had been fractured, the site invited

further interpretations, among them that Qumran was a villa or a wealthy manor estate (Donceel and Donceel-Voûte 1994; Donceel-Voûte 1994; Hirschfeld 2004), a waystation (Crown and Cansdale 1994; Cansdale 1997), a pottery-production centre (Magen and Peleg 2006; 2007), or a seasonal, multi-industrial site related to the Hasmonaean and Herodian royal palaces in Jericho (Stacey 2007; 2008; Stacey and Doudna 2013), among others.[13] What unites these diverse interpretations is the notion that the inhabitants of Qumran had no intrinsic connection to the scrolls.

It is worth exploring, albeit briefly, some of the catalysts behind this plurality of views. Naturally, alternative interpretations of specific aspects of the site result from the nature of archaeological evidence in general, which tends to be multivalent, although some interpretations are, of course, more probable than others. The fact that Qumran is an 'overexposed' site in the scholarly world further explains the myriad of studies specifically about it, each of which inevitably comes with its own set of perspectives. The key catalyst behind the state of the field, however, is a methodological conundrum specific to the archaeology of Qumran. As already signalled above, at the very centre of the whole Qumran debate is the very issue of the relationship between the settlement at Qumran, the Dead Sea Scrolls, and the Essenes. Generally, scholars who reject the Essene/sectarian hypothesis argue that the relation between the scrolls and the settlement, on the one hand, and the Essenes and Qumran, on the other, is questionable. In the following pages, I focus largely on the case of the scrolls since the question of the Essene identity is mainly a textual one.[14]

Hirschfeld (2004: 41, 43) emphasizes the fact that the only archaeological link between the scrolls and the settlement is the pottery, particularly the cylindrical jars within or alongside which some of the scrolls were discovered. At most, this indicates that those who deposited the scrolls in the surrounding caves might have obtained ceramic jars from the local inhabitants. Therefore, according to this perspective, the proximity of the caves to the settlement and the presence of the same types of pottery in these two contexts are somewhat irrelevant. On the basis of parallels with cylindrical jars from Masada, Rachel Bar-Nathan has also claimed that the jars in the Qumran caves actually date to the period between 66–68 CE and 74 CE, and concludes that 'there is no necessary link between the jars found in the caves and those found at the site' (Bar-Nathan 2006: 275, 277).

In principle, the argument that the archaeological evidence does not create an explicit link between the scrolls and the inhabitants of Qumran is not incorrect; archaeology can only take us so far. However, the evidence does not exclude a more intrinsic connection between them either. One needs to look at the larger picture to determine the extent of this connection, and in doing so one would see that there is a significant convergence of evidence that actually underpins

arguments in favour of an intrinsic relationship (on the contrary, hypotheses that divorce the scrolls from the built settlement create more problems than they solve). First, there is an overall thematic and ideological unity across several different texts found in different caves, which suggests that the scrolls largely belonged to a specific group; the contents of various scrolls do not seem to be congruent with what one would expect from a temple library. Secondly, some of the scroll caves (Caves 7Q–9Q) were only accessible through the built settlement; therefore, unless the material in these caves was deposited after 68 CE, it is hard to divorce them from the 1st century BCE–CE inhabitants of Qumran. Thirdly, it seems quite implausible that someone would have travelled all the way to Qumran to hide scrolls in the caves there, when the area of Jerusalem and Jericho is replete with natural caves; critically, the two caves that constitute Cave 4Q, which are located right across from the built settlement, contained the largest concentration of scrolls, exceeding five hundred. Fourthly, the claim that the cylindrical jars in the caves probably date to 66–73/4 CE is misleading. This claim is based on a typological argument, which is precarious, since the same types of pottery could have had different histories of use at different sites; therefore, the fact that analogous cylindrical jars are attested in post-68 CE contexts at Masada does not mean that they could not have already been in circulation decades earlier. In addition to these, one could also add various other pointers which underscore the connection that must have existed between the settlement, the caves, and the scrolls, such as the geographical proximity of the scroll caves to the settlement; the existence of ceramic links between the caves and the settlement (keeping in mind that cylindrical jars have been found in the Qumran caves but in no other caves in the Judaean Desert); the roughly analogous chronological timeframe of the settlement's occupation in the 1st century BCE–CE and the dating of the majority of the scrolls;[15] and the evidence for a scribal culture at the site, attested by (among other things) the presence of numerous inkwells, which also happen to be very rare finds in 1st century BCE–CE contexts elsewhere.

On their own, many of these pointers constitute circumstantial evidence; but taken altogether, they create a very strong argument for the connection between the Qumran settlement, the caves, and the scrolls—however this relationship is defined (see below). The burden of proof really rests on those who question this link; those who ask for more proof expect the impossible from archaeology, which deals in probability rather than certainty. As far as archaeological arguments go, this is as strong as they come, and it is exceedingly more plausible than arguments which divorce the scrolls from the site's inhabitants. Thus, interpretations of the site that ignore the scrolls or, else, consider them as extraneous to the site are essentially based on selective archaeological evidence, and they overlook an important piece of the puzzle.

Of course, this does not mean that Qumran, or specific features of the site, should therefore be interpreted through the lens of the textual sources, a frequent criticism levelled against variants of the Essene/sectarian hypothesis. For methodological purposes, it is important not to conflate the textual content of the scrolls and the archaeology of Qumran at the first stage of the research process. Texts and archaeology are two very specialized fields—written and material evidence cast light on different facets of the past, and both are characterized by a number of particular limitations and shortcomings concerning the kind of information they can provide; therefore, texts and archaeology need to be subjected to various forms of analyses which are specific to the respective disciplines, and scholars have to ask different questions through each body of evidence. Accordingly, text and artefact should ideally be studied separately at first—even if the relationship between them is strong, as is the case with the scrolls and Qumran—so that one source does not influence the interpretation of the other. Any integration of texts and archaeology has to happen at a secondary stage in the research process and, even then, it is the *interpretations* of textual and archaeological data that should be brought into dialogue with each other and not the *data* themselves (*cf*. Frendo 2011).

Thus, for instance, the complex literary history of some of the so-called sectarian Dead Sea Scrolls, such as the *Community Rule* (*cf*. Murphy-O'Connor 1969; Alexander 1996; Metso 1997; Alexander and Vermes 1998; Schofield 2009) and the *Damascus Document* (*cf*. Davies 1983; Baumgarten 1996; Hempel 1998) as well as the uncertain relationship between these two documents and the groups depicted therein (*cf*. Regev 2003; 2007; Collins 2003; 2006; 2010; Hempel 2013) preclude one from applying, uncritically, the data inferred from these scrolls onto the archaeological remains at Qumran. These two literary traditions have often been used to reconstruct the history, social structure, organisation, and lifestyle of the community believed to have lived at Qumran. But do the *Community Rule* and the *Damascus Document* legislate for different branches within the same larger group, do they diachronically represent the same group at two different points in time, or do they reflect two separate but closely related groups? Accordingly, which tradition are we to relate specifically to Qumran? And what if neither is actually representative of the group living there? And even if they do relate to Qumran, which of these texts' many literary strata do we relate with the settlement? What if the archaeological remains at Qumran and the descriptions in the *Community Rule* or the *Damascus Document* pertain to different chronological realities? More importantly, how can we ascertain whether or not these texts are direct windows onto daily practices at Qumran or any other related settlement? As Charlotte Hempel (2013: 8) has aptly noted, the rule texts from Qumran are not 'candid camera[s] producing 'reality literature' [but] complex literary artefacts whose own claims need to be treated with caution'. The same holds true for the use of the classical sources on the Essenes (to

introduce them back into the discussion), which have their own set of issues—like the scrolls, the different portrayals of the Essenes have to be filtered through a critical lens first; moreover, the exact nature of the Qumran-Essene connection remains somewhat unclear, which means that any historically reliable insights we gain on the Essenes through a critical reading of the classical sources cannot be taken as applicable directly to Qumran or the Qumranites. Finally, there are also outstanding questions regarding the history and processes of deposition of the scrolls, despite the presumed strong link between them and the Qumran inhabitants. When did the scrolls get to Qumran? Who brought them there? Why were they deposited in the caves, and when exactly? Was the deposition a singular event or a long, drawn-out process? Was there a 'library' at Qumran? Were all the scrolls used (or read) at the settlement? Or did some come from other related 'sectarian settlements'?

The way we address the above issues affects the dynamic between the scrolls, the Essenes, and the Qumranites in profound ways, and this will in turn impinge on how we would integrate text and artefact. In the end, we must acknowledge that it is entirely possible that the scrolls and the sources on the Essenes might tell us very little on the settlement at Qumran or its inhabitants, and *vice versa*. In other words, it may be the case that there is little to no overlap between texts and archaeology in the case of Qumran, despite the presumed correlations between the human subjects of our sources and despite the fact that the scrolls, as physical artefacts, are an integral part of the site's archaeology. But this also means that a thorough archaeological analysis of Qumran might elucidate further the world *behind* the scrolls—that is, the socio-cultural world of the people who collected, used, and deposited these textual artefacts—and, possibly, what stands behind the literary portrayals of the Essenes. Qumran, therefore, could have the potential to cast new light on at least one settlement that was related to the group(s) depicted in the Dead Sea Scrolls and (perhaps) the Essenes with regard to facets that might have been ignored by the texts; the archaeology of Qumran could also provide an important contrast to the idealized (and ideological) world of the texts by presenting a picture that is untainted by such flourishes or the dynamics of cultural memory. In many ways, contrast, rather than identification or correspondence, is epistemologically more rewarding. Seeming contradictions between texts and archaeology do not necessarily disprove the Essene/sectarian hypothesis.

In view of all the above issues, it is evident that the integration of sources cannot be characterized by the use of texts as ciphers to explain and interpret archaeological features; rather, texts and archaeology should be seen as analogies, the intersection of which could create a context in which their respective interpretations could be compared and contrasted, in the process leading to the formulation of new insights. The outcome would be a much richer understanding of Qumran, the world of the scrolls, and the Essenes than that which would be achieved if we were to just aim at

establishing an identification or correspondence between text and artefact. Indeed, the latter would be a very narrow approach to the sources and one which limits considerably the potential to which they could be put to use.[16]

As far as the field of Qumran studies is concerned, it is perhaps time that the methodological debate ceases to focus on whether Qumran, the scrolls, and the Essenes are related or on whether or not Qumran was a 'sectarian settlement'. Instead, we could concentrate on how actually to relate the archaeology of Qumran with the textual sources in a methodologically sound manner (*cf.* Mizzi 2017a).

Beyond the question of the scrolls connection, there are a number of other important methodological considerations to highlight, some of which arise from the previous points. An important issue that many proponents of the non-Essene/sectarian perspective raise is that of the regional context (*e.g.*, Zangenberg 2004). Approaching Qumran through a contextual framework, various scholars emphasize the many similarities between the archaeology of Qumran and that of other regional sites, such as Jericho, Masada, 'Ein ez-Zara, 'Ein Gedi, and 'Ein Boqeq. Consequently, they argue that Qumran appears to have been well integrated within the regional economy, that there is little evidence for a group with peculiar practices, and that, therefore, it is quite unlikely that a sectarian group inhabited the site. The fact that the archaeology of Qumran is not as unique or peculiar as scholars used to think is more or less correct. However, this does not mean that the site could not have been inhabited by a group related to the scrolls. To state otherwise is a logical fallacy and assumes that a sectarian group—even one that may have been viewed as peculiar by outsiders—would have necessarily left behind a peculiar archaeological record. Similar logical fallacies underlie arguments which state that the evidence for females at Qumran (still debatable as noted above) or for wealth is incongruent with an Essene/sectarian presence at the site. These arguments tell us more about modern perceptions of ancient Jewish sectarianism than they tell us about the actual groups themselves. In fact, none of this evidence is really incompatible with what we know about the group(s) depicted in the scrolls or the Essenes. Even if there were incongruences, they would prove nothing. As argued above, there could have been a chasm between literary constructs and real life.

The tendency of interpreting the character of the Qumran settlement on the basis of its plan represents another methodological fallacy. For example, the fully developed plan of the settlement has been compared to that of a fortress or of a semi-luxurious fortified manor, and the site's function at this stage in its architectural history has been interpreted accordingly, as noted above. In theory, one could even argue that the site's architectural layout resembles that of sites identified as waystations. However, if there is anything that these similarities tell us, it is that the Qumranites were using the same architectural

metaphors and designs prevalent at the time. Indeed, the fact that the buildings at Qumran can be positively compared to different types of sites cautions us that we have to go beyond superficial similarities. Thus, for example, the fact that Qumran is not located near a major trading route puts a serious dent in the hypothesis that the settlement was a waystation (Broshi 1999; Taylor and Gibson 2011). The lack of proper architectural decoration makes it hard to classify Qumran as a semi-luxurious fortified manor (Magness 1994),[17] whereas the plan of the settlement is simply too cluttered for it to have served as a fortress, at least once it achieved its fully fledged form. At most, one could argue that the presence of various industrial installations shows that Qumran was an industrial site, but does this mean that, therefore, Qumran could not have been inhabited by the same people who owned the scrolls? Absolutely not, for this would assume that there was such a thing as a 'sectarian building' and that a 'sectarian settlement' would have had a fundamentally different layout than other types of settlements. Although there are specific archaeological features which could reflect specific sectarian practices, we cannot say that there is such a thing as an archaeology of sectarianism; a sectarian group, whatever its affiliation, would not necessarily have left a distinct pattern in the archaeological record.

This brings us to another important point, which relates to another common methodological pitfall that one often encounters in the Qumran debate—namely, the propensity for one interpretation to be ruled out on account of another. Essentially, this tendency eliminates the possibility that two or more interpretations could be sustained simultaneously, without necessarily being mutually exclusive. Contrarily, I think that it is crucial that we adopt a multi-functional approach to the archaeology of Qumran. After all, sectarians had to earn a living too. Therefore, there is no reason why an industrial site, for example, could not have also been, simultaneously, a 'sectarian settlement'.

I specifically mention this type of site because the various industrial installations at Qumran suggest that *one of* the primary functions of the settlement was agro-industrial. In view of the fact that the date palm was one of the most important and precious resources in the region, it is most likely that the Qumranites were involved in the date industry. This is corroborated by the discovery of large quantities of dates and date pits (Magen and Peleg 2007: 5, 7, Figs 9–10); sealed jars containing date honey (Magen and Peleg 2007: 45, Figs 46–47); a press (L75) that was probably used for the production of date wine; and possibly by the discovery of an ostracon which appears to suggest, on Yardeni's (1997) reading, that the Qumranites possessed palm groves. Furthermore, the function of various plaster installations scattered around the site may be related to the production of date products (Mizzi forthcoming).

At the same time, a detailed contextual approach to the archaeology of Qumran reveals the existence of some idiosyncratic features. Above, it was noted that similarities to other sites are not particularly decisive, but differences certainly are. Indeed, the presence of an adjacent cemetery and the phenomenon of the animal bone deposits remain quite distinctive. These features remain unparalleled at other sites, whether they are fortresses, villas, estates, waystations, or farmsteads, and none of the alternative hypotheses have explained these features convincingly. The archaeological evidence also reveals a heightened focus on matters of ritual purity, usually at a level that goes beyond what was typical at most other contemporary settlements (Mizzi 2009). This is a clearly distinct aspect of the archaeology of Qumran, which becomes all the more significant when one considers the fact that the group(s) depicted in the scrolls and the Essenes appear to have espoused strict purity practices.

The force of the evidence as a whole makes it impossible to ignore the strong probability that Qumran was inhabited by a group related to the scrolls and the Essenes, but without excluding the fact that this community cultivated palm groves and produced date products, and that it engaged in other industries at the same site. The two interpretations are definitely not mutually exclusive. The problem, in fact, lies in the use of the term 'sectarian settlement', which tells us very little about the site's functions, not to mention that the term does not describe an architectural category or settlement type and gives the false impression that the settlement was exclusively 'religious' in nature.

Towards an Archaeology of the Dead Sea Scrolls

Above, I underlined the fact that the scrolls are an integral component of the archaeology of Qumran. Yet, for most of the past seventy years, the scrolls have been approached mainly as disembodied texts, with the focus placed squarely on the scrolls' contents and matters of textuality. This is not to say that there have not been studies which recognize the material dimension of the scrolls, but the study of the scrolls as archaeological artefacts remains in its infancy, with most of the advances having been made in the last decade or so. In these last few pages, I make some brief reflections on the way forward towards an archaeology of the Dead Sea Scrolls.

Like other artefacts, the scrolls have to be studied as objects, with the aim to learn more about their physical properties. Much work has already been done in this regard. Of particular note are the *Discoveries in the Judaean Desert* series (in which most of the scrolls have been published), which includes detailed physical descriptions of the scrolls and their scripts, and Emanuel Tov's magisterial study on scribal practices (Tov 2004a). Science is particularly helpful for this stage of the research, and indeed a number of scientific studies have been carried out on

the scrolls, including investigations on the preparation and characterization of the leather or parchment (*e.g.*, Poole and Reed 1962; Rabin *et al.* 2010), radiocarbon dating (*e.g.*, Bonani *et al.* 1992; Tull *et al.* 1995), DNA analysis (Bar-Gal 2001), compositional analysis of the ink (*e.g.*, Nir-El and Broshi 1996; Rabin *et al.* 2009), and digital palaeography (*e.g.*, M. A. Dhali *et al.* 2017).[18] The potential of these approaches is immense, and they can shed valuable light on the production techniques, typology, and provenance of inks, parchment, and papyrus as well as on the dates of production or composition of the scrolls and scribal material culture in general. Nonetheless, at present, most of the completed studies have been limited in scope, and further work is therefore required to assess the validity and reliability of the results, and exploit their full potential. For instance, recent claims that the water composition of ink pinpoint the Dead Sea as the place of writing of at least one scroll (Rabin *et al.* 2009) need to be tested within the context of a much larger sample. In particular, it is imperative that a 2nd century scroll is tested to see if it reveals the same results, keeping in mind that Qumran lay uninhabited in this period. It is key that scientific results are 'calibrated' by archaeological evidence, a point that is often forgotten.[19]

Studying the scrolls as objects is not enough. The primary aim of archaeology is to learn more about ancient peoples through the material traces they have left behind; in other words, the focus of archaeology is on people rather than objects *per se*. Accordingly, the study of the scrolls as human artefacts should strive to unravel information on ancient religious and intellectual life, economy and trade, daily practices and lifestyle, general historical processes or events, and more. In this sense, scrolls should be treated no differently than pottery, glass, stones, metals, or other categories of artefacts. Again, important strides have been made, with a number of critical studies seeking to identify scroll depositional patterns and their historical import, or assess the significance of the type and quality of scrolls present at Qumran relative to other locales in the Judaean Desert, or understand the Qumran corpus within the context of ancient book collections, or explore how the scrolls could have been used and handled (*e.g.*, Tov 2004a; 2004b; 2016; Lange 2006; Stökl Ben Ezra 2007; Pfann 2007; García Martínez 2010a, 2010b; Popović 2012; Taylor 2012: 272–303; White Crawford 2012; 2016; 2017; Hempel 2013; Falk 2014; Brooke 2016; 2017; and see the various contributions in White Crawford and Wassen 2016). Further studies on other aspects of ancient daily life that the scrolls could illumine would be most welcome.

One further step is necessary, however, for an archaeology of the Dead Sea Scrolls to be fully realized. The scrolls need to be placed back in their archaeological context and analysed as part of an assemblage, without them being prioritized over other artefacts. Where were scrolls placed inside the cave? Were there other associated artefacts? What were the conditions of the respective caves at the time

of deposition? Were the caves blocked, inaccessible, or relatively hidden from view? Were there later visits made to the caves? To what extent, and how, were caves affected by natural and cultural post-depositional processes? And therefore, what were the conditions like at the time of excavation, circa seventy years ago? Scholars have only begun asking these questions (*e.g.*, Popović 2012; Taylor 2012: 272–303; Zangenberg 2016; White Crawford 2017; Mizzi forthcoming). Indeed, it is significant that no book to date on the archaeology of Qumran dedicates a chapter to the archaeology of the caves and the scrolls.

An especially important development in this regard is the launching of the Qumran Caves Publication Project—headed by Jean-Baptiste Humbert and Marcello Fidanzio—whose aim is to publish a series of final reports on de Vaux's excavations of the Qumran caves, with a view to contextualizing the artefacts inside the respective caves. The first volume, which will focus on Cave 11Q, is expected to be out in the coming year or so. Also of note is the launching of the Leverhulme-funded International Network for the Study of Dispersed Qumran Cave Artefacts and Archival Sources, a project run by Joan Taylor, Marcello Fidanzio, and the present author. The project seeks to retrace and study several archaeological artefacts from the Qumran caves which have been dispersed in museums and collections worldwide, with the aim to make such data easily accessible via a website (www.dqcaas.com) and publications (*e.g.*, Taylor *et al.* 2017), thus facilitating holistic approaches to the subject matter. The network also aims to study archival and photographic sources pertaining to the early excavations in the caves, which could shed valuable light on the context of certain artefacts, including the scrolls. The network investigators are therefore very keen to hear from anyone with access to early photographs relating to the Qumran caves or the general region.

It is fitting that seventy years later, we are going back to the caves, where it all started, to reconstruct the assemblages there in such a way that we can understand better both the processes behind the deposition of the scrolls and the history of the caves, which appear more complex and multifaceted then scholars tend to assume. Indeed, despite the high probability that the scrolls had an intrinsic connection with the local settlement and its inhabitants, there remain several open questions as to the exact nature of this relationship, as noted above. An archaeology of the scrolls—one which integrates the three general approaches outlined above—will hopefully clarify a few of these outstanding matters.

Qumran at Seventy and Beyond

Seventy years later, the work has barely started. There remain several unanswered questions—some have not even been referenced here—and there are plenty

of details to refine. Moreover, the field is currently in a process of resurgence and rejuvenation, with a spate of new publications having come out or in the pipeline, including the continuation of the final reports on the site and the caves. Undoubtedly, this will force us to go back to the drawing board and reconsider a number of issues from new perspectives.

Still, the Essene/sectarian hypothesis, in its general formulation, has withstood the test of time and remains the interpretation that best explains the extant evidence. It is highly doubtful that new data will seriously undermine this interpretation of the site—which is not to say that it is flawless or that there is no room for further modifications or refinements. But seeming discrepancies or shortcomings do not invalidate the hypothesis. In this age of post-truth and 'alternative facts', it is especially easy to dismiss critical pieces of evidence and selectively trump up other data to support alternative narratives at the expense of explanations that work better. In the constant drive to come up with something new and different, or maybe original, there also seems to have developed a taboo against championing older ideas—often dubbed, somewhat patronizingly, 'traditional'—which is counterintuitive to scholarship. If an idea works, it works.

So, where do we go from here? My wish is to see Qumran more fully integrated within wider fields dealing with classical antiquity. Often, the study of Qumran and the scrolls operates within two bubbles: that of the subject's own specialty and that of the larger fields of ancient Judaism and biblical studies. However, Qumran—and all other Jewish sites of the Hellenistic and Roman periods, for that matter—was essentially part of an interconnected Mediterranean world (*cf*. Mizzi 2017b). In this sense, Qumran is also a classical site, and thus its interpretation should be contextualized accordingly. It is also in the field's interest to promote its work among other disciplines, which could stand to learn from the unique characteristics the site and its scrolls have to offer. Perhaps somewhat paradoxically, the field's continued growth necessitates that we stop considering it a distinct field. Its future, in other words, lies beyond Qumran.

Notes

1 This is an updated and revised version of my '60 Years of Qumran Archaeology' (Mizzi 2011). I thank David Milson, editor of *Strata*, for inviting me to contribute the paper to this issue.

2 Although the 'Dead Sea Scrolls' as a term is often used with reference to the manuscript discoveries made at Qumran, it in fact encapsulates a larger category of texts emanating from around the Dead Sea (*e.g.*, Jericho, Wadi Murabba'at, 'Ein Gedi, Masada, and others), texts which come from different social milieus and chronological contexts. In this paper, the focus is on the scrolls from Qumran.

3 The chronology and architectural development of the site during the 1st centuries BCE and CE is one of the hotly debated issues. For a critical overview of the various competing hypotheses, see Mizzi 2015. Here, I base my narrative on Magness 2002: 63–69; Mizzi 2015; Mizzi and Magness 2016.

4 Although cylindrical jars are attested beyond Qumran, the number is negligible compared to the large quantity and variety of types present at the site. This phenomenon, therefore, is truly unparalleled elsewhere. See further Mizzi 2016a: 148–149, n. 77.

5 Early on, the cave was referred to as the 'Ein Feshkha cave, which was, at the time, the closest landmark to Cave 1Q (Taylor *et al.* 2005: 159).

6 The identification of the sectarian group mentioned in one of the Cave 1Q scrolls (*i.e.*, the *Community Rule*) with the Essenes had already been made earlier by various scholars, such as Eleazar Sukenik (1948–50), William H. Brownlee (1950), and André Dupont-Sommer (1950).

7 Most of the major international newspapers carried a report on the discoveries of the renewed investigations. See, for example, http://edition.cnn.com/2017/02/08/world/new-dead-sea-scrolls-cave-discovered/index.html [last accessed July 2017]; http://www.bbc.com/news/world-middle-east-38916687 [last accessed July 2017]. As for the misleading nomenclature, see the brief note in Fidanzio 2017.

8 See the press release at http://www.teologialugano.ch/uploads/4/1/6/6/41664437/iscab-press-release-2017-03.pdf [last accessed July 2017]. The results of the excavation will be published in the forthcoming final report on Cave 11Q, edited by Jean-Baptiste Humbert and Marcello Fidanzio.

9 This is the third volume in the series, and it deals with part of the site's stratigraphy and the ceramic lamps. The first volume (Humbert and Chambon 1994) reproduces de Vaux's field notes and photographs from the excavation (see also Rohrhirsch and Hofmeir 1996 [German edition]; Humbert *et al.* 2003 [English edition]). The second volume (Humbert and Gunneweg 2003) contains various scientific, anthropological, and archaeological studies on the site's architecture, the cemetery, pottery, inscribed artefacts, and textiles.

10 There are then interpretations which see the bone deposits as nothing but remnants of a variety of possible utilitarian or industrial practices (*e.g.*, Hirschfeld 2004: 106–111; Magen and Peleg 2006: 94–96; Taylor 2012: 286; Stacey and Doudna 2013: 55).

11 The alternative perspectives listed above are limited to those that somehow deal with the site's archaeology. There are also a number of studies that engage with the textual dimension of the hypothesis. These accept that Qumran was inhabited by a sectarian group but question its Essene identity (*e.g.*, García Martínez 1988; 1990; Schiffman 1990; Goodman 1995; Baumgarten 2004).

12 For such an interpretation pertaining to an earlier phase of the site, see Hirschfeld 2004; Magen and Peleg 2006; 2007; Cargill 2009.

13 For a brief discussion of various theories that have been proposed with regard to Qumran, see further Broshi and Eshel 2004b.

14 The most recent and systematic analysis of the classical sources on the Essenes has been carried out by Taylor (2012), who makes a strong case for an identification of the Qumranites as Essenes.

15 See the comprehensive table listing the palaeographic dates of all the scrolls in Webster 2002. The chronological range of the Qumran scrolls spans from the late 3rd century BCE till the 1st century CE, but the largest majority of scrolls date to the 1st century BCE.

16 These brief reflections on the interface between texts and archaeology have been extracted from a much longer discussion in a forthcoming publication (Mizzi forthcoming). Many studies inform the expressed views, important among them Kosso 1995; Andrén 1998; Galloway 2006; Frendo 2011; Davies 2011.

17 The few decorative elements discovered at Qumran were found in secondary contexts and the evidence is very erratic, which might suggest that these elements were imported from elsewhere and used as building material rather than as decorative elements; the fact that, at Qumran, we have *opus sectile* tiles but no negative impressions of an *opus sectile* floor (a feature which occurs commonly in the Herodian palaces) corroborates further this conclusion (*cf*. Mizzi 2015: 30–40).

18 This is part of an ongoing ERC-funded project headed by Mladen Popović. See http://cordis.europa.eu/project/rcn/197239_en.html.

19 The same situation appears with provenance studies on ceramics, for instance. These studies can only trace the source of the clays used not the place of the pottery's production since clays could have been traded. Thus, provenance studies which show that some of the cylindrical jars were manufactured with Hebron, Jerusalem, or Jericho clays (*e.g.*, Gunneweg and Balla 2003) do not prove that the jars were produced in these locales. If this were the case, one would expect large numbers of such jars to surface in excavations in these regions, which is not at all the case. Therefore, the archaeological evidence helps in 'calibrating' the scientific results, indicating that it was the clay (not the jars) that were imported to Qumran.

References

Alexander, P. S., (1996). 'The Redaction-History of *Serekh Ha-Yahad*: A Proposal', *Revue de Qumran* 17: 437–456.

Alexander, P. S. and Vermes, G., (1998). *Qumran Cave 4: XIX: Serekh Ha-Yahad and Two Related Texts*, Discoveries in the Judaean Desert 26 (Oxford).

Allegro, J. M., (1964). *Search in the Desert* (London).

Andrén, A., (1998). *Between Artifacts and Texts: Historical Archaeology in Global Perspective*, trans. A. Crozier (New York).

Bar-Adon, P., (1989). 'Excavations in the Judaean Desert', *'Atiqot* 9: 3–14 (Hebrew).

Bar-Gal, K., (2001). 'The Genetic Signature of the Dead Sea Scrolls'. Pp. 165–171 in D. Goodblatt, A. Pinnick, and D. R. Schwartz (eds), *Historical Perspectives: From the Hasmoneans to Bar Kokhba in Light of the Dead Sea Scrolls: Proceedings of the Fourth International Symposium of the Orion Center for the Study of the Dead Sea Scrolls and Associated Literature, 27–31 January 1999*, Studies on the Texts of the Desert of Judah 37 (Leiden).

Bar-Nathan, R., (2006). *Masada VII: The Yigael Yadin Excavations 1963–1965: Final Reports: The Pottery of Masada* (Jerusalem).

Baruch, Y., Mazor, G., and Sandhaus, D., (2002). 'Region XI: Survey and Excavations of Caves along the Fault Escarpment above Ḥorbat Qumran', *'Atiqot* 41 (1): 189–198 (Hebrew), *'Atiqot* 41 (2): 177–183 (English).

Baumgarten, A. I., (2004). 'Who Cares and Why Does It Matter? Qumran and the Essenes Once Again!', *Dead Sea Discoveries* 11: 174–190.

Baumgarten, J. M., (1996). *Qumran Cave 4: XIII: The Damascus Document (4Q266–273)*, Discoveries in the Judaean Desert 18 (Oxford).

Bonani, G. *et al.*, (1992). 'Radiocarbon Dating of Fourteen Dead Sea Scrolls', *Radiocarbon* 34: 843–849.

Brooke, G. J., (2016). 'The Visualisation of the Sacred at Qumran'. Pp. 225–240 in J. Baden, H. Najman, and E. J. C. Tigchelaar (ed.), *Sibyls, Scriptures, and Scrolls: John Collins at Seventy*, Supplements to the Journal for the Study of Judaism 175/1 (Leiden).

Brooke, G. J., (2017). 'Choosing Between Papyrus and Skin: Cultural Complexity and Multiple Identities in the Qumran Library'. Pp. 119–135 in M. Popović, M. Schoonover, and M. Vandenberghe (ed.), *Jewish Cultural Encounters in the Ancient Mediterranean and Near Eastern World*, Supplements to the Journal for the Study of Judaism 178 (Leiden).

Broshi, M., (1992). 'The Archaeology of Qumran—A Reconsideration'. Pp. 103–115 in D. Dimant and U. Rappaport (ed.), *The Dead Sea Scrolls: Forty Years of Research*, Studies on the Texts of the Desert of Judah 10 (Leiden).

Broshi, M., (1999). 'Was Qumran at Crossroads?', *Revue de Qumran* 19: 273–276.

Broshi, M. and Eshel, H., (1999a). 'Residential Caves at Qumran', *Dead Sea Discoveries* 6: 328–348.

Broshi, M. and Eshel, H., (1999b). 'How and Where Did the Qumranites Live?'. Pp. 266–273 in D. W. Parry and E. C. Ulrich (ed.), *The Provo International Conference on the Dead Sea Scrolls: Technological Innovations, New Texts, and Reformulated Issues*, Studies on the Texts of the Desert of Judah 30 (Leiden).

Broshi, M. and Eshel, H., (2004a) 'Three Seasons of Excavations at Qumran', *Journal of Roman Archaeology* 17: 321–331.

Broshi, M. and Eshel, H., (2004b). 'Qumran and the Dead Sea Scrolls: The Contention of Twelve Theories'. Pp. 162–169 in D. R. Edwards (ed.), *Religion and Society in Roman Palestine: Old Questions, New Approaches* (London).

Brown, J. A., (2005). *John Marco Allegro: The Maverick of the Dead Sea Scrolls* (Grand Rapids, Michigan).

Brownlee, W. H., (1950). 'A Comparison of the Covenanters of the Dead Sea Scrolls with Pre-Christian Jewish Sects', *The Biblical Archaeologist* 13: 49–72.

Cansdale, L., (1997). *Qumran and the Essenes: A Re-evaluation of the Evidence* (Tübingen).

Cargill, R. R., (2009). *Qumran through (Real) Time: A Virtual Reconstruction of Qumran and the Dead Sea Scrolls* (Piscataway, New Jersey).

Clamer, C., (2003). 'Jewellery Finds from the Cemetery of Qumran'. Pp. 171–183 in J.-B. Humbert and J. Gunneweg (ed.), *Khirbet Qumrân et 'Aïn Feshkha: II: Études d'anthropologie, de physique et de chimie (Studies of Anthropology, Physics and Chemistry)*, Novum Testamentum et Orbis Antiquus, Series Archaeologica 3 (Fribourg).

Clermont-Ganneau, C., (1896). *Archaeological Researches in Palestine during the years 1873–1874*, 2 volumes (London).

Cohen, R. and Yisraeli, Y., (2002). 'The Excavations of Rock Shelter XII/50 and in Caves XII/52-53', *'Atiqot* 41/1: 207–213 (Hebrew), *'Atiqot* 41/2: 185–186 (English).

Collins, J. J., (2003). 'Forms of Community in the Dead Sea Scrolls'. Pp. 97–111 in P. M. Shalom *et al.* (ed.), *Emanuel: Studies in Hebrew Bible Septuagint and Dead Sea Scrolls in Honor of Emanuel Tov*, Supplements to Vetus Testamentum 94 (Leiden).

Collins, J. J., (2006). 'The Yahad and 'The Qumran Community''. Pp. 81–96 in C. Hempel and J. M. Lieu (ed.), *Biblical Traditions in Transmission: Essays in Honour of Michael A. Knibb*, Supplements to the Journal for the Study of Judaism 111 (Leiden).

Collins, J. J., (2010). *Beyond the Qumran Community: The Sectarian Movement of the Dead Sea Scrolls* (Grand Rapids, Michigan).

Conder, C. R., and Kitchener, H. H., (1883). *The Survey of Western Palestine: Memoirs of the Topography, Orography, Hydrography and Archaeology: Volume 3: Judaea* (London).

Cook, E. M., (1996). 'Qumran: A Ritual Purification Center', *Biblical Archaeology Review* 22/6: 39, 48–51, 73–75.

Cross, F.M., (1995). *The Ancient Library of Qumran*, 3rd edition (Sheffield).

Crown, A. and Cansdale, L., (1994). 'Qumran—Was it an Essene Settlement?', *Biblical Archaeology Review* 20/5: 24–34, 73–78.

Dalman, G. H., (1914). *Palästinajahrbuch des Deutschen evangelischen Instituts für Altertumswissenschaft des heiligen Landes zu Jerusalem: Volume 10* (Berlin).

Davies, P. R., (1983). *The Damascus Covenant: An Interpretation of the 'Damascus Document'* (Sheffield).

Davies, P. R., (2011). 'Between Text and Archaeology', *Dead Sea Discoveries* 18: 316–338.

Dhali, M. A. *et al.*, (2017). 'A Digital Palaeography Approach toward Writer Identification in the Dead Sea Scrolls'. Pp. 693–702 in M. de Marsico, G. S. di Baja, and A. Fred (ed.), *Proceedings of the 6th International Conference on Pattern Recognition Applications and Methods (ICPRAM 2017)* (Setúbal, Portugal).

Donceel, R. and Donceel-Voûte, P., (1994). 'The Archaeology of Khirbet Qumran'. Pp. 1–38 in M. O. Wise *et al.* (ed.), *Methods of Investigation of the Dead Sea Scrolls and the Khirbet Qumran Site: Present Realities and Future Prospects* (New York).

Donceel-Voûte, P., (1994). 'Les ruines de Qumran réinterprétées', *Archeologia* 298: 24–35.

Doudna, G. L., (2006). 'The Legacy of an Error in Archaeological Interpretation: The Dating of the Qumran Cave Scroll Deposits'. Pp. 147–157 in K. Galor, J.-B. Humbert, and J. Zangenberg (ed.), *Qumran: The Site of the Dead Sea Scrolls: Archaeological Interpretations and Debates: Proceedings of a Conference held at Brown University, November 17–19, 2002*, Studies on the Texts of the Desert of Judah 57 (Leiden).

Driver, G. R., (1965). *The Judaean Scrolls: The Problem and a Solution* (New York).

Duhaime, J. L., (1977). 'Remarques sur les dépôts d'ossements d'animaux a Qumrân', *Revue de Qumran* 9: 245–251.

Dupont-Sommer, A., (1950). *Aperçus preéliminaires sur les manuscrits de la mer Morte* (Paris).

Del Medico, H., (1957). *L'Énigme des manusrits de la Mer Morte* (Paris).

Eshel, H. and Broshi, M., (2003). 'Excavations at Qumran, Summer of 2001', *IEJ* 53: 61–73.

Eshel, H. *et al.*, (2002). 'New Data on the Cemetery East of Khirbet Qumran', *Dead Sea Discoveries* 9: 135–165.

Falk, D. K., (2014). 'Material Aspects of Prayer Manuscripts at Qumran'. Pp. 33–87 in C. Leonhard and H. Löhr (ed.), *Literature of Liturgy? Early Christian Hymns and Prayers in their Literary and Liturgical Context in Antiquity*, Wissenschaftliche Untersuchungen zum Neuen Testament 2/363 (Tübingen).

Fidanzio, M., (2017). 'De nouvelles découvertes dans la grotte XII/53 (12 ?) à Qumrân', *Revue de Qumran* 29: 139–144.

Fields, W. W., (2009). *The Dead Sea Scrolls: A Full History: Volume 1* (Leiden).

Frendo, A. J., (2011). *Pre-Exilic Israel, the Hebrew Bible, and Archaeology: Integrating Text and Artefact*, Library of Hebrew Bible/Old Testament Studies 549 (New York).

Galloway, P., (2006). 'Material Culture and Text: Exploring the Spaces Within and Between'. Pp. 42–64 in M. Hall and Stephen W. Silliman (ed.), *Historical Archaeology*, Blackwell Studies in Global Archaeology 9 (Malden, MA).

García Martínez, F., (1988). 'Qumran Origins and Early history: A Groningen Hypothesis', *Folia Orientalia* 25: 113–136.

García Martínez, F., (1990). 'A 'Groningen' Hypothesis of Qumran Origins and Early History', *Revue de Qumran* 14: 521–541.

García Martínez, F., (2010a). 'Cave 11 in Context'. Pp. 199–209 in C. Hempel (ed.), *The Dead Sea Scrolls: Texts and Context*, Studies on the Texts of the Desert of Judah 90 (Leiden).

García Martínez, F., (2010b). 'Reconsidering the Cave 1 Texts Sixty Years after their Discovery: An Overview'. Pp. 1–13 in D. K. Falk *et al.* (ed.), *Qumran Cave 1 Revisited: Texts from Cave 1 Sixty Years after their Discovery: Proceedings of the Sixth Meeting of the IOQS in Ljubljana*, Studies on the Texts of the Desert of Judah 91 (Leiden).

Gärtner, B., (1965). *The Temple and the Community in Qumran and the New Testament: A Comparative Study in the Temple Symbolism of the Qumran Texts and the New Testament* (Cambridge).

Golb, N., (1995). *Who Wrote the Dead Sea Scrolls?* (New York).

Goodman, M., (1995). 'A Note on the Qumran Sectarians, the Essenes and Josephus', *Journal of Jewish Studies* 46: 161–166.

Gopher, A., Lemorini, C., Boaretto, E., Carmi, I., Barkai, R., and Schechter, H. C., (2013). 'Qumran Cave 24, a Neolithic –Chalcolithic Site by the Dead Sea: A Short Report and Some Information on Lithics'. Pp 101–13 in F. Borrell, J. José Ibánez, and M. Molist (eds.), *Stone Tools in Transition: From Hunter-Gatherers to Farming Societies in the Near East: 7th Conference on PPN Chipped and Ground Stone Industries of the Fertile Crescent* (Barcelona).

Gunneweg, J. and Balla, M., (2003). 'Neutron Activation Analysis: Scroll Jars and Common Ware'. Pp. 3–53 in J.-B. Humbert and J. Gunneweg (ed.), *Khirbet Qumrân et 'Aïn Feshkha: II: Études d'anthropologie, de physique et de chimie (Studies of Anthropology, Physics and Chemistry)*, Novum Testamentum et Orbis Antiquus, Series Archaeologica 3 (Fribourg/Göttingen).

Hachlili, R., (2010). 'The Qumran Cemetery Reassessed'. Pp. 46–78 in T. H. Lim and J. J. Collins (ed.), *The Oxford Handbook of the Dead Sea Scrolls* (Oxford).

Harding, G. L., (1948–49). 'The Dead Sea Scrolls', *Palestine Exploration Quarterly* 81: 112–116.

Harding, G. L., (1952). 'Khirbet Qumran and Wady Muraba'at: Fresh Light on the Dead Sea Scrolls and New Manuscript Discoveries in Jordan', *Palestine Exploration Quarterly* 84: 104–109.

Hempel, C., (1998). *The Laws of the Damascus Document: Sources, Tradition and Redaction*, Studies on the Texts of the Desert of Judah 29 (Leiden).

Hempel, C., (2008). 'Emerging Communal Life and Ideology in the S Tradition'. Pp. 43–61 in F. García Martínez and M. Popovic (ed.), *Defining Identities: 'We', 'You' and 'the Others' in the Dead Sea Scrolls*, Studies on the Texts of the Desert of Judah 70 (Leiden).

Hempel, C., (2013). *The Qumran Rule Texts in Context: Collected Studies*, Texts and Studies in Ancient Judaism 154 (Tübingen).

Hirschfeld, Y., (2004). *Qumran in Context: Reassessing the Archaeological Evidence* (Peabody, Massachusetts).

Humbert, J.-B., (1994). 'L'espace sacré à Qumrân: propositions pour l'archéologie', *Revue Biblique* 101–102: 161–214.

Humbert, J.-B., (2003a). 'Arguments en faveur d'une résidence pré-essénienne'. Pp. 467–482 in J.-B. Humbert and J. Gunneweg (ed.), *Khirbet Qumrân et 'Aïn Feshkha: II: Études d'anthropologie, de physique et de chimie (Studies of Anthropology, Physics and Chemistry)*, Novum Testamentum et Orbis Antiquus, Series Archaeologica 3 (Fribourg/Göttingen).

Humbert, J.-B., (2003b). 'Reconsideration of the Archaeological Interpretation of Qumran'. Pp. 419–440 in J.-B. Humbert and J. Gunneweg (ed.), *Khirbet Qumrân et 'Aïn Feshkha: II: Études d'anthropologie, de physique et de chimie (Studies of Anthropology, Physics and Chemistry)*, Novum Testamentum et Orbis Antiquus, Series Archaeologica 3 (Fribourg/Göttingen).

Humbert, J.-B., (2006). 'Some Remarks on the Archaeology of Qumran'. Pp. 19–39 in K. Galor, J.-B. Humbert, and J. Zangenberg (ed.), *Qumran: The Site of the Dead Sea Scrolls: Archaeological Interpretations and Debates: Proceedings of a Conference held at Brown University, November 17-19, 2002*, Studies on the Texts of the Desert of Judah 57 (Leiden).

Humbert, J.-B. and Chambon, A. (ed.), (1994). *Fouilles de Khirbet Qumrân et de Aïn Feshkha: I: album de photographies, repertoire du fonds photographique, synthèse des notes de chantier du Père Roland de Vaux OP*, Novum Testamentum et Orbis Antiquus, Series Archaeologica 1 (Fribourg/Göttingen).

Humbert, J.-B. Chambon, A., and Młynarczyk, J., (2016). *Khirbet Qumrân et Aïn Feshkha: Fouilles du P. Roland de Vaux: IIIA: L'archéologie de Qumrân: Reconsidération de l'interprétation*, Novum Testamentum et Orbis Antiquus, Series Archaeologica 5A (Göttingen).

Humbert, J.-B., Chambon, A., and Pfann, S.J. (ed.), (2003). *The Excavations of Khirbet Qumran and Ain Feshkha: Synthesis of Roland de Vaux's Field Notes*, Novum Testamentum et Orbis Antiquus, Series Archaeologica 1B (Fribourg/Göttingen).

Humbert, J.-B. and Gunneweg, J. (ed.), (2003). *Khirbet Qumrân et ʻAïn Feshkha: II: Études d'anthropologie, de physique et de chimie (Studies of Anthropology, Physics and Chemistry)*, Novum Testamentum et Orbis Antiquus, Series Archaeologica 3 (Fribourg/Göttingen).

Ibrahim, F., (2002a). 'Region XII: The Excavation of Cave XII/49', *ʻAtiqot* 41 (1): 202–205 (Hebrew), *ʻAtiqot* 41 (2): 185 (English).

Ibrahim, F., (2002b). 'The Excavation of Cave XII/56', *ʻAtiqot* 41 (1): 215–216 (Hebrew), *ʻAtiqot* 41 (2): 186 (English).

Isaacs, A. A., (1857). *The Dead Sea: Or, Notes and Observations Made during a Journey to Palestine in 1856–7, on M. de Saulcy's Discovery of the Cities of the Plain* (London).

Kosso, P., (1995). 'Epistemic Independence between Textual and Material Evidence'. Pp. 177–196 in D. B. Small (ed.), *Methods in the Mediterranean: Historical and Archaeological Views on Texts and Archaeology* (Leiden).

Laperrousaz, E. M., (1976). *Qoumrân: l'établissement essénien des bords de la Mer Morte: Histoire et archéologie du site* (Paris).

Itah, M., Kam, Y., and Ben-Haim, R., (2002). 'Region X: Survey and Excavations of Caves along the Fault Escarpment South of Almog Junction and West of Qalya', *ʻAtiqot* 41 (1): 175–186 (Hebrew), *ʻAtiqot* 41 (2): 169–176 (English).

Lange, A., (2006). 'The Qumran Dead Sea Scrolls: Library or Manuscript Corpus?' Pp. 177–193 in F. García Martínez, A. Steudel, and E. J. C. Tigchelaar (ed.), *From 4QMMT to Resurrection: Mélanges qumraniens en hommage à Émile Puech*, Studies on the Texts of the Desert of Judah 61 (Leiden).

Magen, Y. and Peleg, Y., (2006). 'Back to Qumran: Ten Years of Excavation and Research, 1993–2004'. Pp. 55–113 in K. Galor, J.-B. Humbert, and J. Zangenberg (ed.), *Qumran: The Site of the Dead Sea Scrolls: Archaeological Interpretations and Debates: Proceedings of a Conference held at Brown University, November 17–19, 2002*, Studies on the Texts of the Desert of Judah 57 (Leiden).

Magen, Y. and Peleg, Y., (2007). *The Qumran Excavations, 1993–2004: Preliminary Report*, Judea & Samaria Publications 6 (Jerusalem).

Magness, J., (1994) 'A Villa at Khirbet Qumrân?', *Revue de Qumran* 16: 397–419.

Magness, J., (2002). *The Archaeology of Qumran and the Dead Sea Scrolls* (Grand Rapids, Michigan).

Magness, J., (2016). 'Were Sacrifices Offered at Qumran? The Animal Bone Deposits Reconsidered', *Journal of Ancient Judaism* 7: 5–34.

Masterman, E. W. G., (1902). ''Ain el-Feshkhah, el-Hajar, el-Asbah, and Khurbet Kumrân', *Palestine Exploration Fund Quarterly Statement* 27: 160–167, 297–299.

Masterman, E. W. G., (1903). 'Notes on Some Ruins and a Rock-Cut Aqueduct in the Wâdy Kumrân', *Palestine Exploration Fund Quarterly Statement* 28: 264–267.

Metso, S., (1997). *The Textual Development of the Qumran Community Rule*, Studies on the Texts of the Desert of Judah 21 (Leiden).

Metso, S., (1999). 'In Search of the *Sitz im Leben* of the *Community Rule*'. Pp. 306–315 in D. W. Parry and E. Ulrich (ed.), *The Provo International Conference on the Dead Sea Scrolls: Technological Innovations, New Texts, and Reformulated Issues*, Studies on the Texts of the Desert of Judah 30 (Leiden).

Metso, S., (2006). 'Whom Does the Term Yaḥad Identify?'. Pp. 213–235 in C. Hempel and J. M. Lieu (ed.), *Biblical Traditions in Transmission: Essays in Honour of Michael A. Knibb*, Supplements to the Journal for the Study of Judaism 111 (Leiden).

Milik, J. T., (1959). *Ten Years of Discovery in the Wilderness of Judaea*, trans. John Strugnell (London).

Mizzi, D., (2009). *The Archaeology of Khirbet Qumran: A Comparative Approach* (unpublished D.Phil. thesis, Oxford).

Mizzi, D., (2011). '60 Years of Qumran Archaeology', *Strata: Bulletin of the Anglo-Israel Archaeological Society* 29: 31–50.

Mizzi, D., (2015). 'Qumran Period I Reconsidered: An Evaluation of Several Competing Theories', *Dead Sea Discoveries* 22: 1–42.

Mizzi, D., (2016a). 'Miscellaneous Artefacts from the Qumran Caves: An Exploration of their Significance', in M. Fidanzio (ed.), *The Caves of Qumran: Proceedings of the International Conference, Lugano 2014*, Studies on the Texts of the Desert of Judah 118 (Leiden).

Mizzi, D., (2016b). 'The Animal Bone Deposits at Qumran: An Unsolvable Riddle?', *Journal of Ancient Judaism* 7: 51–70.

Mizzi, D., (2017a). 'Pure Matter: On the Ritual-Purity Status of Glass at Qumran'. Pp. 255–279 in D. Mizzi, N. C. Vella, and M. R. Zammit (ed.), *'What Mean These Stones?' (Joshua 4:6, 21): Essays on Texts, Philology, and Archaeology in Honour of Anthony J. Frendo*, Ancient Near Eastern Studies Supplement Series 50 (Leuven).

Mizzi, D., (2017b). 'From the Judaean Desert to the Great Sea: Qumran in a Mediterranean Context', *Dead Sea Discoveries* 24.

Mizzi, D., (forthcoming). *An Archaeology of Qumran: A Contextual Approach to the Site of the Dead Sea Scrolls* (Leiden).

Mizzi, D. and Magness, J., (2016). 'Was Qumran Abandoned at the End of the First Century BCE?', *Journal of Biblical Literature* 135: 301–320.

Nir-El, Y. and Broshi, M., (1996). 'The Black Ink of the Qumran Scrolls', *Dead Sea Discoveries* 3: 157–167.

Patrich, J., (1994). 'Khirbet Qumran in Light of New Archaeological Explorations in the Qumran Caves'. Pp. 73–95 in M. O. Wise *et al.* (ed.), *Methods of Investigation of the Dead Sea Scrolls and the Khirbet Qumran Site: Present Realities and Future Prospects*, *Annals of the New York Academy of Sciences* 722 (New York).

Patrich, J., (2000). 'Did Extra-mural Dwelling Quarters Exist at Qumran?'. Pp. 720–727 in L. H. Schiffman, E. Tov, and J. C. VanderKam (ed.), *The Dead Sea Scrolls: Fifty Years after their Discovery: Proceedings of the Jerusalem Congress, July 20–25, 1997* (Jerusalem).

Patrich, J. and Arubas, B., (1989). 'A Juglet containing Balsam Oil (?) from a Cave near Qumran', *IEJ* 39: 43–59.

Pfann, S. J., (2007). 'Reassessing the Judean Desert Caves: Libraries, Archives, *Genizas* and Hiding Places', *Bulletin of the Anglo-Israel Archaeological Society* 25: 147–170.

Ploeg, J. van der, (1957). 'The Meals of the Essenes', *Journal of Semitic Studies* 2: 163–175.

Poole, H., (1856). 'Report of a Journey in Palestine', *Journal of the Royal Geographic Society* 26: 55–70.

Poole, J. B. and Reed, R., (1962). 'The Preparation of Leather and Parchment by the Dead Sea Scrolls Community', *Technology and Culture* 3: 1–36.

Popović, M., (2012). 'Qumran as Scroll Storehouse in Times of Crisis? A Comparative Perspective on Judaean Desert Manuscript Collections', *Journal for the Study of Judaism* 43: 551–594.

Price, R., (2005). 'Qumran Plateau', *Excavations and Surveys in Israel* 117: http://www.hadashot-esi.org.il/report_detail_eng.aspx?id=126&mag_id=110.

Rabin, I. *et al.*, (2009). 'On the Origin of the Ink of the Thanksgiving Scroll (1QHodayot[a])', *Dead Sea Discoveries* 16: 97–106.

Rabin, I. *et al.*, (2010). 'Characterization of the Writing Media of the Dead Sea Scrolls'. Pp. 123–34 in J. Gunneweg, A. Adriaens, and J. Dik (ed.), *Holistic Qumran: Trans-Disciplinary Research of Qumran and the Dead Sea Scrolls*, Studies on the Texts of the Desert of Judah 87 (Leiden).

Regev, E., (2003). 'The *Yahad* and the *Damascus Covenant*: Structure, Organization and Relationship', *Revue de Qumran* 21: 233–262.

Regev, E., (2007). *Sectarianism in Qumran: A Cross-Cultural Perspective*, Religion and Society 45 (Berlin).

Rengstorf, K. H., (1960). *Hirbet Qumrân und die Bibliothek vom Toten Meer* (Stuttgart).

Rey, M. E. G., (1860). *Voyage dans le Haouran et aux bords de la Mer Morte: exécuté pendant les années 1857 et 1858* (Paris).

Röhrer-Ertl, O., (2006). 'Facts and Results Based on Skeletal Remains from Qumran Found in the *Collectio Kurth*: A Study in Methodology'. Pp. 181–193 in K. Galor, J.-B. Humbert, and J. Zangenberg (ed.), *Qumran: The Site of the Dead Sea Scrolls: Archaeological Interpretations and Debates: Proceedings of a Conference held at Brown University, November 17–19, 2002*, Studies on the Texts of the Desert of Judah 57 (Leiden).

Rohrhirsch, F. and Hofmeir, B. (ed.), (1996). *Die Ausgrabungen von Qumran und En Feschcha: IA: Die Grabungstagebücher*, Novum Testamentum et Orbis Antiquus, Series Archaeologica 1A (Fribourg/Göttingen).

Saulcy de, L.-F. C., (1853). *Narrative of a Journey Round the Dead Sea and in the Bible Lands in 1850 and 1851*, 2 volumes (London).

Schiffman, L. H., (1990). 'The New Halakhic Letter (4QMMT) and the Origins of the Dead Sea Sect', *Biblical Archaeologist* 53: 64–73.

Schiffman, L. H., (1994). *Reclaiming the Dead Sea Scrolls: Their True Meaning for Judaism and Christianity* (Philadelphia).

Schofield, A., (2009). *From Qumran to the Yaḥad: A New Paradigm of Textual Development for the Community Rule*, Studies on the Texts of the Desert of Judah 77 (Leiden).

Schultz, B., (2006). 'The Qumran Cemetery: 150 Years of Research', *Dead Sea Discoveries* 13: 194–228.

Sheridan, S. G. and Ullinger, J., (2006). 'A Reconsideration of the Human Remains in the French Collection from Qumran'. Pp. 195–212 in K. Galor, J.-B. Humbert, and J. Zangenberg (ed.), *Qumran: The Site of the Dead Sea Scrolls: Archaeological Interpretations and Debates: Proceedings of a Conference held at Brown University, November 17–19, 2002*, Studies on the Texts of the Desert of Judah 57 (Leiden).

Stacey, D., (2007). 'Some Archaeological Observations on the Aqueducts of Qumran', *Dead Sea Discoveries* 14: 222–243.
Stacey, D., (2008). 'Seasonal Industries at Qumran', *Bulletin of the Anglo-Israel Archaeological Society* 26: 7–29.
Stacey, D. and Doudna, G. (2013). *Qumran Revisited: A Reassessment of the Archaeology of the Site and its Texts.*BAR 2520 (Oxford).
Steckoll, S. H., (1968). 'Preliminary Excavation Report in the Qumran Cemetery', *Revue de Qumran* 6: 323–344.
Steckoll, S. H., (1969). 'Marginal Notes on the Qumran Excavations', *Revue de Qumran* 7: 33–40.
Stegemann, H., (1998). *The Library of Qumran: On the Essenes, Qumran, John the Baptist, and Jesus* (Grand Rapids, Michigan).
Stökl Ben Ezra, D., (2007). 'Old Caves and Young Caves: A Statistical Reevaluation of a Qumran Consensus', *Dead Sea Discoveries* 14: 313–333.
Strange, J. F., (2006). 'The 1996 Excavations at Qumran and the Context of the New Hebrew Ostracon'. Pp. 41–54 in K. Galor, J.-B. Humbert, and J. Zangenberg (ed.), *Qumran: The Site of the Dead Sea Scrolls: Archaeological Interpretations and Debates: Proceedings of a Conference held at Brown University, November 17–19, 2002*, Studies on the Texts of the Desert of Judah 57 (Leiden).
Sukenik, E., (1948–50). *Megillot Genuzot: mi-Tokh Genizah Qedumah she-Nimṣe'ah be-Midbar Yehudah: Seqirah Rishonah* (Jerusalem).
Taylor, J. E., (1999). 'The Cemeteries of Khirbet Qumran and Women's Presence at the Site', *Dead Sea Discoveries* 6: 285–323.
Taylor, J. E., (2006). 'Khirbet Qumran in Period III'. Pp. 133–146 in K. Galor, J.-B. Humbert, and J. Zangenberg (ed.), *Qumran: The Site of the Dead Sea Scrolls: Archaeological Interpretations and Debates: Proceedings of a Conference held at Brown University, November 17–19, 2002*, Studies on the Texts of the Desert of Judah 57 (Leiden).
Taylor, J. E., (2007). 'Ein Fashkha'. Pp. 255–56 in F. Skolnik and M. Berenbaum (ed.), *Encyclopaedia Judaica: Volume 6*, 2nd edition (Detroit).
Taylor, J. E., (2012). *The Essenes, the Scrolls, and the Dead Sea* (Oxford).
Taylor, J. E. and Gibson, S., (2011). 'Qumran Connected: The Qumran Pass and Paths of the North-Western Dead Sea'. Pp. 163–209 in J. Frey, C. Claußen, N. Kessler (ed.), *Qumran und die Archäologie: Texte und Kontexte*, Wissenschaftliche Untersuchungen zum Neuen Testament 278 (Tübingen).
Taylor, J. E., Mizzi, D., and Fidanzio, M., (2017). 'Revisiting Qumran Cave 1Q and its Archaeological Assemblage', *Palestine Exploration Quarterly* 149.
Taylor, J. E. *et al.*, (2005). 'Qumran Textiles in the Palestine Exploration Fund, London: Radiocarbon Dating Results', *Palestine Exploration Quarterly* 137: 159–167.
Tov, E., (2004a). *Scribal Practices and Approaches Reflected in the Texts Found in the Judean Desert*, Studies on the Texts of the Desert of Judah 54 (Leiden).
Tov, E., (2004b). 'The Special Character of the Texts found in Qumran Cave 11'. Pp. 187–196 in E. G. Chazon, D. Satran, and R. A. Clements (ed.), *Things Revealed: Studies in Early Jewish and Christian Literature in Honor of Michael E. Stone*, Supplements to the Journal for the Study of Judaism 89 (Leiden).

Tov, E., (2016). ‘Scribal Characteristics of the Qumran Scrolls’. Pp. 87–95 in M. Fidanzio (ed.), *The Caves of Qumran: Proceedings of the International Conference, Lugano 2014*, Studies on the Texts of the Desert of Judah 118 (Leiden).
Tull, A. J. T. *et al.*, (1995). ‘Radiocarbon Dating of Scrolls and Linen Fragments from the Judean Desert’, *Radiocarbon* 37: 11–19.
Vaux, R. de, (1953a). ‘Fouille de Khirbet Qumrân: rapport préliminaire’, *Revue Biblique* 60: 83–106.
Vaux, R. de, (1953b). ‘Exploration de la region de Qumrân: rapport préliminaire’, *Revue Biblique* 60: 540–561.
Vaux, R. de, (1954). ‘Fouilles de Khirbet Qumrân: rapport préliminaire sur la deuxième campagne’, *Revue Biblique* 61: 206–236.
Vaux, R. de, (1956). ‘Fouilles de Khirbet Qumrân: rapport préliminaire sur les 3e, 4e, et 5e campagnes’, *Revue Biblique* 63: 533–577.
Vaux, R. de, (1959). ‘Fouilles de Feshkha’, *Revue Biblique* 66: 225–255.
Vaux, R. de, (1961). *L’archéologie et les manuscrits de la Mer Morte* (Oxford).
Vaux, R. de, (1962). ‘Archéologie’. Pp. 3–36 in *Les ‘petites grottes’ de Qumran: exploration de la falaise, les grottes 2Q, 3Q, 5Q, 6Q, 7Q à 10Q, le rouleau de cuivre*, Discoveries in the Judaean Desert 3 (Oxford).
Vaux, R. de, (1973). *Archaeology and the Dead Sea Scrolls*, revised edition (Oxford).
Vaux, R. de, (1977). ‘Archéologie’. Pp. 3–22 in *Qumrân Grotte 4: II*, Discoveries in the Judaean Desert 6 (Oxford).
Webster, B., (2002). ‘Chronological Index of the Texts from the Judaean Desert’. Pp. 351–446 in E. Tov (ed.), *The Texts from the Judaean Desert: Indices and an Introduction to the* Discoveries in the Judaean Desert *Series*, Discoveries in the Judaean Desert 39 (Oxford).
White Crawford, S., (2003). ‘Not According to Rule: Women, the Dead Sea Scrolls and Qumran’. Pp. 127–150 in P. M. Shalom *et al.* (ed.), *Emanuel: Studies in Hebrew Bible Septuagint and Dead Sea Scrolls in Honor of Emanuel Tov*, Supplements to Vetus Testamentum 94 (Leiden).
White Crawford, S., (2012). ‘Qumran: Caves, Scrolls, and Buildings’. Pp. 253–273 in E. F. Mason *et al.* (ed.), *A Teacher for all Generations: Essays in Honor of James C. VanderKam,* 2 volumes, Supplements to the Journal for the Study of Judaism 153 (Leiden).
White Crawford, S., (2016). ‘The Qumran Collection as a Scribal Library’. Pp. 109–131 in S. White Crawford and C. Wassen (ed.), *The Dead Sea Scrolls at Qumran and the Concept of a Library*, Studies on the Texts of the Desert of Judah 116 (Leiden).
White Crawford, S., (2017). ‘Qumran Cave 4: Its Archaeology and its Manuscript Collection’. Pp. 105–119 in A. Feldman, M. Cioată, and C. Hempel (ed.), *Is There a Text in this Cave? Studies in the Textuality of the Dead Sea Scrolls in Honour of George J. Brooke*, Studies on the Texts of the Desert of Judah 119 (Leiden).
White Crawford, S. and Wassen, C. (ed.), (2016). *The Dead Sea Scrolls at Qumran and the Concept of a Library*, Studies on the Texts of the Desert of Judah 116 (Leiden).
Wood, B. G., (1984). ‘To Dip or Sprinkle? The Qumran Cisterns in Perspective’, *BASOR* 256: 45–60.
Yardeni, A., (1997). ‘A Draft of a Deed on an Ostracon from Khirbet Qumrân’, *IEJ* 47: 233–237.

Zangenberg, J., (2000). ‘Bones of Contention: ‘New’ Bones from Qumran Help Settle Old Questions (and Raise New Ones)—Remarks on Two Recent Conferences’, *Qumran Chronicle* 9: 51–76.

Zangenberg, J. K., (2004). ‘Opening Up Our View: Khirbet Qumran in a Regional Perspective’. Pp. 170–187 in D. R. Edwards (ed.), *Religion and Society in Roman Palestine: Old Questions, New Approaches* (London).

Zangenberg, J. K., (2016). ‘The Functions of the Caves and the Settlement of Qumran: Reflections on a New Chapter of Qumran Research’. Pp. 195–209 in M. Fidanzio (ed.), *The Caves of Qumran: Proceedings of the International Conference, Lugano 2014*, Studies on the Texts of the Desert of Judah 118 (Leiden).

Zelinger, Y., (2002). ‘XI/10. Cave.’ Pp. 191–192 [Hebrew], 178–179 [English] in Y. Baruch, G. Mazor, and D. Sandhaus, ‘Region XI: Survey and Excavations of Caves along the Fault Escarpment above Ḥorbat Qumran’, *ʻAtiqot* 41/1: 189–198 [Hebrew], *ʻAtiqot* 41/2: 177–183 [English].

Zias, J. E., (2000). ‘The Cemeteries of Qumran and Celibacy: Confusion Laid to Rest?’, *Dead Sea Discoveries* 7: 220–253.

Remarks on Factory Lamps and Roman-Type Volute Lamps from Aelia Capitolina

Renate Rosenthal-Heginbottom

Considering the origin of Roman lamps used in Aelia Capitolina, this paper examines the change in the material culture after the 70 CE, after the arrival and settlement of ethnic Roman and indigenous pagan residents. A selection of factory lamps and volute lamps with decorated discus from a cistern in the Upper City and the Western Wall Plaza assemblage is discussed. Based on visual inspection and petrographic analysis, two fabrics can be distinguished, lamps manufactured in the legionary kiln works at a site to the west of the city and lamps of non-local, possibly Phoenician origin. The motifs depicted on the discus reflect a highly connected visual culture in the southern Levant and constitute a new iconographic trend in a non-Jewish society.

Introduction

Nearly half a century has passed since Professor Nahman Avigad carried out archaeological excavations in the Jewish Quarter of the Old City of Jerusalem (conducted between the years 1969–1982). After Avigad's death in 1992 Hillel Geva, assisted by a team of scholars, set about to process and publish the findings in scientific reports. The first volume appeared in 2000, volume six in 2014 and volume seven is ready for publication. While the architectural remains and the variegated categories of the so-called small finds cover a wide range of settlement phases from the First and Second Temple periods and the Byzantine until early Ottoman periods, the late Roman period was rather elusive. The profound change in material culture which occurred after the destruction of the Jewish city of Jerusalem in 70 CE was hardly reflected in the archaeological remnants, a change which resulted in the subsequent population replacement with the expulsion of the Jewish inhabitants, the establishment of the Tenth Legion camp and the physical re-shaping of the urban topography in an orthogonal layout (Weksler-Bdolah and Rosenthal-Heginbottom 2014). With the arrival of Roman military and administrative personnel, of civilians serving the Romans and of the familiar escorts like craftsmen, traders and dependent women and children, residing in the *canabae*, the Hellenistic/early Roman –Jewish city of Jerusalem was transformed into the pagan Roman colony of Aelia Capitolina. To date, the post-70 CE late Roman presence is mainly attested by a quantity of stamped and unstamped roof

tiles, taken as evidence for the military presence on the southwestern hill (Geva 2000: 27; 2003; Gutfeld 2012: 3; Gutfeld and Nenner-Soriano 2012; Nenner-Soriano 2014). In addition, evidence for post-70 CE Roman building activity is provided in Area N by the corner section of a monumental building with a different orientation than the structures of the late Second Temple period; the massive size indicates that it is not part of a private dwelling but related to the camp of the Tenth Legion (Geva 2014: 84–85, 100–106, Plan 1.5). A pool situated slightly to the southeast of the intersection of *cardo* and *decumanus* was constructed by the Roman military (Sion and Rapuano 2014). Furthermore, the Western Wall Plaza excavations brought to light monumental remains along the eastern *cardo* with the introduction of the Roman orthogonal 'grid' system in the early years of Hadrian's reign, probably around the 120s (Weksler-Bdolah 2014: 52–58; Weksler-Bdolah and Rosenthal-Heginbottom 2014: 45). While Avigad and Gutfeld argued that there is no evidence for any Roman urban layout in the southern section of the *cardo maximus* prior to the Byzantine period (Gutfeld 2012: 486, 496; see also Fig. 1 on p. 2), the pool and finds along the eastern *cardo* clearly indicate that the southeastern section of the Old City of Jerusalem was part of Roman city, which embraced more or less the area within the Ottoman city wall (Weksler-Bdolah 2014: 58).

This evidence is now corroborated by the dating of ceramics retrieved in the cistern L.2667 in Area F-6. Originally a Herodian plastered cistern it was re-used after 70 CE, the habitation unit destroyed in later building activities. The cistern measures 1.9 × 1.5 m with a depth of ca. 2.65 m. The earth fill of dark brown muddy soil contained a large amount of pottery; the bulk comprised lamps, table ware and utility wares of post-70 CE date together with a fair amount of late Second Temple ceramics, some of which continued to be used until mid-2nd century CE. Of the 14 identifiable coins the latest is a 1st century CE coin of the autonomous mint of Sidon with a 'X' countermark referencing the *Legio Decima Fretensis* (Howgego 1985: 252, No. 729). The date of this coin is after the reign of Domitian (81–96 CE; pers. communication D.T. Ariel). The cistern assemblage points to habitation debris from two phases: the first from the reign to Herod the Great to 70 CE, the second to 70–150 CE approximately (Rosenthal-Heginbottom in press). The building activities in the early years of Hadrian's reign, resulting from the plan to rebuild Jerusalem as Aelia Capitolina with an orthogonal layout, permit to set the closing date for the cistern assemblage around 120 CE (Di Segni 2014: 448–449; Weksler-Bdolah 2014: 56). Its latest deposits appear to derive from clean-up operations under Hadrian, implying that even if old buildings were not entirely ruined in the 70 CE devastation and continued to be used they had to be dismantled since their orientation did not fit well into the new urban landscape (Weksler-Bdolah and Rosenthal-Heginbottom 2014: 48–49).

Fig. 1. Jerusalem, Jewish Quarter excavation, Area F-6. Factory lamp (photo by G. Laron).

Fig. 2. Jerusalem, Jewish Quarter excavation, Area F-6. Base of the factory lamp, inscribed TAVRINI (photo by G. Laron).

Factory lamps

In the East, factory lamps are generally uncommon, even more so in the southern Levant. The finds from Jerusalem's Upper City and the Tyropoeon Valley have been recently discussed (Rosenthal-Heginbottom 2015a: Figs.2–6). They comprise two imported lamps of the late 1st century CE, early fabricants Communis and Phoetaspus, manufactured at Modena, and a local lamp stamped Fortis (Rosenthal-Heginbottom 2015a: Figs 3–5, Loeschcke-Buchi Type IXb). In the 1992 excavations at the kiln works on the site of the present Jerusalem International Congress Center (henceforth JICC), located two kilometers to the west at the outskirts of the ancient city on the road from Jerusalem to Emmaus-Nicopolis, a single unstamped factory lamp was retrieved, made at the site (Magness 2005: 102, Fig. 33:2, Photo 32 bottom; for the kiln works see Rosenthal-Heginbottom 2015b). The cistern in Area F-6 contained a nearly complete lamp with the stamp TAVRINI – Taurinus (Figs 1–2) and shoulder fragments of two additional lamps (Rosenthal-Heginbottom in press: Pl. 25.3:6). Because of the Latin name I automatically assigned the lamp to the Modena workshops. However, this fabricant is not recorded there and not known from anywhere else. A closer look at the fabric and comparing it with that of the Phoetaspus lamp made me realize the Taurinus lamp and the other two fragments are local products. They are not made in the clearly imported typical brick-red Modena fabric, but in a light brown to reddish brown fabric with a red

Fig. 3. Jerusalem, Jewish Quarter excavation, Area F-3. Factory lamp, inscribed [F]ĘLIX (photo by G. Laron).

slip. The fabric of a fragmentary factory lamp found at Masada and attributed to the Second Roman Garrison (74 to ca. 115 CE) is described "orange clay with buff core and outer surface; orange to brown slip" and defined "not Italian despite its good quality; possibly central Italian, but could also be local copy of imported lamp" (Bailey 1994: 93, No. 201). Though not having seen the lamp it is tentatively suggested on the basis of the fabric description that the lamp was produced in the JICC kiln works.

The base of an additional factory lamp was found in Area F-3 in the Upper City, stamped [F]ĘLIX (Fig. 3). The fabricant Felix worked in northern Italy since the beginning of the 2nd century CE (Buchi 1975: 59–60; Alram-Stern 1989: 71, No. 438; Roman 2009: 62). No lamps with Felix were found in the East; according to Loeschcke he was found in Gallia, Germania, Raetia, Noricum, Dalmatia, Pannonia and Dacia (1999: 293 (105). In relation to the numerous and widely distributed Fortis lamps, the number of recorded lamps signed Felix is insignificant.

Roman-type volute lamps

In the Herodian pre-70 CE habitation levels of the Upper City of Jerusalem imports of Augustan and later Roman-type volute lamps (Broneer Types XXI–XXIII) were occasional and personal. In Italy, workshops were active from Augustan to Trajanic times, with Type XXII commencing early in the last two decades of the 1st century BCE and Type XXIII somewhat later (Bailey 1980: 127, 153, 177). The same time range applies to their imitations, produced locally at Beirut and dominating the early Roman assemblages (Mikati 1998: 57–59 Type 12A–D; 129). So far, the evidence from Jerusalem's Upper City indicates that with the

exception of some Broneer Type XXI imports Roman-type volute lamps were not popular and that those found were not manufactured in Italy but in workshops of the eastern Mediterranean regions (Rosenthal-Heginbottom 2014: 381–382). Thus, with Roman-type lamps prevalent in Levantine cities with a pagan majority already from Augustan times onwards it is clear that until 70 CE Jerusalem was different with regard to the use of lamps with decorated discus: such lamps were rare and the customers showed a clear preference for equally high-quality local products (Rosenthal-Heginbottom 2016: 433–434).

Lamps from the cistern

The Roman-type lamps which came to light in the cistern L.2667 in Area F-6 in Jerusalem's Upper City comprise predominantly Broneer Type XXIII lamps; they also form the main type in the fills of Area P-3, now prepared for publication. Together with the factory lamps their appearance is clearly related to the post-70 CE population change with ethnic Roman and indigenous pagan residents. Replaced by the round discus lamp in the late 1st century CE (Rosenthal-Heginbottom 2014: 382, Pl. 23.1:7) the latter constitute the popular Levantine type of the 2nd–3rd centuries (Mikati 1998: 64–65, Type 14). To date, it is not clear for how long the Broneer Type XXIII lamps and the round discus lamps overlap. Furthermore, workshops in different locations surely did not terminate their production simultaneously.

Most of the nozzles bear soot marks, indicating that the lamps were used before discarded in the cistern. The imagery depicted on the lamps attests to a highly connected visual culture, in particular motifs such as Eros with lyre (Figs 6–8) or trophies (Figs 9–11), and their popularity in the Levant is an indication for the cross-pollination of distinct Roman imagery among populations with different cultural and social identities. The elongated impressed foot-print stamp on many lamps (Fig. 5) is another indicator for Levantine workshops (Bailey 1988: 280).

A selection of lamps from the cistern discussed here, includes several lamps of the same fabric as the factory lamps, based on visual inspection (Fig. 4–6, 13–14) and a lamp of a different fabric (Fig. 9).

The Broneer Type XXIII lamp (Fig. 4) has a plain flat shoulder; the central part of the discus is broken and there are no signs of imagery. The base flat, marked off by a groove, bears an impressed foot-print stamp (Fig. 5). The lamp has a length of 7 cm. and a base diameter of 3.4 cm. To this size the majority of the other Broneer Type lamps conform; a second group has the slightly different length of 7.3 cm. (Rosenthal-Heginbottom in press: Table 25.1). The discus of the fragmentary Broneer Type XXIII lamp is decorated with Eros seated to the right with a lyre (Fig. 6). The figure-type is Eros in a resting pose. The lyre to the

Fig. 4. Jerusalem, Jewish Quarter excavation, Area F-6. Broneer Type XXIII lamp (photo by G. Laron).

Fig. 5. Jerusalem, Jewish Quarter excavation, Area F-6. Base of Broneer Type XXIII lamp with impressed footprint stamp (photo by G. Laron).

Fig. 6. Jerusalem, Jewish Quarter excavation, Area F-6. Broneer Type XXIII lamp with Eros (photo by G. Laron).

Fig. 7. Dora. Broneer Type XXIII lamp with Eros (Drawing by V. Rozen).

Fig. 8. Dora. Broneer Type XXIII lamp with Eros (photo by G. Laron).

Fig. 9. Jerusalem, Jewish Quarter excavation, Area F-6. Broneer Type XXIII lamp with trophy (photo by G. Laron).

Fig. 10. Western Wall Plaza excavations. Discus fragment with trophy (photo by C. Amit, Israel Antiquities Authority).

Fig. 11. Dora. Broneer Tye XXIII lamp with trophy (Drawing by V. Rozen).

left of Eros has the same height; with his left arm out-stretched he is grasping it with his hand. The prototype for the motif was Apollo playing the cithara; Leibundgut concluded that the change to Eros trivialized the subject (1977: 146, No. 690, Motif 80, from Vindonissa, dated to the end of the first to end of the second century). There are two different versions: Eros resting on the ground (Fig. 6) and Eros on a *kline* or large chest (Figs 7–8, from Dora, unpublished, Area F, L8935, B87154, with *planta pedis*). Other local and regional finds were reported in Jerusalem (Tushingham 1985:61, Fig. 25:12, from the Armenian Garden excavations; Rosenthal-Heginbottom forthcoming: Cat. No. 773), Byblos (Dunand 1958:1054–1055, No. 19045, Fig. 1164), Sidon (Rey-Coquais 1963:150, No. 9), Tyre (Marchand 1996: 62, Nos 33–34). Several lamps are in museum collections (Bailey 1980:20, Q 1306, central Italian, dated to the first half of the second century; Bailey 1988:284, Q 2294, from Salamis or Curium, attributed to a workshop in Judaea/Palaestina and Syria, dated 40–100; Bémont 2003:61, D 008; Bémont and Chew 2007:66, D 49, L IV; 347–348, AS 2, Pl. 85, unknown provenance, probably a product of Syria/Palaestina).

A lamp fragment with the seated Eros from the Western Wall Plaza excavations in Jerusalem in the pose as illustrated in Fig. 6 (Rosenthal-Heginbottom forthcoming: Cat. No. 773) is made in a fabric different from that of the cistern lamp. It is fired to yellowish clay with a green tinge and a thin dark gray slip, and the petrographic analysis resulted in ‘unknown, not Israel’. In the Western Wall Plaza and in the cistern assemblages it represents another common lamp fabric. Two lamps decorated with a trophy are presented here (Figs 9–10). Above a couple of crossed shields or greaves there is a cuirass on a stump. In the Roman provinces the lamps are locally produced at Vindonissa (Leibundgut 1977:170, Motif 230, cuirass, Motif 235, two greaves) and Pergamon (Heimerl 2001:196, Motif 155, Nos 368, 369, 889). In the southern Levant specimens are recorded in the Tyre area (Rey-Coquais 1963, Pl. 2:15; Marchand 1996: 62, Nos 36–37), Caesarea Maritima (Sussman 2008: 225, No. 47), Netanya (Sussman 2012:194, No. 34) and on Cyprus (Bailey 1988:55, Fig. 65; 303, Q 2396), not all images are correctly identified. A variant of the figure-type shows two crossed shields with the body of a slain enemy above, clad in a laminated-strip cuirass and holding a spear and a shield in each hand (Fig. 11; from Dora, unpublished, Area B1, L12904, B129169, with impressed foot-print stamp).

The trophy also appears on gold *aureii* and silver *denarii* from the mint of Rome, commemorating the subjection of Judaea, the oval shields placed in a vertical position (Meshorer 1998:107–109, Nos 398–403. Crossed shields as part of a trophy are shown on Roman administration coins, minted under Domitian after 83 CE in Caesarea Maritima (Meshorer 2001:192, 266–267, Pl. 80:391–392). On coins of Aelia Capitolina minted under Marcus Aurelius the two shields flank

the top of the cuirass on the pole (Meshorer 1989:33, No. 46). Meshorer points out that on coins the depiction of trophies is normally connected with war or military victory. However, as there is no information concerning which war the trophy on the Jerusalem coins refers to, Meshorer suggests that it was used here as a general symbol of military success that the city wished the emperor. Such an interpretation might be relevant for the lamps as well.

Two more lamps, an intact Broneer Type XXI lamp and a fragmentary plastic foot lamp, can be attributed to the JICC kiln works, based on visual inspection. The Broneer Type XXI lamp (Fig. 12) has two nozzles, a wide sloping shoulder and a small plain sunken discus with central filling-hole. Shoulder and discus are separated by two ridges. A forked thyrsus is set on each nozzle-top between the volutes (for this feature see the Knidian lamp in Bailey 1988: 336, Q 2685). The applied handle-shield with a pierced ring handle is leaf-or fruit-shaped, forming an oval topped with a knob; a vertical central groove divides the convex surface into two halves and a ridge encircles the oval close to the edge. The raised base is marked off by a groove. There are a number of parallels for the lamp type. A lamp with a different handle-shield and volutes which are not scrolled was placed as a tomb offering in Chamber C of Cave 1 in the Akeldama tombs in Jerusalem (Ben-Arieh and Coen-Uzzielli 1996: 83, Fig. 4.8:1; 92). For the lamp, made of orange clay with a red slip, a pre-70 CE date is suggested; it is considered either an import or a local imitation. Although Knidian ceramics and eastern lamps of Broneer Type XXI were sporadically imported at the time of Herod the Great (Rosenthal-Heginbottom 2014: 380–381, Pl. 23.1:3, 5–6, 15), it is more likely that the Akeldama lamp dates from the time of the cremation burials deposited in Cave 1 after 70 CE, perhaps in the late first or early second centuries (Avni and Greenhut 1996: 35). The authors note that the earlier Jewish burials were not cleared out, and suggest a reuse by members of the Tenth Legion or by the civilian pagan population, the latter supported by the burial of a juvenile and a child. There is frequent evidence for cremation in the Jerusalem area, which is typical of ethnic Romans, and in my opinion it is unlikely that the local pagan population would have adopted the practice so quickly. Thus, it is reasonable to assume that soldiers and officers, together with their officially forbidden, yet tolerated families and offspring, were laid to rest in the cave and the lamp can be attributed to them.

In the Levant, lamps with the particular handle-shield are recorded at Tyre (Marchand 1996: 58, No. 6); Beirut (Mikati 1998: 59, 96, Pl. 16:4 Type 12D, 1st century CE) and Caesarea Maritima (Porath and Gur 2015: 9, Fig. 2.4:4). In the literature the handle shape is often described as vulvate, identified with the female genitalia (for an Italian lamp see Bailey 1980: 213, Q 1025; 221, Q 1050; for Knidian lamps see Bailey 1988: 339, Q 2713 and Pastutmaz-Sevmen 2005: 287, Fig. 5 from the workshop of Romanesis). Considering that the vulva is rarely

depicted as separate object in Roman art a neutral term is better suited (Melander 2014: 44–46, Cat. V, 2–3). The handle ornament on the Italian and Knidian lamps and on the parallels given by Melander is different from the one on the cistern lamp: the leaf-shaped handles have a lancet-shaped depression in the middle, flanked by two deep grooves, while the handle of the cistern lamp with a single groove is close to the handles of the Knidian lamps.

The double-nozzled plastic lamp modelled in form of a foot (Fig. 13) is singular. The two nozzles are closely set, and above the wick-holes and between the lateral scrolled volutes there are leaf-shaped ornaments. On the left nozzle the top of the ornament is covered by the tip of a toe with the nail clearly marked; the right nozzle is broken. No close parallel is known to me. On the basis of a lamp with a single nozzle from Egypt in form of a sandaled right foot (Bailey 1988: 242, Q 1985 EA) it can be assumed that the toe on the lamp fragment is the big toe and that a left foot is depicted. The lamp in the British Museum is dated to the 1st century CE; Bailey cites a close lamp from Karanis from an early 2nd to early 3rd century context. Plastic lamps in clay and bronze in the shape of sandaled feet were produced at least as early as Augustan times in workshops in Italy and continued to be quite widespread though not numerous in the Roman realm. Most of them have a single nozzle (Bailey 1980: Pl. 46), while double nozzles are found on bull-head lamps (Bailey 1980: Pl. 47:Q 1141–1143).

Fabrics

By visual inspection the few factory lamps (Figs 1–3), a substantial number of the Roman-type volute lamps (Figs 4–6, 12), the plastic foot lamp (Fig. 13) and many of the round discus lamps (Rosenthal-Heginbottom in press: Pls 25.2:15–16; 25.3:2) can be assigned to the JICC site workshops. The soft light brown to reddish brown fabric with a red slip corresponds to Magness Ware 1 with tiny grits hardly visible to the eye (Magness 2005: 69). It is the fabric of the fine tableware manufactured at the JICC site where to date a relatively small number of lamps came to light, suggesting that the production took place in an area not yet excavated or that the workshops were located somewhere else, also making use of the Moẓa clay and marl source. Other lamps of the cistern assemblage are made of a soft fabric of yellowish clay with a green tinge and tiny gray grits, hardly visible to the eye. The thin, dull dark gray or brown slip is mostly worn. According to the descriptions the lamps match a group of 1st century CE lamps, for which Hayes suggests a Palestinian origin (Hayes 1980: 90–91, Nos 361–364). Based on the iconographic parallels a Phoenician origin is more likely. The petrographic analyses of three lamps in this fabric from the Western Wall Plaza excavations resulted in the definition ‘unknown, not Israel’ (Fig. 10; Rosenthal-Heginbottom

Fig. 12. Jerusalem, Jewish Quarter excavation, Area F-6. Broneer Type XXI lamp (photo by G. Laron).

Fig. 13. Jerusalem, Jewish Quarter excavation, Area F-6. Lamp modelled in form of a foot (photo by G. Laron).

forthcoming: Cat. Nos 773, 775, 779). In order to verify these observations archaeometric analyses are essential.

Conclusions

Factory lamps and Roman-type volute lamps stand for the acceptance and participation in the material and visual culture of the Roman Imperial *koine*, exemplified by the Latin names of the manufacturers and the imagery on the decorated discus of the volute lamps. On the evidence of the pre-70 CE habitation levels in Jerusalem's Upper City and of the discarded domestic ceramics in the Roman dump, associated with the city's eastern cardo, it can be concluded that in contrast to the Roman East in general the use of these lamps indicates the population change that occurred after 70 CE in Jerusalem. Considering that most parallels for the motifs of the discus lamps originate in the southern Levant it can be understood that after 70 CE the lamp production in Jerusalem followed the repertoire of the pagan coastal cities. These lamps constitute a new iconographic trend which in Jerusalem (and most likely in Judaea) reflects a post-70 CE development in a non-Jewish society.

There are two plausible explanations for their absence in pre-70 CE habitation contexts in the Jerusalem's Upper City. First, for religious reasons the subjects depicted could not be tolerated by Jews. Second, from a technical and practical point of view Roman-type lamps were not superior to the locally produced wheel- and mold-made lamps (Rosenthal-Heginbottom 2014: 381–382; 2016: 433–434).

Yet, in the complex processes summarized under the term 'Romanization', lamp production and consumption is only a minor aspect. Looking at architecture and landscape formation the Roman influence can be detected from the time of Herod the Great until 70 CE, in Jerusalem in the Royal Stoa on the Temple Mount and in the funerary monuments surrounding the city, in the area at sites like Caesarea Maritima, Samaria-Sebaste and Caesarea Philippi as well as in the extension of the road network in Judaea/Palaestina (Fischer 2011: 144–149). Hence, when investigating the multifaceted steps of Romanization it is imperative to differentiate among the variegated categories of archaeological remains.

Notes

1 Due to the broken top section it is impossible to know whether the lamp is of Loeschcke-Buchi Type IXb with a closed ring separating shoulder and discus or Type Xa with the continuous raised ring encircling discus, nozzle channel and wick-hole.

2 I warmly thank Martin Auer, Donato Labate and Gerwulf Schneider for informing me that Taurinus is not among the Modena fabricants and not known from anywhere else.

3 So far, only a small number of lamps were petrographically analyzed. The locally manufactured lamps were made from the clays and marls of the Moẓa soil formation; they include two Broneer Type XXI lamps from the JICC site (Goren 2005: 193, Nos 16–17) and a Broneer Type XXI and a round discus lamp from the Western Wall Plaza excavations (Rosenthal-Heginbottom forthcoming: Cat. Nos 747, 800). The origin of other Broneer Types XXII-XXIII and round discus lamps from the same excavations was defined as 'unknown, not Israel' (Rosenthal-Heginbottom forthcoming: Cat. Nos 773, 775, 779, 792, 809).

Bibliography

Alram-Stern, E. (1989). *Die römischen Lampen aus Carnuntum* (RLÖ, Heft 35, Vienna).

Avni, G. and Greenhut, Z. (1996). *The Akeldama Tombs. Three Burial Caves in the Kidron Valley, Jerusalem* (Israel Antiquities Authority Reports 1) (Jerusalem).

Bailey, D. M., (1980). *A Catalogue of the Lamps in the British Museum.* 2 *Roman Lamps Made in Italy* (London).

Bailey, D. M., (1988). *A Catalogue of the Lamps in the British Museum.* III *Roman Provincial Lamps* (London).

Bailey, D. M., (1994). 'Imported Lamps and Local Copies', Pp. 79–99 in D. Barag and M. Hershkovitz, *Lamps from Masada. Masada* IV, *The Yigael Yadin Excavations 1963–1965. Final Reports* (Jerusalem).

Bémont, C., (2003). *Les Lampes de Glanum* (Revue Archéologique de Narbonnaise, Supplément 34) (Montpellier).

Bémont, C. and Chew, H., (2007). *Lampes en terre cuite antiques* (Musée d'Archéologie Nationale de Saint-Germain-en-Laye) (Paris).

Ben-Arieh, R. and Coen-Uzzielli, T., (1996). 'The Pottery', Pp. 73–93 in G. Avni and Z. Greenhut, *The Akeldama Tombs. Three Burial Caves in the Kidron Valley, Jerusalem* (Israel Antiquities Authority Reports 1) (Jerusalem).

Buchi, E., (1975). *Lucerne del Museo di Aquileia. I Lucerne romane con marcio di fabbrica* (Aquileia).

Di Segni, L., (2014). 'Epiphanius and the Date of Foundation of Aelia Capitolina', *Liber Annuus* 64: 441–451.

Dunand, M., 1958. *Fouilles de Byblos* II. *1933–1938.* Texte 2 (Paris).

Fischer, M., (2011). 'Rome and Judaea during the First Century CE: A strange *modus vivendi*', Pp. 143–156 in G. Moosbauer and R. Wiegels (eds.), *Fines imperii – imperium sine fine?Römische Okkupations- und Grenzpolitik im frühen Principat. Beiträge zum Kongress 'Fines imperii – imperium sine fines' in Osnabrück vom 14. bis 18. September 2009* (Rahden/Westf.).

Geva, H., (2000). 'General Introduction to the Excavations in the Jewish Quarter', Pp. 1–30 in H. Geva (ed.), *Jewish Quarter Excavations in the Old City of Jerusalem, Conducted by Nahman Avigad, 1969–1982. Volume I*: *Architecture and Stratigraphy: Areas A, W and X-2. Final Report* (Jerusalem).

Geva, H., (2003). 'Stamp Impressions of the Legio Decima Fretensis', Pp. 405–422 in H. Geva, *Jewish Quarter Excavations in the Old City of Jerusalem, Conducted by Nahman Avigad, 1969–1982. Volume II*: *The Finds from Areas A, W and X-2. Final Report* (Jerusalem).

Geva, H., (2014). 'Stratigraphy and Architecture of Area N', Pp. 83–119 in H. Geva, *Jewish Quarter Excavations in the Old City of Jerusalem conducted by Nahman Avigad, 1969–1982. Volume VI*: *Areas J, N, Z and Other Studies. Final Report* (Jerusalem).

Goren, Y., (2005). 'Appendix: the Pottery Technology', Pp. 193–194 in B. Arubas and H. Goldfus (eds.), *Excavations on the Site of the Jerusalem International Convention Center (Binyanei Ha'uma): A Settlement of the Late First to Second Temple Period, the Tenth Legion's Kilnworks, and a Byzantine Monastic Complex. The Pottery and Other Small Finds* (JRA, Supplementary Series 60) (Portsmouth RI).

Gutfeld, O., (2012). *Jewish Quarter Excavations in the Old City of Jerusalem, Conducted by Nahman Avigad, 1969–1982. Volume V*: *The Cardo (Area X) and the Nea Church (Areas D and T). Final Report* (Jerusalem).

Gutfeld, O. and Nenner-Soriano, R., (2012). 'Stamp Impressions of the Legio X Fretensis', Pp. 378–392 in O. Gutfeld, *Jewish Quarter Excavations in the Old City of Jerusalem, Conducted by Nahman Avigad, 1969–1982. Volume V*: *The Cardo (Area X) and the Nea Church (Areas D and T). Final Report* (Jerusalem).

Hayes, J. W. (1980). *Ancient Lamps in the Royal Ontario Museum, I: Greek and Roman Clay Lamps, A Catalogue* (Toronto).

Heimerl, A. (2001). *Die römischen Lampen aus Pergamon vom Beginn der Kaiserzeit bis zum Ende des 4. Jhs. n. Chr.* (Pergamenische Forschungen 13, Berlin).

Howgego, C. J., (1985). *Greek Imperial Countermarks. Studies in the Provincial Coinage of the Roman Empire* (Royal Numismatic Society Special Publication 17) (London).

Leibundgut, A. (1977). *Die römischen Lampen der Schweiz: eine kultur- und handelsgeschichtliche Studie* (Bern).

Loeschcke, S. (1919). *Lampen aus Vindonissa. Ein Beitrag zur Geschichte von Vindonissa und des antiken Beleuchtungswesens* (Zurich).

Magness, J., (2005). 'The Roman Legionary Pottery', Pp. 69–191 in B. Arubas and H. Goldfus (eds.), *Excavations on the Site of the Jerusalem International Convention Center (Binyanei Ha'uma): A Settlement of the Late First to Second Temple Period, the Tenth Legion's Kilnworks, and a Byzantine Monastic Complex. The Pottery and Other Small Finds* (JRA, Supplementary Series 60) (Portsmouth RI).

Marchand, J. (1996). 'The Lamps', Pp. 57–67 in P. Manor Bikai, W.J. Fulco and J. Marchand, *Tyre: The Shrine of Apollo* (Amman).

Melander, T., (2014). *Thorvaldsen's Roman Lamps. A Catalogue of the Ancient Roman Terracotta Lamps in Thorvaldsens Museum* (Copenhagen).

Meshorer, Y., (1989). *The Coinage of Aelia Capitolina* (Israel Museum Catalogue 301) (Jerusalem).

Meshorer, Y., (1998). *Ancient Means of Exchange, Weights and Coins* (The Reuben and Edith Hecht Museum Collection A) (Haifa).

Meshorer, Y. (2001). *A Treasury of Jewish Coins from the Persian Period to Bar Kokhba* (Jerusalem).

Mikati, R., (1998). *The AUB Beirut Souks Excavations 1994-95. The Terracotta Lamps* (M.A. Thesis, American University of Beirut) (Beirut) (download available through the Library of the American University).

Nenner-Soriano, R., (2014). 'Stamp Impressions of the *Legio X Fretensis* from Areas J and N', Pp. 318–327 in H. Geva, *Jewish Quarter Excavations in the Old City of Jerusalem, Conducted by Nahman Avigad, 1969–1982*. Vol. VI: *Areas J, N, Z and Other Studies. Final Report* (Jerusalem).

Pastutmaz-Sevmen, D., (2005). 'Knidos Dionysos Terası Stoasında Bulunan Bir Grup Kandil Işığında Romanesis Atölyesi ve Özellikleri', Pp. 283–289 in M. Şahin and I. Hakan Mert (eds.), *Ramazan Özgan'a Amarğan – Festschrift für Ramazan Özgan* (Istanbul).

Porath, Y. and Gur, K., (2015). 'The Oil Lamps', Pp. 3–24 in Y. Porath, *Caesarea Maritima*. Vol. I. *Herod's Circus and Related Buildings*. Part 2: *The Finds* (Israel Antiquities Authority Reports 57) (Jerusalem).

Rey-Coquais, J.-P., (1963). 'Lampes antiques de Syrie et Liban', *Mélanges de l'Université Saint Joseph* 39: 147–165.

Roman, C.-A. (2009). *Lamps from DACIA POROLISSENSIS, The Roman Forts from Porolissum-Moigrad, Buciumi, Gilău, Samum-Cășei* (Cluji-Napoca).

Rosenthal-Heginbottom, R., (2014). 'Imported Hellenistic and Early Roman Pottery – An Overview of the Finds from the Jewish Quarter Excavations', Pp. 377–413 in H. Geva, *Jewish Quarter Excavations in the Old City of Jerusalem, Conducted by Nahman Avigad, 1969–1982*. Vol. VI: *Areas J,N,Z and Other Studies. Final Report* (Jerusalem).

Rosenthal-Heginbottom, R., (2015a). 'Factory Lamps 'Firmalampen' in the Levant', *Strata* 33: 119–146.

Rosenthal-Heginbottom, R. (2015b). 'The Kiln Works of the *Legio Decima Fretensis*: Pottery Production and Distribution', Pp. 611–618 in L. Vagalinski and N. Sharankov (eds.), *Limes XXII. Proceedings of the 22nd International Congress of Roman Frontier Studies, Ruse, Bulgaria, September 2012* (Sofia).

Rosenthal-Heginbottom, R., (2016). 'Innovation and Stagnation in the Judean Lamp Production in the Late Second Temple Period (150 BCE–70 CE)', Pp. 429–442 in P. Kögler and S. Japp (eds.), *Traditions and Innovations. Tracking the Development of Pottery from the Late Classical to the Early Imperial Periods* (IARPotHR – International Association for Research on Pottery of the Hellenistic Period e.V.). Vol. 1 (Vienna).

Rosenthal-Heginbottom, R. (in press). 'Selected Pottery from the Late Second Temple Period and Aelia Capitolina from Area F-6', in H. Geva, *Jewish Quarter Excavations in the Old City of Jerusalem, Conducted by Nahman Avigad, 1969–1982*. Vol. VII*: Areas Q, H and O-2 and Other Studies, Final Report*. Jerusalem 2017.

Rosenthal-Heginbottom, R. (forthcoming). 'The Ceramic Finds from the Eastern Cardo: Catalogue and Discussion', in S. Weksler-Bdolah and A. Onn Forthcoming, *Jerusalem, the Western Wall Plaza Excavations, 2005–2009* (Israel Antiquities Authority Reports, Jerusalem).

Sion, O. and Rapuano, Y., (2014). 'A Pool from the Period of Aelia Capitolina in the Jewish Quarter of Jerusalem', Pp. 414–426 in H. Geva, *Jewish Quarter Excavations in the Old City of Jerusalem, Conducted by Nahman Avigad, 1969–1982*. Vol. VI: *Areas J, N, Z and Other Studies. Final Report* (Jerusalem).

Sussman, V. (2008). 'The Oil Lamps.' Pp. 207-292 in J. Patrich, *Archaeological excavations at Caesarea Maritima Areas CC, KK, and NN: Final Reports* (Jerusalem).

Sussman, V. (2012). *Roman Period Oil Lamps in the Holy Land, Collection of the Israel Antiquities Authority* (BAR International Series 2447, Oxford).

Tushingham A. D., (ed.) (1985). *Excavations in Jerusalem 1961–1967*. Vol. 1 (Toronto).

Weksler-Bdolah, S., (2014). 'The Foundation of Aelia Capitolina in Light of New Excavations along the Eastern Cardo', *IEJ* 64: 38–62.

Weksler-Bdolah, S. and Rosenthal-Heginbottom, R., (2014). 'Two Aspects of the Transformation of Jerusalem into the Roman Colony of Aelia Capitolina', Pp. 43–61 in G.C. Bottini, D. Chrupcala and J. Patrich (eds.), *Knowledge and Wisdom. Archaeological and Historical Essays in Honour of Leah Di Segni* (Studium Biblicum Franciscanum Collectio Maior 54) (Milano).

Shiḥin Excavation Project: Oil Lamp Production at Ancient Shiḥin

James Riley Strange and Mordechai Aviam
Stamford University and Kinneret Academic College

Ceramic lamps were produced at the Hellenistic and Roman-period village of Shiḥin. After an overview of archaeological evidence for lamp manufacturing in the village and elsewhere, we show that Shiḥin produced the well-known wheel-made Herodian lamp and at least two types of mould-made lamps for local distribution, including the Darom or 'Southern' lamp. Furthermore, many of the moulds for these lamps were carved into waste from a nearby chalk vessel industry. Darom style lamps were made in both northern and southern Palestine at the same time. Anastasia Shapiro's study follows with a petrographic analysis of a corpus of lamp fragments from Galilean (including Gamla) and Judean sites.

Introduction

In 1988, a survey team from the University of South Florida identified the ruins of Shiḥin (J. F. Strange *et al*. 1994). This ancient village was perched on a low hilltop 38 m above level terrain and 188 m above sea level at the western end of the Beit Netofa Valley, less than 2 km northwest of the Ẓippori (Sepphoris) acropolis in Lower Galilee (Fig. 1). Today the site lies within the Ẓippori National Park and the Ha-Solelim Nature Preserve.[1]

From 2012 until 2017, the Shikhin Excavation Project has conducted six seasons of excavations, concentrating most work in Field I, on the crown of the northernmost peak of the Shiḥin hill (Fig. 2).[2]

Grätz first identified the town (*polis*) that Josephus called Asōchis (*War* 1.86; *Ant.* 13.337; *Life* 384; cf. *Life* 207; 233) as the settlement named Shiḥin in Rabbinic written sources (Grätz 1853: 123, n. 2). Furthermore, some rabbinic passages refer to pottery production at Shiḥin, such as in the 3rd century CE Tosefta, where it is clear that Sages were aware of the lamp industry:

> *L. But if he said to him, 'Bring them [lamps and wicks] to me from Joseph['s shop],' and he brought [them to] him from Simeon['s shop],*
> *M. '[Bring me] from Shiḥin,' and he brought him from Sepphoris,*
> *N. it is the agent who has committed an act of sacrilege (t. Meilah 2:9; Neusner 2002).*

Several passages in Josephus' work suggest that Shiḥin was settled by Jewish residents as early as the first reign of Ptolemy IX ('Soter'/'Lathyrus'; 116–107

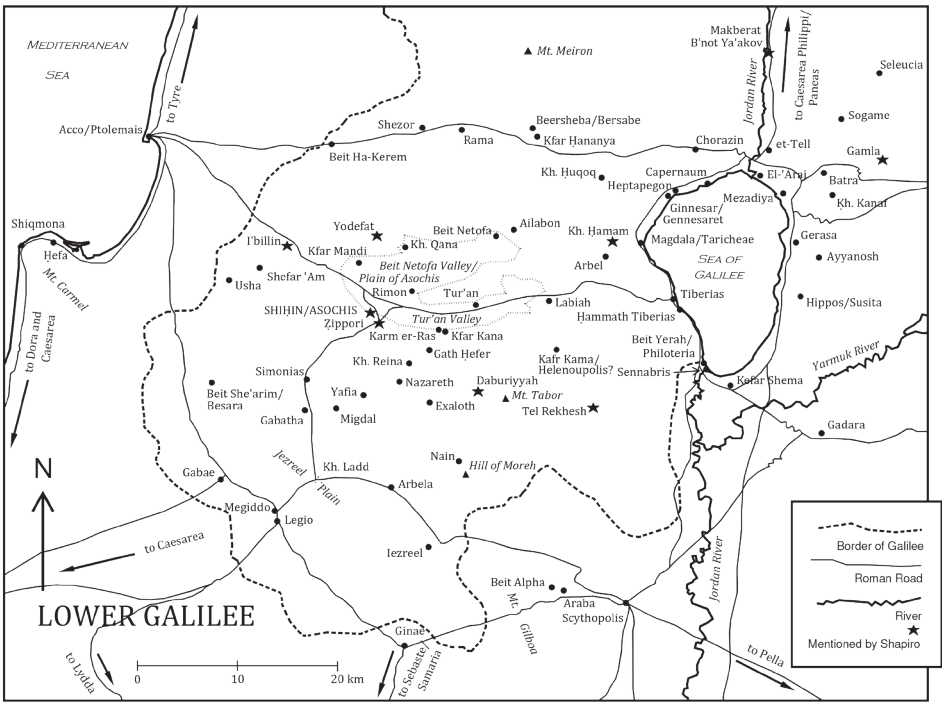


Fig. 1. Lower Galilee in the Roman Period. Map by J. R. Strange.

BCE) (J. F. Strange, *et al.* 1995; J. R. Strange 2015). A significant number of Hasmonean coins, stone vessel fragments, a probable *miqveh*, and remains of a public building that the excavators interpret as an early synagogue are indicative that the population was largely Jewish (J. R. Strange 2015).

Adan-Bayewitz and his team (1993), as part of their examination of pottery from Galilean sites, concluded that Shiḥin became a production centre in the Roman period for a particular type of storage jar 'characterized by an inset neck and everted rim' that was distributed in the Galilee and Golan[3] (J. F. Strange, *et al.* 1995: 182). Excavations revealed wasters of many of the common Galilean forms, including jars, jugs, cooking pots, bowls, and kraters. Furthermore, two pieces of potter's wheels, one in a fill and another *in situ*, pieces of kilns, and a small kiln *in situ* have been uncovered (see below).

In addition, excavations have discovered further evidence that residents of Shiḥin produced ceramic oil lamps. From the written record, when lamps and wicks were purchased in a town we may assume that they were probably made there (cf. Adan-Bayewitz 1995; 1997). The Tosephta passage implies that both Shiḥin's and Ẓippori's workshops produced lamps and wicks.

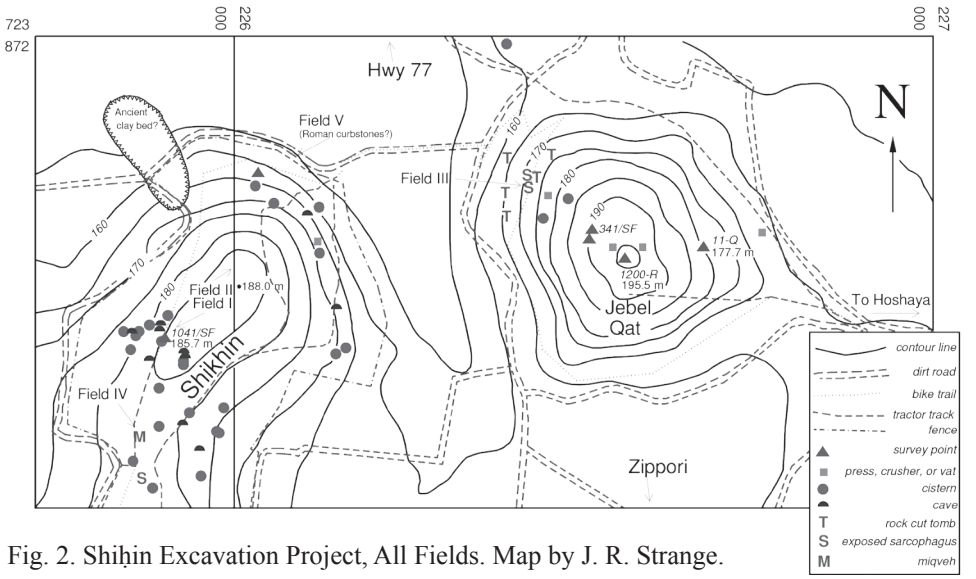


Fig. 2. Shiḥin Excavation Project, All Fields. Map by J. R. Strange.

In 1997, before the excavation of Shiḥin had begun, Adan-Bayewitz published a mould from Ẓippori (Adan-Bayewitz 1995; 1997). Nearly twenty years later, Sussman speculated that a workshop near Nazareth produced various kinds of lamps (Sussman 2012: 75, 84, 92–94, 96).

Ceramic Evidence from the Site

The earliest ceramic evidence dates to the Iron II period (1000–586 BCE), although no structures have been identified. These concentrations were found in the northwest corner of our Field I. The collected pottery indicates that an Iron II settlement continued, but became smaller in the Persian period, and continued in the Early Hellenistic period. Following a pattern familiar from other Galilean sites, the settlement saw a significant increase in population in the Late Hellenistic period (152–37 BCE). Pottery counts from the Early Roman period (37 BCE–135 CE) surge dramatically.

Near the end of the Late Roman period (second half of the 4th century CE), much of the synagogue was abandoned. The few early Byzantine sherds indicate a nearly complete abandonment of the site in the mid-4th century. Furthermore, we have found very few Islamic sherds, but three whole Islamic lamps, one intact, have been uncovered.

In the Late Islamic period (after 950 CE), agricultural terrace walls were built using both unworked building stones and architectural fragments, and crops were grown where the village had once stood. Their plowshares scarred shallow

Fig. 3. Shiḥin Field I: Synagogue remains in the southwest and lamp making industry in the northeast. (Map by J. R. Strange and S. Pevear).

bedrock and the tops of the highest surviving courses of walls. At some point, people also began to cultivate olives on the hill. One and a half millennia later, aerial photos from 1945 show olive groves extending into the wadis around Shiḥin. After 1948, residents of Moshav Ẓippori and Kibbutz Ha-Solelim bulldozed these wadis to create agricultural fields. Moshavniks began tending the trees on the hill and planted more groves as recently as 2012.

Ceramic Production

Surveys and excavations revealed that the village of Shiḥin was situated on the northernmost of three peaks. Across the *wadi* to the east lies the hill Jebel Qat, where there are rock cut tombs, sarcophagi on the surface, and voids carved into bedrock, probably for wine and olive production and for grain crushing.

From 2012, The Shiḥin Excavation Project has concentrated its efforts among the village ruins. Six seasons of excavations have revealed a series of connected rooms constructed on bedrock in the northern and eastern squares where industrial work sites for the production of ceramic oil lamps were uncovered (Fig. 3). The industrial site lies northeast of the contemporary late first through

second-century synagogue. Foundation levels for walls lie just centimetres below the modern surface. Consequently, there was much erosion and disruption by seasonal ploughing, olive tree roots and robbing. Surface pottery sherds ranged in date from Iron II through the Late Roman periods. Soundings beneath the floors of one building and two small pits carved into the bedrock beneath the synagogue floor have aided in dating.

Large quantities of pottery production waste, together with lamp forms dated to the late first and early 2nd century suggest that at Shiḥin the settlement existed at least until 135 CE.[4] Pottery from a deep fill in the southern part of room D contained no pottery later than the Early Roman period (Fig. 3). These finds, however, include fragments of Darom ('Southern') lamps, whose manufacture in Judea is typically dated to c. 70–135 CE (Lapp 2016, 5, Table 1; Sussman 1982, 16; 2012, 113–41; Rosenthal and Sivan 1978, 82).

Coin finds date from the second to fourth centuries. Among the 177 coins cleaned and identified, fourteen date to the 2nd century, while only one—a surface find of a coin minted under Caracalla or Elagabalus—dates to the 3rd century CE, and eight date to the 4th century.[5] In 2017, a hoard of 11 coins, the latest dating from the reign of Antoninus Pius, was recovered in a small pot.

Shiḥin's Oil Lamp Industry

By the end of the 2017 season, almost 1400 lamp fragments and 36 fragments of lamp moulds were recovered. Rooms B and F yielded the highest volume of complete lamps, lamp fragments, and mould fragments.[6] All lamp moulds were fragmentary, and either came from fill layers or were surface finds disturbed by ploughing. In 2017, excavations uncovered remains of a small kiln for firing lamps and other small vessels in Room G (Fig. 4). The kiln was roughly circular in shape, measuring just 80 cm in diameter. The uppermost stones lay about 22 cm below surface, showing that much of the kiln was damaged. A circular wall of fieldstones of varying thickness held the coarse interior bricks that were 2 cm thick. Their interior surface was covered with a 1 cm thick layer of clay. We estimate that the kiln stood around 150 cm high. In the centre of the installation stood a pillar made of three ceramic discs 18 cm in diameter and c. 10 cm thick stacked one on top of the other, around 30 cm in total. These appear to be specially made. Damaged remains of a thin mud floor near the southern side of the pillar survived. The higher floor of the firing chamber rested on the uppermost brick. The remains of a flue for controlling the temperature of the kiln (22.5 cm wide × 14 cm long) protruded from the kiln's wall.

Two complete Northern 'Darom' lamps of the same general size and pattern (perhaps even from the same mould), a large fragment of a square Darom-style

Fig. 4. The remains of the kiln in detail are visible with the central pillar (I.24 looking north). Photo by Steven Meigs.

lamp including the nozzle, and a small thin-walled bowl or cup were found inside this installation. Although disturbed, the pottery in the kiln's interior dates from the Late Hellenistic to the Late Roman period (152 BCE–352 or 363 CE). Beneath the kiln's central pillar, a shallow sounding yielded only Roman body sherds.

One large fragment of a wheel-made Herodian lamp with knife-pared nozzle came from a deep fill in room D of Area I.5 that contained pottery production waste in the form of thousands of pottery sherds and wasters, along with many lamp fragments. The Herodian lamp shows no signs of use as there was no soot on the nozzle. The location of the lamp among pottery wasters suggests that it too was discarded because it was ruined during the firing process. The probability is strengthened by Shapiro's petrographic analysis, which shows that Shiḥin's workshop produced and exported Herodian lamps (cf. Adan-Bayewitz *et al*. 2008: 74; Lapp 2015: 184–85).

In 2012, Sussman speculated that a Roman lamp workshop near Nazareth produced Herodian lamps and two types of mould-made lamps from 70 to at least 135 CE (2012, 92). These two new mould-made types developed from the well-known Herodian wheel-made lamp type with a spatulated, knife-pared nozzle.

The body of the first type retained the circular shape of the wheel-made lamps, made possible by the use of a compass to incise the mould. The lamps continue to

be mostly plain, with concentric rings at the edge of the shoulder and around the fill hole to decorate the body. On some lamps, simple curved parallel lines or lines and two dots decorate the nozzle, similar to some Herodian lamps (Sussman 2012, No. 907), yet without a handle. In many cases, even though the nozzle was formed in the mould with the rest of the lamp, it was then pared with a knife similar to the nozzle of a Herodian lamp. This type is Sussman's RH4, a 'Northern Undecorated Mold-made' lamp, and Eric Lapp's 'Sepphorean spatulate' type (Fig. 6:A).

The second lamp type bears decorations on the shoulders and nozzle that are carved into the moulds. On the finished product, these protrude in low relief. The base of the bow- or ax-shaped nozzle forms two 'wings' on either side of the nozzle—sometimes ending in volutes—where the nozzle attaches to the body. Some of these nozzles also show signs of paring.

On the underside of the lamp, the two wings form an inverted V where they meet in the center. A simple lug, a pierced lug, or a pierced ring handle sits opposite the nozzle. These are Sussman's type RH6, a northern variety of RH11, the 'Darom' (i.e. 'Southern') lamp, hence 'Northern Darom' (Figs 6:B–F). With the exception of a single mould that may be for making a type of discus lamp, all mould fragments recovered at Shiḥin come from varieties of these two forms (cf. Sussman 1982: 42, No. 26).

Lamp Mould Fragments

The moulds were carved from soft chalk. Several moulds were carved into cores from chalk cups created by turning a stone blank on a lathe (Fig. 5). Some cores are cylindrical and others are truncated cones. Both bear the marks of the lathe chisel (Gal 1991: Fig. 3, 4.1–3; Meyers and Meyers 2009: Photo 54 and Chalkstone Plate Nos 8–11; Sussman 2012; see also Magen 2002: 33–38, Figs 2.24–2.27; Amit 2010: Fig. 9). The cores were cut in half along their long axes, leaving one rectangular (or rhomboidal) flat face on one side and a hemi-cylinder opposite. Horizontal scratches visible on the carved faces of most moulds from Shiḥin probably result from sanding or smoothing the sawn face. Several moulds have one, two, or three vertical lines inscribed into their exterior, certainly to match upper sections with the corresponding lower sections.

These cores probably came from a nearby stone vessel workshop, perhaps the one at Einot Amitai or one of those discovered at some 7 km southwest of Shiḥin and around 3 km north of Nazareth, near Er-Reina. A salvage excavation there turned up stone vessel cores, some of which had been modified into loom weights (Jaffe 2012; cf. Gal 1991). Another salvage excavation is currently underway there (Borschel-Dan). Consequently, we have strong evidence that at least two industries—weaving and lamp mould carving—used waste from the manufacture of stone vessels.

A. R140317

B. R130375

C. R150240

D. R130318

E. R150300

Fig. 5. Lamp Moulds. (Photos by Gabi Laron).

To make mould-made lamps, artisans pressed clay into both bottom and top mould sections, allowing the clay to extend beyond the carved indentations of the moulds for both parts. While the clay was still wet, both mould parts were probably pressed together to produce a seal around the edge of the lamp for holding oil. This excess squeeze-out of clay could then be trimmed away and the edge was then smoothed. The seam on the interior received no cosmetic treatment.

The majority of designs show varieties of geometric patterns and vegetation: wreaths, leaves, flowers, and fruits. Depicted objects are limited to amphorae or vases and one example of a seven-branched menorah with flanking palm branches or *lulavs*.

Whole Lamps from a Single Context

Fifteen whole and complete or nearly complete mould-made lamps were discovered in room E (Areas I.10 and I.22) in 2015 and 2016 (Fig. 6). The lamps exhibit similar characteristics: all have circular bodies; among those with surviving wick holes, none shows soot from use; those with handles have a low, simple lug; among those with 'wings,' the wings are hardly more than concave depressions on each side of the nozzle; the poorly levigated clay is gritty with large, white inclusions (some of them very large); the vessel walls are thick; the upper and lower parts were not joined well; the seam between upper and lower parts was not well trimmed or well smoothed; in some cases, bottom and top parts are not of the same size; the clay was not pressed well into the moulds or it was pressed into poorly carved moulds, with the result that the decorations are in low relief and some are difficult to make out; nevertheless, all were fired. The poor and fragile quality of locally made gypsum lamp moulds excavated in the hippodrome of Jerash suggested to Kehrberg that the craftsmen valued fast production over quality (Kehrberg 2001, 232). At Shiḥin, we have not yet found poor quality moulds for producing the decorated lamps discussed in this section, but in the case of these lamps, quality must not have been the aim.

Sites of Lamp Manufacture in Roman Palestinee

Evidence for lamp manufacture have been found in a number of sites, including Zippori, Caesarea and Beth She'an.

Ẓippori

Adan-Bayewitz published a single mould, reportedly recovered at Ẓippori by a visitor to the site in 1983 or 1984 (Adan-Bayewitz 1995, 1997), and Eric Lapp mentions two moulds found in excavations on the western summit of Ẓippori (Lapp 2016: 183) during the 1986 season of the Joint Sepphoris Project (Meyers, Netzer,

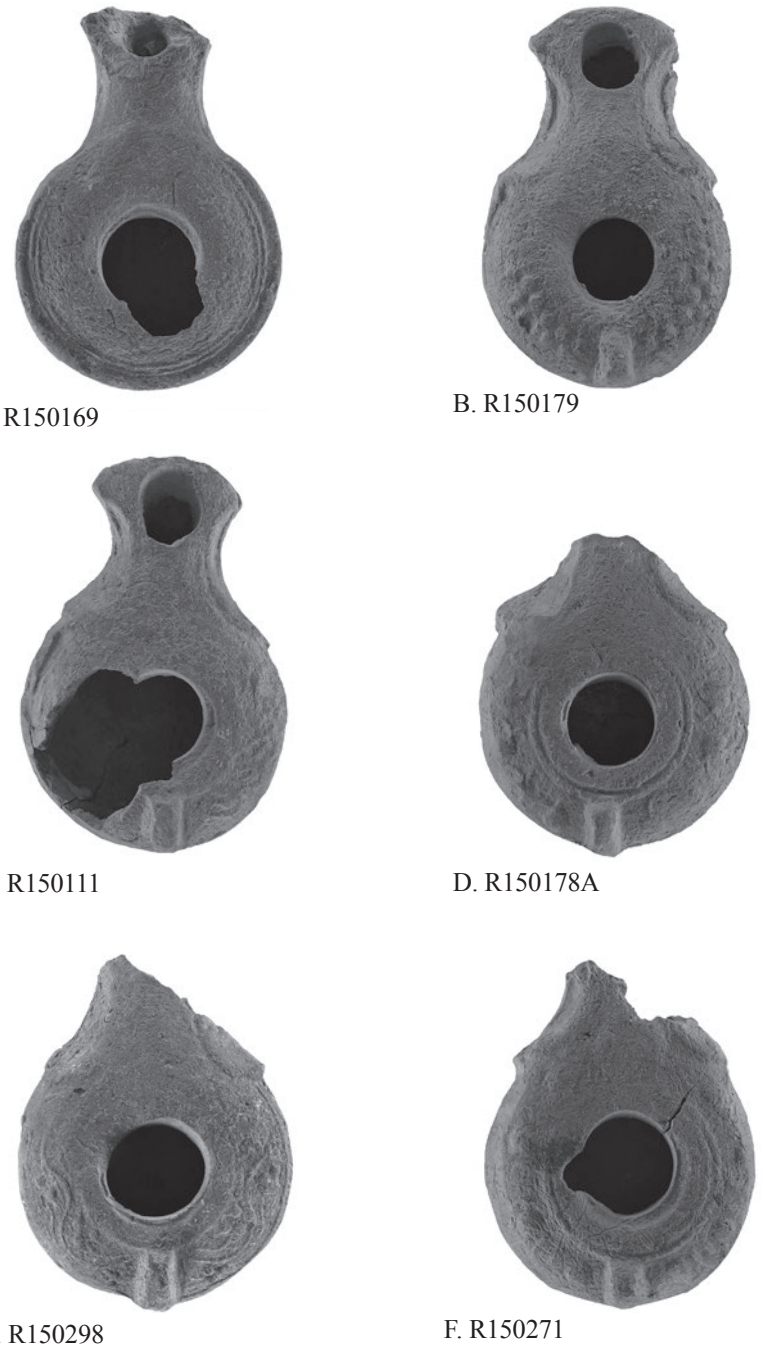


Fig. 6. Lamps. (Photos by Gabi Laron).

and Meyers 1987: 277). Adan-Bayewitz also mentions that Zeev Weiss told him about a ceramic lamp mould recovered at Ẓippori (Adan-Bayewitz 1995: 180).

Adan-Bayewitz published a mould that is 'rounded roughly on the bottom,' a feature similar to many moulds found at Shiḥin. The carving for the lamp itself is a round shape formed by a compass (the small hole for the compass is visible in the center of the cutout for the fill hole), the shoulder is decorated with a pattern of alternating triangles and ovals, and the short nozzle is spatulated, with no markings for a wick hole cutout. With no archaeological context from Ẓippori, Adan-Bayewitz dates the lamp between the 4th and 6th centuries CE based on similar lamps from Beit She'arim, Jalome, and Capernaum (Adan-Bayewitz 1995: 180). Eric Lapp identifies the mould as one for making lamps of 'the Sepphorean round-bodied type,' which does not appear in his catalogue of forms, but based on its similarity to the Sepphorean spatulate type, we can surmise a date between the 1st first and early 2nd centuries CE, significantly earlier than Adan-Bayewitz's date. Lapp identifies the two excavated moulds as: an upper half for making either a Sepphorean round-bodied or Sepphorean spatulate type [Sussman's RH4; see below]…with only the vestige of a cavity used to make a spatulate nozzle with lines following the contours of the nozzle…and an upper half for making a Galilean type lamp…showing a wide round body with a large discus, a spatulate nozzle, and a pinched pointed handle. (Lapp 2016: 183)

Meyers *et al.* published a photo of the second mould (Meyers, Netzer, and Meyers 1987: 277, Pl. 35:B). Lapp dates the Sepphorean spatulate type to the 'mid-first to early second centuries C.E.' (Lapp 2016: 5). The dates of this type and the Sepphorean round bodied type match the dates for the production of mould-made lamps at Shiḥin.

No other evidence of lamp manufacturing from Ẓippori—in the form of a large number of unused lamps or wasters—has been published. Lapp also suggests that Ẓippori's artisans produced moulds used in lamp workshops located elsewhere, including Shiḥin (Lapp 2016: 183–84).

Caesarea

Several lamp moulds dating to the 4th and 5th centuries were recovered near the Byzantine praetorium. Twenty moulds have been published (Patrich and Pinkas 2008; Sussman 1980), while many from the area south of the Crusader fortifications remain unpublished (Holum *et al.* 1988: 191–92). All moulds were carved from soft limestone. The lamp's circular body was etched in the limestone by a compass. The moulds indicate that the discus was closed, and both the discus and the shoulders of most are decorated. A small fill hole was pierced into the discus when the clay was leather hard. The short, squared, and spatulated nozzles do not have a cutout for a wick hole. This

hole was certainly cut after the clay was removed from the mould and before the lamps were fired. Many moulds have a convex base (see below). These published moulds were found in a fill near a staircase beneath an apsidal archival building, or tabularium (Zimmerman and Risser 2016: 1). Sussman suggests that lamps from these moulds were intended for Christians along the coast and in the north. Indeed, unpublished lamps of this type do bear symbols that reflect Christian identity such as crosses, peacocks, fisherman, and church façades (Sussman 1980: 78). Zimmerman and Risser suggest that these finds indicate a storage area or shop that sold to workshops located in other towns (Zimmerman and Risser 2016: 10).

Beit She'an/Scythopolis

Hadad has published seven complete and fragments of moulds from various Umayyad period contexts in the lower city of Beit She'an (Hadad 2002: 127–130). The clearest evidence for lamp production at the city comes from a kiln in a room near the Roman basilica and Umayyad kilns found within the arena at the eastern end of the amphitheatre. With the exception of one limestone example, all these moulds were made from clay. Of the two moulds found near the basilica, [1] one is for making the upper part of a type of Jerash lamp (Kehrberg 1989, below) and [2] the other is for the lower part of the most common type of Umayyad period lamp found at Beit She'an, in which a raised ring around the fill hole is integrated into raised ridges that extend to the wick hole, creating a channel between the holes. The handle is conical (Hadad's type 36). The area of the kilns in the amphitheater yielded [3] the lower part of a mould for another Jerash-type lamp with shallow incised wavy lines, branches, and what Hadad interprets as a letter phi. Cleaning the area of the amphitheater seats revealed [4] the one limestone mould fragment: it is for the upper part of a lamp with a lily or other flower near the wick hole. Hadad says that no lamps with flowers near the wick hole were found at Beit She'an, but the lamp type itself appears similar to Hadad's type 37 (see Hadad 2002: no. 438). The rest of the moulds were found in scattered parts of the city. Near the central monument where the 'Street of the Monuments' and 'Valley Street' intersect at the foot of the ancient tell was found [5] a mould for the upper part of a lamp decorated with elongated leaves on the shoulders. The type is similar to the most common type found at Beit She'an but has a tongue handle (Hadad's type 37). Hadad notes that lamps with this decoration are common at Beit She'an and all examples were made in the same mould, probably the one recovered (Hadad 2002: 129). [6] A mould for the upper part of a lamp of type 36 was found in the eastern bathhouse beneath rubble caused by the destruction of the 749 earthquake. [7] A mould for the upper

part of a pentagonal lamp type known from Caesarea came out of the Abbasid quarter that was built near 'Valley Street' after the 749 earthquake. With the exception of mould number 5, Hadad notes that at Beit She'an, none of the lamps discovered came from the moulds (Hadad 2002: 129).

Houston-Smith published a photograph of a plaster mould from Beit She'an (with no location or stratigraphic information) for the upper part of an 'Augustan style' lamp, with a round body and a depressed discus decorated with the image of a seated woman opening a wicker basket There is no cutout for a fill hole. The shoulder bears a repeating ovule pattern, interrupted by the indentation for a handle. The nozzle is spade-shaped with volutes on either side that end in another pair of volutes at the lamp body. Below where the wick hole would be cut out are two dots within circles oriented with the length of the nozzle rather than horizontally. Smith describes 'at the four corners of the mold indentations which held the corresponding bottom half of the lamp,' but surely he means the bottom half of the lamp mould. Smith dates the mould to the 'middle third of the 3rd century' CE (Smith 1966: 21–22).

Smith credits the photo to the University of Pennsylvania Museum, whose website lists a 'lamp mold' (object number 29-107-967) that may be the same lamp. There is no image. Like the mould Smith published, the Museum gives the provenience as Beit She'an and describes the mould carving in a way similar to Smith's, including image of a seated woman opening a box. In contrast to Smith's description, however, this mould is made out of limestone and is dated between 300 and 700 CE. The finding of the mould is credited to the University's Expedition to Beit She'an under Clarence Fisher, 1921–1928. No more precise information is listed. Gerald M. Fitzgerald published what must be the same mould 'from the Terrace, House III, Room 2' (Fitzgerald 1931: 40). The description is, 'a plaster mould for the upper part of a Roman volute-spouted lamp, with the figure a seated woman in the act of opening a casket' (Fitzherald 1931: 8; Pl. XXIX, 1, b). Based on a similar lamp found on the summit of Beit She'an, Fitzgerald dates the mould to 'the early years of the Roman imperial period' (Fitzgerald 1931: 40). The stratigraphic context, however is late Byzantine. Both Smith and Fitzgerald publish the photo upside down, and in both publications the image is difficult to make out. No discussion of the circular installations in the eastern rooms (5 and 9) of House III visible on the full site plan appears in the text.

Hadad published seven lamps and fragments of lamps from Beit She'an ('Type 6') that she identifies as similar to 'the 'Southern lamp'' and defines 'as a northern variant of the Judean lamps.' She noted that lamps of the same type were found at Sepphoris (Hadad 2002: 16). Most of the 59 lamps and fragments of this type were found in excavations near the nymphaeum in a context with Early Roman pottery

(she supplies no date range for this designation) and lamps of the discus type in two variants that Hadad dates from after 70 CE until the 3rd century (Hadad 2002: 16, 20). For our purposes, it is important to note that one of Hadad's published lamps of Type 6 (lamp number 12; Hadad 2002: 17) is an example of Sussman's type RH4 or 'Northern Undecorated' lamp, and since has been distinguished as a separate type from the 'northern Darom' lamp.

Beit Nattif

In 1934, Baramki cleared two cisterns at the village of Beit Nattif, located around 20 km southwest of Jerusalem (Baramki 1936; no photo). The lowest stratum of Cistern 1 contained Hellenistic toy vases, ribbed pottery sherds, many fragments of Roman cooking pots, some terra sigillata fragments, and nozzles of 1st century lamps showing signs of use. In the 3rd century C.E., apparently workers in a ceramics workshop began throwing waste from their industry into these cisterns, including eight moulds and fragments of moulds for making the top parts of oil lamps, one found in Cistern 1 (Baramki 1936: 6; no picture) and seven in Cistern 2 (Baramki 1936: Pl. XII). The waste also included two types of lamps: large, buff-coloured lamps and a much greater number of small 'red-painted' lamps (Baramki 1963: 5, 7). The lamps showed no signs of use, and in some cases, top and bottom parts appeared never to have been joined. The large lamps have decorated shoulders and discuses with small fill holes centered in the discus. The discus decorations include gladiators, birds, swastikas, and geometric and floral patterns. The small, red-painted lamps were made in poor moulds and most have large fill holes and decorated shoulders. One lamp depicts on the nozzle a large, seven-branched menorah standing on a tripod base, flanked on the left by a shofar and on the right by an incense shovel. Most of these lamps bear decorations of what are now the well-known, intricate geometric designs of the 'Beit Nattif lamp.' The lamp moulds from Cistern 2 showed 'more or less the same [geometric] designs as on the red-painted lamps' (Baramki 1963: 7). None, however, shows a menorah or similar symbols. Besides coins, the strata containing the lamp moulds also yielded moulded ceramic figurines of riders on horses and nude women.

Recently, rescue excavations 1 km north of Bet Nattif, at Kh. Shumeila, uncovered several stone lamp moulds and many lamp fragments within a large villa with a mosaic floor (Storchan 2017).

Jerash/Gerasa

In 1933, excavators in Gerasa found five lamps from the same mould (Iliffe 1945: 2), along with plaster (gypsum?) lamp moulds, of which Iliffe published descriptions of two. The moulds are described as 'for making the upper half of a squat fiddle-shape lamp with curved nozzle flanked by rudimentary volutes,'

and 'for making the upper half of a circular lamp with ovolo pattern around the shoulder, heart-shaped nozzle and central filling-hole' (Iliffe 1944: 25 Nos 160 and 161). Based on the descriptions, the first mould is for making what has come to be known as the 'Jerash' or 'Gerasa' lamp, and the second is of a lamp type found at Jerash (Iliffe 1944: no. 158). Iliffe dates the collection of objects to the beginning of the 2nd century (Iliffe 1944: 4; cf. Kehrberg).

Excavations in various parts of the hippodrome at Jerash, which included foundation levels of some chambers, recovered five lamps and one lamp fragment. Four lamps found in the same chamber (W24 on the western side of the hippodrome; Ortrasz 1989: Fig. 1) had lower parts cast from the same mould, whereas the upper parts of two of the four were cast in the same mould. Hence, all four lamps are from the same workshop. None of the four shows signs of use. All six of the published lamps and fragments are of the 'Jerash' type. Based on the pottery found in context with the lamps, and in comparison with material that dates the construction of the south decumanus and the sanctuary complex of the temple to Artemis, Kehrberg dates the making of Jerash lamps from 'about the middle until the last decades of the second century' (Kehrberg 1989: 86).

A later deposit beneath tumble excavated from the hippodrome's cavea (southwest of and across the hippodrome's arena from chamber W24) yielded a ceramic mould for a lamp that, based on the context, dates from the late 6th to early 7th centuries, whereas the type of lamp itself continued to be made into the first half of the 8th century (Kehrberg 1989: 88–89). The lamp body is an elongated oval in which nozzle and body are fully integrated. The decorations were incised into the mould when it was leather hard. A pattern of radiating lines decorates the shoulder, which extends around the cutout for the wick hole. A series of ten small circles forms a ring around the cut-out for the fill hole. A stylized human figure extends from the fill hole to the handle. Two birds facing inward are depicted flanking a jagged line. Two moulds of this type were found at Beit She'an.

Kehrberg discussed gypsum lamp moulds made on-site and found in the context of a kiln and waste products with photos of eight moulds from Chamber E8 of the Jerash hippodrome (Kehrberg 2001: 237–38; Figs 3: a–b, 4: a–d; Ostrasz 1993: 499). Ostrasz reported that excavations recovered 36 moulds 'and scores of fragments of moulds' (Ostrasz 1993, 500). Some moulds were for 3rd century CE lamps but were found in a context dating to the late 4th to the early 5th century. Kehrberg argued that the moulds were made from gypsum casts of 3rd century lamps, and concluded that, at least at Jerash, 'the lamp in itself has become too weak as a precise chronological indicator,' and must be taken into account along with the larger cultural assemblage

(Kehrberg 2001: 233). Found in the same context, three Early Byzantine lamps demonstrated that the practice of casting new moulds from successive generations of lamps resulted in lamps with decorations of increasingly dim relief, with the final example nearly blank. At Shiḥin, a group of 15 lamps with dim decorations might indicate a similar practice, the poor quality of the clay or the inexperience of the maker.

Khirbat el-Ni'ana

Sussman published 10 out of 17 fragments of ceramic lamp moulds recovered south of Tomb 1 at Khirbat el-Ni'ana, all for making the well-known candlestick lamp of the 5th to 7th centuries CE. No wasters for lamps were found, nor lamps or fragments of lamps that matched the moulds (Sussman 2007: 64–69).

Capernaum

The Franciscan excavations at Capernaum found 'a few hundred' lamp fragments (approximately 30 unused and poorly-fired lamps) primarily in the southern part of ambiente 119 of Insula V, a few meters north of the northeastern corner of the synagogue's portico. In this small room, which Loffreda interpreted as a shop, evidence of a single occupational layer of yellowish soil devoid of ashes was found (1974, 131). The clay of the fragments was thick and 'flesh colored', with traces of red slip. The lamps were clearly made in moulds because the 'lines, lunettes, scrolls, pegs and studs' decorations were in relief. In shape and decoration these resemble the well-known Beit Natif lamps with spatulated nozzles, but with generally less complex decoration (Loffreda 1974, 93, Fotos 26.1–7; 132; Figs 46.18–27). Loffreda dates the lamps and fragments, all but three of which he classifies as his type L6, as being 'typically Byzantine' despite originating in the late Roman period (Loffreda 187). He identifies two other fragments from this room as examples of his type L5: an ovoid or egg-shaped lamp with incised (or impressed?) designs (1974, 131).

Nazareth

Bagatti mentions a stone fragment of what might be a stamp for making a chevron pattern similar to some lamp fragments that he recovered (Bagatti 1969: 299, referring to Fig. 235: 21–26, lamps of the bilanceolate type). Eric Lapp speculates that the fragment could be part of a mould. Bagatti does not provide a drawing or photo of the object. Because he describes the stone as 'hard,' it is not likely to be a mould of the same type found at Shiḥin. There is little stratigraphic information on the piece, and following da Costa, Lapp questions the identification (Lapp 2015: 183).

Conclusions

Based on information gained during the six seasons of stratigraphic excavations at Shiḥin, it is clear that at least one Galilean village production center manufactured three types of lamps for distribution from the first century through the second century CE: the wheel-made Herodian type; the mould-made, Northern Undecorated type (Sussman's RH4, Lapp's 'Sepphorean Spatulate'; cf. Feig and Hadad 2015: 104, Fig. 11) and the mould-made Northern Darom lamp (Sussman's RH6). The discovery of a single possible mould fragment for making a discus-style lamp is inconclusive, for Sussman has published one Darom lamp with a closed, depressed discuss (Sussman 1982: 42, No. 26).

Shiḥin's lamp production began in the Late Hellenistic period (between 104 and 37 BCE). Before 70 CE. The discovered workshop produced Herodian lamps for use in the village and distributed them locally, as the presence of a Shiḥin-made Herodian lamp at Yodefat indicates. Production continued for 200 years, at least until 135 CE. We have no evidence yet for lamp production after the mid-2nd century CE

Since no examples of the Northern undecorated and Northern Darom lamps have been found at either Yodefat in the Galilee or Gamla in the Golan, (both towns were destroyed in 67 CE), these types may have developed after the fall of Jerusalem in 70. Northern Darom lamps appear in layers dated just prior to or at the year 135 CE in Kh. Wadi Ḥamam, we have strong evidence that this lamp type appeared in the Galilee before the end of the Bar Kokhba revolt.

In Judea, the Darom lamp type ceased shortly after the devastation of 135 CE. Yet, there are indications that production of the Northern Darom type continued after 135 CE, for example, both decorated and undecorated types have been found in Galilean tombs together with lamps of later types (for one example, see Aviam: 2002).

Regarding the development of Northern Darom lamps from earlier styles, several examples of knife-pared bow- or ax-shaped nozzles from mould-made lamps have been found at Shiḥin. So far as we know, this practice is unknown in Galilee before 67 CE.

Some lamp types that were common at Ẓippori, including Bilanceolate and Beit Nattif lamps (Lapp: 2016), have not yet appeared at Shiḥin. Despite the possibility that excavations at Shiḥin have found one mould for making lamps of the of the Palestinian discus type, quite common at Ẓippori, only a few examples of the lamp itself have appeared at Shiḥin as of the writing of this article.

In light of the volume of evidence from Shiḥin, it is not clear that the three lamp moulds found at Ẓippori—one from stratigraphic excavations of the western acropolis and one found by a visitor—indicate that lamp manufacturing happened

No.	Reg. No.	Area	Room	Description	Comparison
1	R130107	I.8	Room B	A mould fragment for a lower section carved into a badly damaged stone vessel core. Visible are the left corner of the nozzle and the inverted V at the meeting of the wings. Arcs of two incised circles formed by a compass meet the corner of the nozzle.	
2	R150329	I.10	Room E	A mould fragment for a lower section, showing the ax-shaped nozzle, the inverted V at the meeting of the wings, and the attachment to the body. Three vertical lines are incised on one side.	
3	R140317 (|Fig. 5:A)	I.18		A mould fragment for an upper section carved into stone vessel core, showing an ax-shaped nozzle and part of one wing on the left. Two incised parallel curved lines cross the nozzle below the place where the wick hole would be. On the nozzle, two incised parallel curved lines descend to the lamp body. There is no cutout for a wick hole. Shoulder decoration: a pattern of radiating lines with two incised concentric rings at the rim.	
4	R130375 (|Fig. 5:B)		Surface find	A mould fragment for an upper section, showing a ring of dots between two concentric incised rings at the rim. Compare: Sussman 2012: no. 921 (Nazareth, Kh. Moriah), 922 (I'billin); Kaufman, 376, 378, 379; Hadad 2002: Nos 17 and 18.	
5	R150300 (|Fig. 5:E)	I.14	Room A	A mould fragment for an upper section, showing an incised ring around the fill hole, a laurel wreath on the shoulder, and an incised ring at the outer rim. The mould for the handle is visible in the broken edge (lower section of photo).	Kaufman, 533–546; Lapp 2009: Lamp Plate C: 4.

No.	Reg. No.	Area	Room	Description	Comparison
6	R140001	I.13	possibly synagogue's courtyard	A badly damaged fragment of mould for an upper section carved into a stone vessel core, showing the fill hole cutout with a hole formed by a compass in the center and surrounded by two incised concentric rings. Shoulder decoration: a tendril with pomegranates facing in alternate directions, surrounded by one incised ring.	Sussman 2012: 932 (Geve/Mishmar Ha-'emeq); Sussman 1996: 15.4; Sussman 1982: 139; Hadad 2002: no. 13.
7	R150240 (|Fig. 5:C)	I.10	Room E	A mould fragment for an upper section carved into a stone vessel core, showing the rim of the fill hole cutout surrounded by two concentric incised rings. Shoulder decoration: a vine and branches with pomegranates surrounded by one incised ring. From the same mould as R160205 below.	Sussman 1996: 7; Sussman 1982: 192.
8	R160205	I.22	Room E	A second fragment from the same mould as R150240 above. Visible are a hole for the compass in the center of the fill hole cutout, a thin leaf with a central vein in the center of the nozzle, three incised parallel curved lines on what is probably the right wing, a spiral decoration below this wing, and the handle.	
9	R140075	I.6		A mould fragment for an upper section of a large lamp, showing a ring of dots at the shoulder rim flanked on both sides by two incised concentric rings. Also visible are the left outer rim of a rounded nozzle and part of the wick hole cutout, with a dot inside a small ring at the nozzle's rim. A dot inside three small incised concentric rings sits where the nozzle meets the outer rim. One vertical line is incised on one side. Possibly for a dilychnos lamp that may have been re-cut for a secondary use: perhaps another lamp mould carved into what was the bottom of the original mould.	Sussman 2012: Fig. 81:2 (p. 117) = Sussman 1982: 190.

No.	Reg. No.	Area	Room	Description	Comparison
10	R120034	I.4	surface find	A mould fragment for an upper section showing rounded nozzle with a circular wick hole cutout made with a compass, and rim.	Nozzle: Sussman 2012: 1080 (Nazareth, Kh. Tiriya).
11	R130318 (|Fig. 5:D)	I.6		A mould fragment for an upper section carved into a stone vessel core, showing the complete form from fill hole cutout to the rim, with a hole made by a compass in the center of the fill hole cutout. An undecorated shoulder with three incised concentric rings at the rim.	Lapp 2016: 44–47, 49, 50 (Ẓippori).
12	R140318	I.17		A mould fragment for an upper section showing the complete form from the fill hole cutout to the rim and a hole made by a compass in the center of the fill hole cutout. An undecorated shoulder with three incised concentric rings at the rim.	Lapp 2016: 44–47, 49, 50 (Ẓippori).
13	R140002	I.3	surface find	A small mould fragment for an upper section, showing an undecorated shoulder with three concentric incised rings at the rim. Possibly re-cut for another use.	
14	R140316	I.18	surface find	A small mould fragment showing the complete form for a lower section minus the nozzle, with two concentric incised rings at the outer edge of the base.	
15	R120321	I.6		A mould fragment showing the complete form for a lower section minus the nozzle carved into a stone vessel core, with a dot in the center formed by a compass and three incised concentric rings at the outer edge of the base.	
16	R120091	I.5		A mould fragment showing the complete form for a lower section minus the nozzle, with two incised concentric rings at the outer edge of the base. Three vertical lines are incised on one side and two on another.	

No.	Reg. No.	Area	Room	Description	Comparison
17	R130305	I.10		A mould fragment showing the complete form for a lower section minus the nozzle carved into a stone vessel core, with a dot in the center formed by a compass and three incised concentric rings at the edge of the base.	
18	R140098	I.6		A mould fragment showing the complete form for a lower section minus the nozzle, with a dot in the center formed by a compass and two incised concentric rings at the edge of the base. One vertical line is incised on one side.	
19	R140194	I.8	Room B	A mould fragment for a lower section of a lamp or perhaps an incense shovel. The mould has a series of six deeply incised concentric circles (there may have been more; the inner circle is lightly inscribed) within a rhomboid body or base. The walls of the rhomboid interrupt the three largest rings. On the left side of the face, three inscribed lines intersect at a point: a horizontal line extending left from the intersection, a vertical line at right angles extending upward from the intersection, and an arc inscribed by a compass curving upward and outward to the left from the intersection. The vertical line becomes the top of the carved rhomboid.	Hirschfeld, Pl. 55.
20	R160119	I.9	Room C	A mould fragment for an upper section carved into a stone vessel core, showing the wall, two incised concentric rings about 0.6 cm apart at the edge, and the handle.	
21	R160167	I.9	Room C	A mould fragment, 2/3 complete, for a lower section carved into a stone vessel core, showing a dot for a compass in the center, four incised rings at the edge of the base, and part of the wall.	

No.	Reg. No.	Area	Room	Description	Comparison
22	R160160	I.22	Room E	A mould fragment for a lower section, showing a dot for a compass in the center, and two incised concentric circles at the edge of a ring base.	
23	R160020	I.22	Room E	A mould fragment for an upper section, showing one incised ring around the cutout for the fill hole and another at the edge of the undecorated shoulder.	
24	R160176		Room F	From the same moulds as R150243? Complete: only the left tip of the ax-shaped nozzle is missing. upper section: a wide nozzle with two parallel curved lines crossing just below the wick hole and two wings with a pattern of three teardrop shapes (figs?) curving upward from both sides of the lug handle. On either side of the fill hole: a bunch of grapes or a cluster of dates. Two concentric raised rings sit at the rim of the shoulder. The fill hole is not centered in the flange that surrounds it. lower section: a raised dot in the center and three raised concentric rings at the edge of the base.	
25	R160177		Room F	Complete. upper section: a wide nozzle with two parallel curved lines crossing just below the wick hole and two wings. On either side of the fill hole: clusters of three fruits with three intertwined tendrils. The fill hole is not centered in the flange that surrounds it. Lug handle. lower section: one or two raised concentric rings as the edge of the base.	
26	R150179 (Fig. 6:B)	I.10	Room F	Only the right tip of the ax-shaped nozzle is missing. upper section: a wide nozzle with two wings. Shoulder decoration: pattern of large dots, perhaps pomegranates. Low lug handle. lower section: three concentric rings at the edge of the base.	

No.	Reg. No.	Area	Room	Description	Comparison
27	R150111 (Fig. 6:C)	I.10	Room F	Only a piece of the shoulder is missing. upper section: the nozzle has an ovoid wick hole with two wings flanking. The fill hole is not centered in the flange that surrounds it. Shoulder decoration: indecipherable. Low lug handle. lower section: three concentric circles at the edge of the base.	
28	R150330	I.10	Room F	Preserves the complete form. upper section: a wide, ax-shaped nozzle with a circular wick hole and flanked by two wings. A raised disc surrounds the fill hole (note the large, white inclusion visible inside the fill hole). Shoulder decoration: a ring of dots between two concentric raised rings at the rim. The fill hole is not centered in the flange. Lug handle. lower section: three raised concentric rings at the edge of the base.	No. 4, this article; Sussman 2012: no. 921 (Nazareth, Kh. Moriah), 922 (I'billin); Kaufman, 376, 378, 379; Hadad 2002: Nos 17 and 18.
29	R150243	I.10	Room F	From the same mould as R160176? Complete body and part of nozzle. upper section: two wings where they connect to the shoulder with a pattern of three teardrop shapes (figs?) curving upward from both sides of the lug handle. On either side of the fill hole: a bunch of grapes or a cluster of dates. Two concentric raised rings sit at the rim of the shoulder. The fill hole is not centered in the flange that surrounds it. lower section: three raised concentric rings at the edge of the base.	Abu-Uksah 2002: 7.3 (Kafr Kana); Lapp 2016: 55 (Ẓippori).
30	R150178A (Fig. 6:D)	I.10	Room F	Complete body and about one half of the nozzle, including the lower arc of the wick hole. upper section: two wings, a raised disc around the fill hole surrounded by one raised ring. Shoulder decoration: tendrils and pomegranates. Low lug handle. lower section: one raised ring at the edge of the base.	

No.	Reg. No.	Area	Room	Description	Comparison
31	R150178B	I.10	Room F	Complete body and start of the nozzle. upper section: an undecorated shoulder with three raised concentric rings at the rim. No handle. The fill hole was not completely cut out. lower section: flat disc base.	Aviam 2002, 2.3 (Daburiyah); Lapp 2016, 44–47, 49, 50 (Ẓippori).
32	R150271 (Fig. 6:F)	I.10	Room F	Complete body and about one third of nozzle, including the lower left arc of the wick hole. upper section: two wings and a raised disc around the fill hole surrounded by one raised ring. Shoulder decoration: tendrils and pomegranates. Lug handle. lower section: three raised concentric rings at the edge of the base.	
33	R150298 (Fig. 6:E)	I.10	Room F	Complete body with about half of the nozzle, including the lower left arc of the wick hole. upper section: two wings and a raised disc surrounding the fill hole. Shoulder decoration: tendrils and berries. Lug handle. lower section: three concentric rings at the edge of the base.	
34	R150325	I.10	Room F	About one half of the body. upper section: the beginning of a wing on the left with a raised disc surrounding the fill hole. The shoulder decoration is in low relief and dim: possibly a wreath. Low pyramidal lug handle.	
35	R150202	I.10	Room F	About one half of the body. upper section: the wing on the left and three raised concentric rings around the fill whole. The shoulder decoration is indecipherable. lower section: three raised concentric rings at the edge of the base.	

No.	Reg. No.	Area	Room	Description	Comparison
36	R150169 (Fig. 6:A)	I.10	Room F	Complete body with nearly the entire nozzle. upper section: an undecorated and unpaired nozzle with a circular wick hole. The shoulder is undecorated, with two raised concentric rings at the rim. No handle. The fill hole was not completely cut out. lower section: flat disc base.	
37	R150304	I.10	Room F	Complete body and start of nozzle. upper section: an undecorated shoulder with three raised concentric rings at the rim. No handle. lower section: flat disc base.	
38	R150177	I.10	Room F	Complete body and lower section of the nozzle. upper section: an undecorated shoulder with two raised concentric rings at the rim. No handle. The fill hole was not completely cut out. lower section: flat disc base.	Sussman 2012: 912, 917 (I'billin).
39	R150238	I.5	Room D	Area I.5. Wheel-made 'Herodian' lamp with knife-pared nozzle (8 strokes of the knife are visible). About one-third of the large (11 cm in diameter), tire-shaped body with the complete nozzle survives. The fill hole is surrounded by a flange and a raised ring. The clay is dark gray with large white inclusions. No soot appears at the wick hole.	Sussman 2012, 61:1, 854.

No.	Reg. No.	Area	Room	Description	Comparison
40	R150220 (Fig. 7:A)	I.5	Room D	Short, rounded nozzle with circular wick hole and a short arc of the body. upper section: two crescents in mirror position to one another outlined by two parallel crescent lines lie below the nozzle. Between the lower sections of the crescents, at the joining of the nozzle and the body, a fluted amphora or vase with volute handles. No soot at the wick hole. lower section: the bottom of the nozzle extends below the body like the prow of a boat, forming a keel with two ribs on each side descending from the rim of the nozzle to the keel. Below the keel, a pattern of slim, parallel, pointed leaves with center veins pointing toward the nozzle and to the left. The decoration was smudged before the clay dried. 5 YR 5/3.	Amphora: Sussman 1982, 49, 50, 51.
41	R120104 (|Fig. 7:B)	I.5	Room D	Mold-made, ax-shaped, nozzle with an ovoid wick hole. Two encircled dots flank the fill hole at the nozzle's tips. Two raised parallel lines transverse the nozzle below the fill hole. No soot at the wick hole. 7.5 YR 7/6.	
42	R140124	I.8	Room B	Mold-made, ax-shaped nozzle with pronounced tips and a circular wick hole. Faint strokes from knife paring are visible on the sides and bottom. The top of an inverted V is visible on the underside of the nozzle. Black slip over brownish gray clay with white inclusions.	Lapp 2016, 71a, 72–73.
43	R140008 (Fig. 7:G)	I.8	Room B	Part of the shoulder, wall, upper right arc of the fill hole, right wing, nozzle, and the right arc of an ovoid wick hole. The wick hole is roughly cut out. The fill hole is surrounded by a wide raised ring. Shoulder decoration: a tendril and berries. Nozzle decoration: a stylized inverted palm tree (?) with two parallel raised curved lines below the wick hole. The edge of the wing becomes a curved raised line on the right side of the nozzle. No soot at the wick hole. 7.5 YR 7/6.	

No.	Reg. No.	Area	Room	Description	Comparison
44	R120134			Part of the shoulder, wall, base, and left wing of a square lamp. upper section shoulder decoration: a box outlined by parallel lines with a large raised dot at the upper left corner. From this dot, a line extends upward and to the left to the juncture of the left wing and the left wall. A line of dots between two parallel raised lines divides the box into upper and lower registers. Two circular designs are visible in the upper register. In the lower register, dentillation descends from the dividing line, with a small circle below. lower section: the outline of the left wing (now on the right) is visible, with a line descending left from the juncture of the wing and wall to the line at the edge of the base. The vessel walls are over 1 cm thick at the joining of the upper and lower sections. Red slip.	
45	R130357 (Fig. 7:D)	I.5	Room D	Small fragment of a lamp shoulder with a raised ring around the fill hole. Shoulder decoration: a seven-branched menorah flanked by palms growing from the menorah's stem. The menorah branches extend upward from a circular knob. The menorah base is a bifurcated triangular foot. Fronds of another palm or other plant are visible at the left broken edge.	Palms growing from menorah stem on a lamp base: Meyers, Kraabel, and Strange, 248–49, pl. 8.10:10, photo 8.3 (Kh. Shema'); base and branches on the lintel to the north entrance of synagogue II: Ibid. (Kh. Shema').
46	R140165 (Fig. 7:F)	I.5	Room D	Part of the shoulder and arc of the fill hole. The fill hole is encircled by two raised concentric rings. Shoulder decoration: trefoil of narrow leaves with central veins. Red slip. 2.5 YR 6/6.	Trefoil: Sussman 1982, 90.

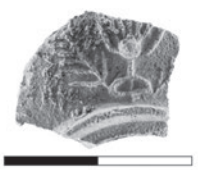
No.	Reg. No.	Area	Room	Description	Comparison
47	R130338 (Fig. 7:C)	I.10		Part of the nozzle, right arc of the wick hole, and the right wing. The wick hole is surrounded by a narrow flange and two concentric raised rings. Nozzle decoration: two descending narrow leaves with central veins (part of a trefoil?) and a berry. Possibly for a square lamp. Red slip. 2.5 YR 5/8.	
48	R140021 (Fig. 7:E)			Surface find. Part of the shoulder, upper left arc of the fill hole, nozzle, right wing, and lower arc of the wick hole. The fill hole is surrounded by a narrow discus and two raised concentric rings. Shoulder decoration: a zigzag pattern around the fill hole creating a radiating star; a raised ring encircles the rim. Nozzle decoration: one curved horizontal line crosses the nozzle below the wick hole. Between this line and the ring at the rim, an inverted palm branch, with perhaps another horizontal line beginning at the lower right arc of the wick hole. No soot at the wick hole.	Inverted palm: Sussman 2012, no. 992; shoulder and nozzle decoration: Sussuman 1982, p. 19 = Kaufman, 652; shoulder pattern: Sussman 2012: 69:2, no. 954 (Samaria), 956 (Kh. El-Farwa), 960 (Caesarea); Kaufman, 373, 374; shoulder pattern: Hadad 2002, no. 16 (Beit She'an).
49	R130233	I.12		Nearly half of the body preserving part of the shoulder, wall, and lower arc of the fill hole, with a pyramidal lug handle. Fill hole surrounded by a narrow discus and a double raised ring. Shoulder decoration: a laurel wreath and a single raised ring at the rim. 7.5 YR 7/4.	Sussman 1982, 213; Sussman 2012, 1076; Aviam 2002, 2.13 (Daburiyah); Lapp 2009, Lamp Plate C: 4.

No.	Reg. No.	Area	Room	Description	Comparison
50	R170250 (Fig. 7:H)	I.20	Room H	Part of shoulder, wall, and bottom of a lamp with a broken handle. Shoulder decoration: tendril with *ethrogs*.	
51	R130167	I.8	Room B	Fill hole cutout for moulded lamp. The lamp had a circular body or rings around the fill hole or on the shoulder, as indicated by the low knob on one side marking the hole made by the point of the compass. The opposite side preserves some evidence of the fingerprint left as the potter pressed the wet clay into the mould. The cutout was probably removed when the clay was leather hard, and it was accidentally fired. The plate shows the cutout with lamp mould R130318 and a lamp fragment that matches the mould.	
52	R120342 (Fig. 7:I)	I.24	Room G	Complete lamp found in the disturbed soil within the kiln. Wide fill hole surrounded by narrow flange and thick raised ring. Shoulder decoration: alternating hearts and points surround the fill hole. Pierced loop handle. Axe-shaped nozzle with wings on both sides where it attaches to the body, and with a dot inside a small circle on either side of a large wick hole; two parallel horizontal lines cross the nozzle beneath the wick hole. Bottom (not shown): a circular base surrounded by two raised rings. An identical lamp (R170286), probably from the same mould but with much more calcification, was found in the same context, along with complete vessel R170478.	

A. R15022

B. R120104

C. R130338



D. R130357

E. R140021

F. R140165

G. R140008

H. R170250

I. R170223

Fig. 7. Selected lamp fragments. (Photos by Gabi Laron).

in this city. Perhaps even the evidence at Caesarea indicates the production of moulds for use elsewhere. We can, however, now say that in the Galilee, both lamp and pottery production occurred in villages.

We cannot yet determine whether lamp manufacturing was an integrated industry in which the same artisans threw pots, made lamps, and carved their own moulds, or whether each industry required its own craftspersons. The raw materials for Shiḥin's lamp moulds were either purchased or scavenged from local stone vessel workshops such as the ones at Einot Amitai and Er-Reina. Accordingly, the lamp industry at Shiḥin required some level of cooperation between three industries: the carving of chalk stone cups, lamp mould carving, and the forming and firing of clay lamps.

The decorations on the decorated lamps and moulds suggest the movement of peoples from Judea to Galilee between 70 CE and the mid 2nd century, as does the very existence of a northern Darom lamp type. The discovery of a single Hasmonean pinched lamp at Shiḥin, perhaps the second recovered in the Galilee via stratigraphic excavations, suggests that a similar movement happened around 200 years earlier, perhaps as early as 112 BCE (Aviam: 2015, 18–19).

Notes

1. 32°46'5.21''N / 35°16'25.16''E; ITM map reference 200204-656377.
2. The Shikhin Excavation Project is licensed by the Israel Antiquities Authority and the Israel Nature and Parks Authority, and is affiliated with the American Schools of Oriental Research. The primary sponsoring institutions are Samford University and the Institute of Galilean Archaeology of Kinneret Academic College on the Sea of Galilee. The dig is funded by Samford University, Kinneret Academic College, the Fund for Biblical Archaeology, private donations, and donations of equipment from Robins & Morton and Leica Geosystems. Senior staff members are James Riley Strange (Director) and Mordechai Aviam (Associate Director); David Fiensy served as Associate Director during the 2011 survey and the 2012 excavation season.
3. Lower Galilee, *e.g.* Ẓippori, Ḥammat Tiberias, Tabgha, Capernaum, Horvat Hazon, and Rama; in the Upper Galilee: Meiron, Nabratein, and Sa'sa'; and the Golan: Susita, Gamla, Ein Nashut, and Dabiya.
4. Following closely the chronology in use by the USF Excavations at Sepphoris, the team dates the early Roman period from 37 BCE to 70 CE.
5. The authors wish to thank Danny Syon, Head of the Scientific Assessment Branch of the Israel Antiquities Authority, for his identifications of the coins from Shiḥin, and Mr. Yeshua Dray, Site Conservator, for coin cleaning.
6. Inside room B, 156 lamp fragments and 6 mould fragments were recovered from soil deposition measuring approximately 50 cm blow surface at its deepest.
7. Holum *et al.* date 'the production of ceramic goods in area C.21' to 'the late sixth and early seventh century.' (Holum *et al.* 1988: 192). The three moulds, two lamps, and one lamp nozzle they show in Fig. 140 however, closely resemble the lamps published by

Zimmerman and Risser, and argue that they 'must instead date between the late 4th century and the end of the 5th century.' (Zimmerman and Risser, 2016: 4).

8. Patrich and Pinkas refer to some moulds having a 'pierced discuss' and one having a 'filling hole,' apparently referring to the hole in the center of the discus created by (or for) the use of the compass to etch the outlines of the circular bodies and rings on shoulders and bases (2008: 296).
9. A plaster lamp mould was reported from Beit She'an (Smith 1966, 21).
10. XPL: cross-polarized light; PPL: plane polarized light.

Bibliography

Adan-Bayewitz, D. and Perlman, I., (1990). 'The Local Trade of Sepphoris in the Roman Period', *Israel Exploration Journal* 40: 153–72.

Adan-Bayewitz, D., (1993). *Common Pottery in Roman Galilee* (Ramat Gan).

Adan-Bayewitz, D., (1995). 'A Lamp Mould from Sepphoris and the Location of Workshops for Lamp and Common Pottery Manufacture in Northern Palestine', Pp. 177–82 in J. Humphrey (ed.), *The Roman and Byzantine Near East*, Journal of Roman Archaeology Supplement 14, (Ann Arbor).

Adan-Bayewitz, D., (1997). 'Lamp Manufacture in Sepphoris in the Period of the Mishnah and the Talmud and in the Byzantine Period', Pp. 49–56 in Y. Friedman, Z. Safrai, and J. Schwartz (eds.), *Hikrei Eretz: Studies in the History of the Land of Israel, Dedicated to Professor Yehudah Feliks* (Ramat-Gan) (Hebrew).

Adan-Bayewitz, D., Asaro, F., Michel, H.V. and Perlman, I., (1995). 'The Evidence from Neutron Activation Analysis', in J.F. Strange, D. Groh, and T. Longstaff, 'Excavations at Ẓippori: The Location and Identification of Shikhin (Part 2)', *Israel Exploration Journal* 45: 171–87.

Adan-Bayewitz, D., Asaro, F., Wieder, M., and Giauque, R. D., (2008). 'Preferential Distribution of Lamps from the Jerusalem Area in the Late Second Temple Period (Late first Century B.C.E.–70 C.E.)', *Bulletin of the American Schools of Oriental Research* 350: 37–85.

Amit, D., (2010). 'The Manufacture of Stone Vessels in Jerusalem and Galilee: Technological, Chronological, and Typological Aspects', *Michmanim* 22: 49–66, 35*–36* (Hebrew with an English summary).

Arubas, B. and Goldfus, H., (eds.) (2005). *Excavations on the Site of the Jerusalem International Convention Center (Binyanei Ha'Uma): The Pottery and Other Small Finds*. Journal of Roman Archaeology Supplement 60 (Rhode Island).

Aviam, M., (2002). 'Finds from a Burial Cave at Daburiyah', Pp. 135–39 in Z. Gal (ed.), *Eretz Zafon: Studies in Galilean Archaeology* (Jerusalem) (Hebrew).

Aviam, M., (2015). 'The Transformation from *Galil Ha-Goyim* to Jewish Galilee', Pp. 9–21 in D. Fiensy and J. R. Strange (eds.), *Galilee in the Late Second Temple and Mishnaic Periods, Vol. 2: The Archaeological Record from Cities, Towns, and Villages* (Minneapolis).

Bagatti, P., (1969). *Excavation in Nazareth*, vol. 1: *From the Beginning till the XII Century*. Trans. E. Hoade. Publications of the Studium Biblicum Franciscanum 17 (Jerusalem).

Balouka, M., (2013). 'Roman Pottery', Pp. 13–129 in E. Meyers and C. Meyers (eds.), *Sepphoris I: The Pottery from Ancient Sepphoris*, Sepphoris Excavation Reports 1 (Winona Lake).

Baramki, D., (1936). 'Two Roman Cisterns at Beit Nattīf', *Quarterly of the Department of Antiquities of Palestine* 5: 3–10, Plates I–XII.

Ben Tor Y., (1966). *The Clays of Israel: Guide-Book to the Excursions* (Jerusalem).

Berlin A., (2005). 'Pottery and Pottery Production in the Second Temple Period', Pp. 29−60 in B. Arubas and H. Goldfus (eds.), *Excavations on the Site of the Jerusalem International Convention Center [Binyanei Ha'Uma]: The Pottery and Other Small Finds*. Journal of Roman Archaeology Supplement 60 (Rhode Island).

Bogoch R. and Sneh A., (2008). *Geological Map of Israel 1:50000*. Sheet 4-I (Arbel). *GSI*, digital editing, [online]. Available at http://www.gsi.gov.il/eng/?CategoryID=253&ArticleID=764&dbsAuthToken [Accessed 12 Sept. 2016].

Boness, D., Scheftelowitz, N., Fabian, P., Gilead, I. and Goremn, Y., (2016). 'Petrographic Study of the Pottery Assemblages from Ḥorvat Qarqar South, a Ghassulian Chalcolithic Cemetery in the Southern Levant', *Bulletin of the American Schools of Oriental Research* 375: 185–213.

Borschel-Dan, A., (2017). '2,000-year-old stone workshop discovered near where Jesus turned water into wine', *Times of Israel* August 10 2017, 11:51 a.m. [online]. Available at http://www.timesofisrael.com/2000-year-old-stone-workshop-discovered-near-where-jesus-turned-water-into-wine/ [Accessed 21 Sept. 2017].

Brock, S., (1977). 'A Letter Attributed to Cyril of Jerusalem on the Rebuilding of the Temple', *Bulletin of the School of Oriental and African Studies, University of London*. 40/2: 267–86.

Broshi, M., (1979). 'The Population of Western Palestine in the Roman-Byzantine Period', *Bulletin of the American Schools of Oriental Research* 236: 1–10.

Broshi, M., (1993). 'Methodology of Population Estimates: The Roman-Byzantine Period as a Case Study', Pp. 420–25 in A. Biram, and J. Aviram (eds.), *Biblical Archaeology Today, 1990: Proceedings of the Second International Congress on Biblical Archaeology*, (Jerusalem); repr. Pp. 86–92 in M. Broshi, (2001) *Bread, Wine, Walls and Scrolls* (Sheffield).

Covello-Paran, K. and Tepper, Y., (2011). 'Zippori north: Final Report', *Hadashot Arkhyologiyot-Excavations and Surveys in Israel* 123: A-5752. http://www.hadashot- esi.org.il/report_detail_eng.aspx?id=1674&mag_id=118 (accessed 19 February 2016).

Eisenberg E., (1993). 'Rephaim, Nahal', Pp. 1277−1280 in E. Stern (ed). *The New Encyclopedia of Archaeological Excavations in the Holy Land*. Vol. 4 (New York).

Eisenberg E., (1994). 'Nalhal Rephaim-A Bronze Age Village in Southwestern Jerusalem', *Qadmoniot* 26: 82–95 (Hebrew).

Feig, N. and Hadad, S., (2015). 'Roman Burial Caves at I'billin', *'Atiqot* 83: 93–123.

Fisher, C. and McCown, C. (1929–1930). 'Jerash-Gerasa 1930: A Preliminary Report of the First Two Campaigns of the Joint Expedition of Yale University and the American Schools of Oriental Research', *Annual of the American Schools of Oriental Research* 11: 1–59.

Fitzgerald, G., (1931). *Beth-Shan Excavations 1921–1923: the Arab and Byzantine Levels* (Philadelphia).

Gal, Z., (1991). 'A Stone Vessel Manufacturing Site in the Lower Galilee', *'Atiqot* 20: 25*–26* (Hebrew); 179–80 (English summary).

Gal, Z., (ed.), (2002). *Eretz Zafon: Studies in Galilean Archaeology* (Jerusalem) (English and Hebrew).

Glass, J., Goren, Y., Bunimovitz, S. and Finkelstein, I. (1993). 'Petrographic Analyses of Middle Bronze Age III, Late Bronze Age and Iron Age I Pottery Assemblages', Pp. 271–286 in I. Finkelstein, S. Bunimovitz and Z. Lederman (eds.), *Shiloh, the Archaeology of a Biblical Site* (Tel Aviv).

Goren, Y., (1991). 'Petrographic Examination of the Ceramic Assemblage from Tel 'Amal', *'Atiqot* 20: 129–130 (Hebrew).

Goren, Y., (1992). 'Petrographic Study of the Pottery Assemblage from Munhata', Pp. 329–360 in Y. Garfinkel (ed.), *The Pottery Assemblages of the Sha'ar Hagolan and Rabah Stages of Munhata (Israel)* (Paris).

Goren, Y., (1995). 'Shrines and Ceramics in Chalcolithic Israel: The View through the Petrographic Microscope' *Archaeometry* 37: 287–305.

Goren, Y., Finkelstein, I., and Na'aman, N., (2004). *Inscribed in Clay: Provenance Study of the Amarna Tablets and Other Ancient Near Eastern Texts* (Tel Aviv).

Grätz, H., (1853). *Geschichte der Juden vom Untergang der jüdischen Staates bis aum Abschluss des Talmuds*, III (Berlin).

Greenberg, R. and Porat, N., (1996). A Third Millennium Levantine Pottery Production Center: Typology, Petrography, and Provenance of the Metallic Ware of Northern Israel and Adjacent Regions. *BASOR* 301:5–25.

Hadad, S., (1997). 'Oil Lamps from the Third to the Eighth Century C.E. at Scythopolis-Bet Shean', *Dumbarton Oaks Papers* 51:146–188.

Hadad, S., (2002). *The Oil Lamps from the Hebrew University Excavations at Bet Shean*. Excavations at Bet Shean Volume 1. Qedem Reports 4 (Jerusalem).

Holum, K., Hohlfelder, R., Bull, R., Raban, A., (1988). *King Herod's Dream* (New York).

Iliffe, J., (1944). 'Imperial Art in Transjordan: Figurines and Lamps from a Potter's Store at Jerash', *Quarterly of the Department of Antiquities in Palestine* XI: 1–19.

Jaffe, G., (2012). 'Er-Reina: Final Report', *HA-ESI* 124 (Dec 31); available on-line at http://www.hadashot -esi.org.il/report_detail _eng.aspx?id=2153; accessed 23 October 2015.

Kaufman, J. (with Deutsch, R.), (2012). *Haneroth Halalou: My Collection of Oil Lamps from the Land of Israel* (Jaffa).

Kehrberg, I., (1989). 'Selected Lamps and Pottery from the Hippodrome at Jerash', *Syria* 66/1–4: 85–97.

Kehrberg, I., (2001). 'Ceramic Lamp Production in the 4th and early 5th Centuries AD at the Hippodrome of Gerasa', Pp. 231–39 in E. Villeneuve and P. Watson (eds.), *La Céramique Byzantine et Proto-Islamique en Syrie-Jordanie (IVe–VIIIe Siècles Apr. J.-C.): Actes du colloque tenu à Amman les 3, 4, et 5 décembre 1994* (Beirut).

Keller, G., (2004). 'Low-Diversity, Late Maastichtian and Early Danian Planktic Foraminiferal Assemblages of the Eastern Tethys', *Journal of Foraminiferal Research* 34/1: 49–73.

Lamp Mold, Penn Museum Collection Website; available on-line at https://www.penn.museum/collections/object/8718; accessed 16 August 2017.

Lapp, E., (2009). 'Material Culture: Lamps', Pp. 252–283 in E. Meyers and C. Meyers (eds.), *Excavations at Ancient Nabratein: Synagogue and Environs*, Meiron Excavation Project VI (Winona Lake).

Lapp, E., (2016) *Sepphoris II: The Clay Lamps from Ancient Sepphoris: Light Use and Regional Interactions*. Sepphoris Excavation Reports 2 (Winona Lake).

Loffreda, S., (1974). *Cafernao II: La Ceramica* (Jerusalem).

Magen, Y., (2002). *The Stone Vessel Industry in the Second Temple Period: Excavations at Ḥizma and the Jerusalem Temple Mount* (Jerusalem).

McCown, C., (1931). 'The Yale University: American School Excavation at Jerash, Autumn, 1930', *Bulletin of the American Schools of Oriental Research* 43: 13–19.

Meyers, E. and Meyers, C. (eds.), (2009). *Excavations at Ancient Nabratein: Synagogue and Environs*, Meiron Excavation Project VI (Winona Lake).

Meyers, E. and Meyers, C. (eds.), (2013). *Ẓippori I: The Pottery from Ancient Ẓippori*. Ẓippori Excavation Reports 1. (Winona Lake).

Meyers, E., Kraabel, T., and Strange, J. F., (1976). *Ancient Synagogue Excavations at Khirbet Shema', Upper Galilee, Israel 1970–1972*, Annual of the American Schools of Oriental Research XLVII (Durham).

Meyers, E., Meyers, C., and Strange, J. F. (1990). *Excavations at the Ancient Synagogue of Gush Ḥalav*, Merion Excavation Project Volume V (Winona Lake).

Meyers, E., Netzer, E., and Meyers, C., (1987). 'Sepphoris (Ṣippori), 1986 (I)—Joint Sepphoris Project, *Israel Exploration Journal* 37: 275–78, Pls 34–35.

Mokary, A., (2012). 'Er-Renia: Final Report,' *HA-ESI* 124 (Sept 19); available on-line at http://www.hadashot-esi.org.il/report_detail_eng.aspx?id=2061&mag_id=119; accessed 23 October 2015.

Neusner, J., (2002). *The Tosefta: Translated from the Hebrew with a New Introduction, Vol. II*. (Peabody).

Orton, C., Tyers, P., and Vince, A., (1993). *Pottery in Archaeology* (Cambridge).

Ostrasz, A., (1989). 'The Hippodrome of Gerasa: A Report on Excavations and Research 1982–1987', *Syria* LXVI: 498–500.

Ostrasz, A., (1993). 'Gerasa, Hippodrome', *American Journal of Archaeology* 97/3 (July): 457–520.

Patrich, J. and Pinkas, S., (2008). 'Lamps and Flask Molds', Pp. 296–300 in Patrich, J., *Archaeological Excavations at Caesarea Maritima Areas CC, KK and NN Final Reports* (Jerusalem).

Ravikovitch, S., (1969). *Israel, Soil Map 1:250000*. Israel, North. Survey of Israel (Jerusalem).

Roll, I., (2005). 'Imperial Roads Across and Trade Routes Beyond the Roman Provinces of Judaea-Palaestina and Arabia: The State of Research', *Tel Aviv* 32.1: 107–18.

Russell, K., (1980). 'The Earthquake of May 19, A.D. 363', *Bulletin of the American Schools of Oriental Research* 238: 47–64.

Russell, K., (1985). 'The Earthquake Chronology of Palestine and Northwest Arabia from the 2nd through the Mid-8th Century A.D.', *Bulletin of the American Schools of Oriental Research* 260: 37–60.

Shapiro, A., (2012a). 'Appendix: Petrographic Report', in A. Berlin and R. Frenkel, 'The Sanctuary at Mizpe Yammim: Phoenician Cult and Territory In the Upper Galilee During the Persian Period', *BASOR* 366: 69–72.

Shapiro, A., (2012b). 'Petrographic Analysis of the Crusader-Period Pottery. Pp. 103–126 in E. Stern, *'Akko I, 1: The 1991–1998 Excavations: The Crusader-Period Pottery: Text*. Israel Antiquities Authority Reports 51/1 (Jerusalem).

Shapiro, A. (forthcoming-a). 'Comparative Petrographic Examination of Chalk Measuring Cups and Chalks from Reine Cave, Tzofim Cave and Yodefat Excavation'.

Shapiro, A., (forthcoming-b). 'Petrographic Analysis of Selected Pottery from Tel Hebron (1999) Excavations', *'Atiqot*.

Shapiro, A., Berlin, A., and Stone, P., (forthcoming). 'Tel Kedesh – Fabrics and Wares.'

Shiloh, Y., (1980). 'The Population of Iron Age Palestine in the Light of a Sample Analysis of Urban Plans, Areas, and Population Density', *Bulletin of the American Schools of Oriental Research* 239: 25–35.

Smith, R., (1966). 'The Household Lamps of Palestine in New Testament Times', *Biblical Archaeologist* 29/1: 1–27.

Sneh A. and Avni Y. 2008. *Geological Map of Israel 1:50000*. Sheet 14-II (Mishmar HaNegev). *GSI*, digital editing, [online]. Available at http://www.gsi.gov.il/eng/?CategoryID=253&ArticleID=793&dbsAuthToken [Accessed 11 Aug. 2016].

Sneh, A., (2008). *Geological Map of Israel 1:50000*. Sheet 3-II (Shefar'am). *GSI*, digital editing, [online]. Available at. http://www.gsi.gov.il/eng/?CategoryID=253&ArticleID=765&dbsAuthToken [Accessed 11 Aug. 2016/.

Sneh, A., Bartov, Y., and Rosensaft, M., (1998). *Geological Map of Israel 1:200000*, Sheet 1 (Jerusalem).

Storchan, B., (2017). 'The Discovery on an Additional Beit Nattif Lamp Workshop', Pp. 71–79 in Y. Zelinger and N. Frankel (eds.), *Studies on the Land of Judea (Proceedings of the 1st Annual Conference*) (Jerusalem) (Hebrew).

Strange, J. F., (1975). 'Late Hellenistic and Herodian Ossuary Tombs at French Hill, Jerusalem', *Bulletin of the American Schools of Oriental Research* 219: 39–67.

Strange, J. F., (2014). 'The Galilean Road System', Pp. 88–108 in D. Fiensy and J. R. Strange (eds.), *Galilee in the Late Second Temple and Mishnaic Periods, Vol. 1: Life, Culture, and Society* (Minneapolis).

Strange, J. F., Groh, D., and Longstaff, T., (1994). 'Excavations at Sepphoris: The Location and Identification of Shikhin (Part 1)', *Israel Exploration Journal* 44: 216–27.

Strange, J. F., Groh, D., and Longstaff, T., (1995). 'Excavations at Sepphoris: The Location and Identification of Shikhin (Part 2)', *Israel Exploration Journal* 45: 171–87.

Strange, J. F., Longstaff, T., and Groh, D., (2006). *Excavations at Sepphoris*. Vol. 1, *The University of South Florida Probes in the Citadel and Villa*, Brill Reference Library of Judaism 22 (Leiden).

Strange, J. R., (2012). 'Shiḥin, Survey', *Ḥadashot Arkheologiyot-Excavations and Surveys in Israel* 124, Accessed 19 February, 2016. http://www.hadashot- esi.org.il/report_detail_eng.asp?id= 2195&mag_id=119.

Strange, J. R., (2012). 'Report of the 2011 Survey and 2012 Excavation Seasons at Shiḥin (Full Version). ASOR 2012,' [online]. Available at https://www.academia.edu/7029643/

REPORT_OF_THE_2011_SURVEY_AND_2012_EXCAVATION_SEASONS_AT_SHIḤIN_ASOR_2012 [Accessed 12 Aug 2016].

Strange, J. R., (2013). 'Annual Report of the 2013 Season of the Sikhin Excavation Project (Submitted to the Israel Antiquities Authority)', [online]. Available at https://www.samford.edu/arts-and-sciences/files/Religion/2013-Shiḥin-Excavation-Report.pdf [Accessed 12 Aug. 2016].

Strange, J. R., (2015). 'Kefar Shikhin', Pp. 263–71 in D. Fiensy and J. R. Strange (eds.), *Galilee in the Late Second Temple and Mishnaic Periods, Vol. 2: The Archaeological Record from Cities, Towns, and Villages* (Minneapolis).

Sussman, V., (1980). 'Moulds for Lamps and Figurines from a Caesarea Workshop', *'Atiqot* 14: 76–79, Pls XV–XVI.

Sussman, V., (1982). *Ornamented Jewish Oil-Lamps: From the Destruction of the Second Temple Through the Bar-Kokhba Revolt* (Warminster).

Sussman, V., (1996). ''…as full of meritorious seeds as a pomegranate' (Brakoth 57a, Sanhedrin 37a)', *Eretz-Yisrael* 25 (1996): 365–76 (Hebrew).

Sussman, V., (2007). 'The Clay Oil Lamps from Khirbat el-Ni'ana', *'Atiqot* 57: 53–72.

Sussman, V., (2012). *Roman Period Oil Lamps in the Holy Land: Collection of the Israel Antiquities Authority.* Biblical Archaeology Review International Series 2447 (Oxford).

Waterman, L., (1937). *Preliminary Report of the University of Michigan Excavations at Sepphoris, Palestine, in 1931* (Ann Arbor).

Whitbread, I., (1986). 'The Characterization of Argillaceous Inclusions in Ceramic Thin Sections', *Archaeometry* 28: 79–88.

Wieder, M. and Adan-Bayewitz, D., (1999). 'Pottery Manufacture in Early Roman Galilee: A Micromorphological Study', *CATENA* 35: 327–341.

Wieder, M., Adan-Bayewitz, D., and Asaro, F., (1994). 'Source Materials, Micromorphology, and the Provenance of the Storage Jars from Roman Galilee', In A. Ringrose-Voase and G. Humpreys (eds.), *Soil Micromorphology*: *Studies in Management and Genesis*. Developments in Soil Science 22: 307–316.

Yael, I. and Avida, U. (1988). *Oil-Lamps from Eretz Israel: The Louis and Carmen Warschaw Collection at the Israel Museum, Jerusalem* (Jerusalem).

Zimmerman, M., Risser, M., (2016). 'A Possible Lamp Manufactory at Caesarea Maritima?', Presented at the American Schools of Oriental Research Annual Meeting, 17 November (San Antonio).

A Petrographic Study of Roman Ceramic Oil Lamps

Anastasia Shapiro
Israel Antiquities Authority

A petrographic study of ceramic oil lamps from nine sites helps to clarify the lithology of these samples indicating their provenance. Four specific groups were identified. The clay used to make the lamps that were found at Shiḥin certainly came from two clearly-defined sites.

Introduction

A total of 36 ceramic oil lamps and one storage jar were sampled at nine archaeological sites (Fig. 1). The aim is to define the lithology of the samples to attribute them to a production site or to specify the area of their possible provenance.

The results were compared with results from previous investigations and the existing petrographic data. The lamps examined form four petrographic groups, presented below.

1. Motza Marl and Dolomitic Sand

Nine lamps (two from Shiḥin, one from Kh. Wadi Ḥamam, one from Tel Rekhesh, one from Yodefat, two from Gamla, and two from Makberot B'not Ya'akov) form a clear petrographic group by both matrix and non-plastic inclusions (Fig. 2).

Their matrix is fine calcareous and slightly ferruginous clay with small quantities of quartz silt. The non-plastic inclusions comprise not more than five percent of the sherds' volumes, and are predominantly euhedral rhomboid dolomite crystals with sizes ranging between 0.1 and 0.3 mm. The dolomite is partly decomposed to calcite as a result of firing (decomposition occurs at 500º C when fired in an oxidized atmosphere). Besides the dolomite, there are rare 0.2–0.8 mm lumps of pure ferruginous or silty ferruginous shale, quartz siltstone with calcareous cement, and micritic limestone. Circular (0.2–0.3 mm in diameter) and elongated (0.5 × 1.2 mm) cavities with gray aureoles are sporadic, originating from some fine organic matter that burned away during firing.

The optical properties of the clay and calcium carbonate minerals, along with the presence of the charred aureoles after organic inclusions and/or grayish core indicates a firing temperature of 700º C.

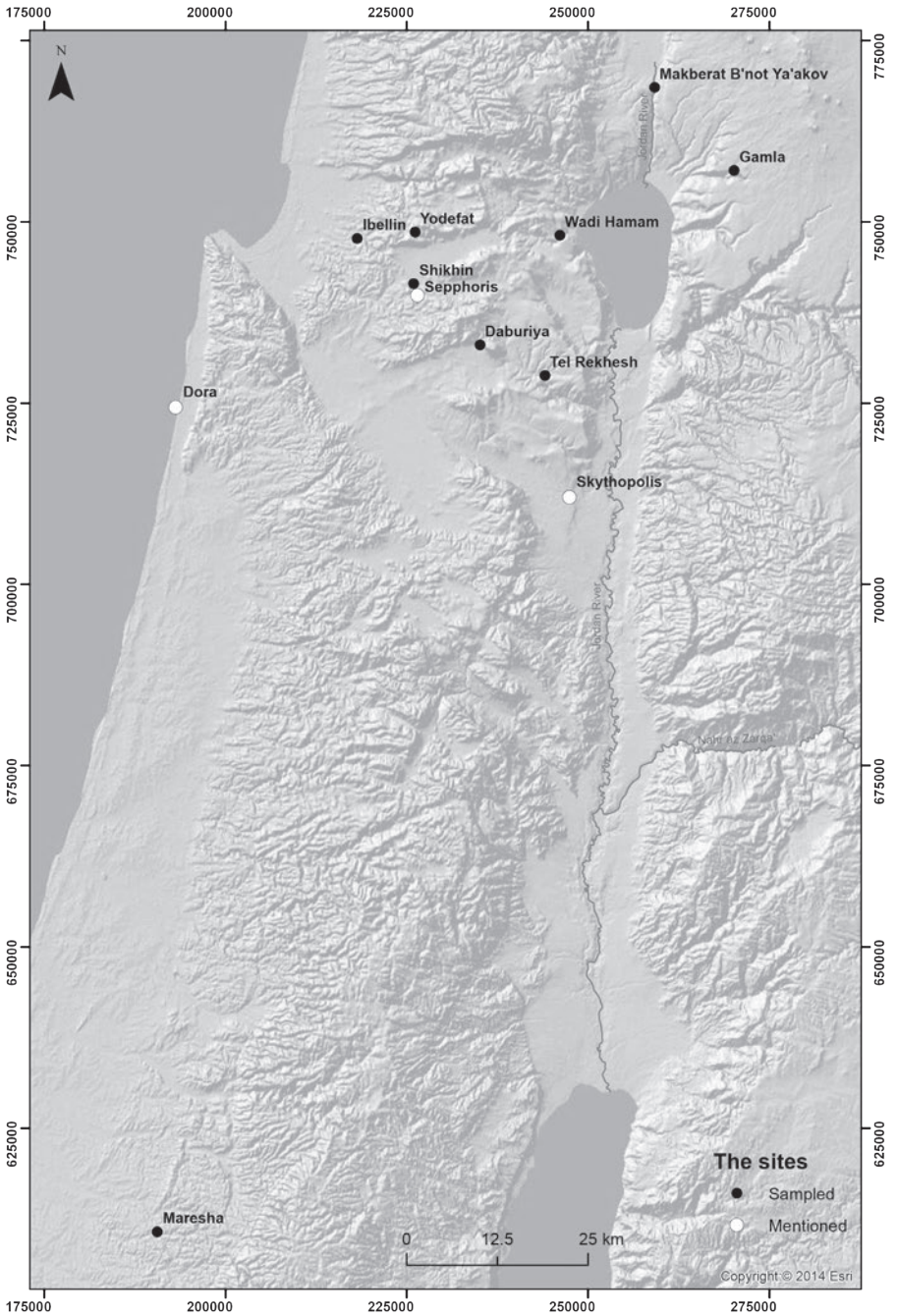


Fig. 1. Survey points at Shiḥin

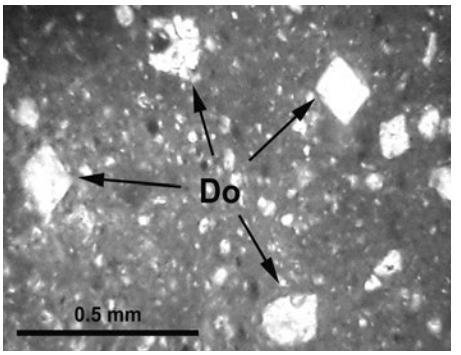


Fig. 2. Motza marl and dolomitic sand

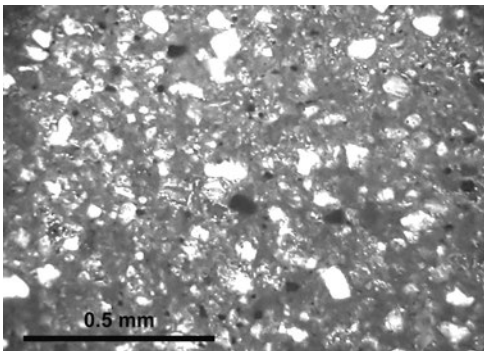


Fig. 3. Ferruginous clay and quartz silt

A comparison with previously examined thin sections of roof tiles and the storage jars from the excavations at Binyanē Ha-Umma, Jerusalem (Shapiro, Berlin and Stone forthcoming), reveals a high degree of lithological similarity between these samples and the lamps discussed here. However, we must keep in mind the different technological requirements for clay dough prepared for oil lamps and dough prepared for roof tiles.

The observed lithology represents the geological environments of calcareous marl and dolomitic sand, with the presence of dolomites and limestones with occasional quartzite nodules. Such a situation agrees with the Cenomanian Judea group, where Motza clay and marl, one above the other, are located between Beit Meir dolomite (lower) and Aminadav dolomitic sand (upper) formations (Ben Tor 1966: 48–52; Sneh and Avni 2008: map). The well-preserved rhombs of the dolomite may indicate that the dolomitic sand was not transported far from the point of its origin (Eisenberg 1993: 1277−1280; Eisenberg 1994: 86).

The pedology of the area is characterized mostly by *terra rosa*, sometimes partly calcareous, originating on top of the carbonate formations described above (Ravikovitch 1969, map). This soil could supply the ferruginous components described within the sherds attributed to the current petrographic group.

As the singular clay type suitable for pottery production within the whole Cenomanian-Turonian sequence of the Judean-Samarian Mountains, these formations supplied raw materials for pottery production for centuries (Goren 1995: 301; Adan-Bayewitz *et al.* 2008: 53–54; Shapiro forthcoming).

2. Ferruginous Clay and Quartz Silt

Three samples from Maresha (Fig. 3) are characterized by a ferruginous, slightly calcareous clay matrix, comprising ten percent and more of angular and sub-angular quartz silt, possibly aeolian in origin. Accessory minerals in the silt

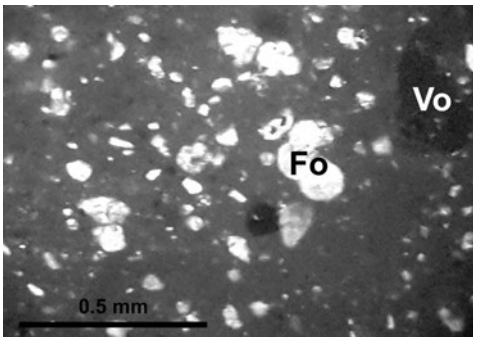


Fig. 4. Terra Rosa group

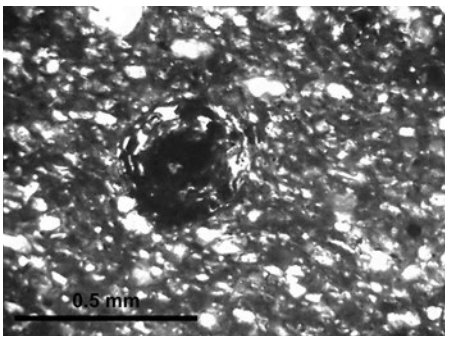


Fig. 5. Foraminiferous marl group

fraction are plagioclase, hornblende, and zircon. Non-plastic inclusions are rare (few in each thin section) and fine (0.1–0.3 mm), and comprise rounded to angular quartz grains, chalk balls, ferruginous clay nodules, and aquatic shell fragments. According to the optical properties of the clay minerals, the firing temperature is estimated at 750º C.

This lithology can be attributed to the loess soils of the Northern Negev or Shephelah. The lack of distinctive coarse inclusions makes it impossible to tighten the area of provenance for these lamps (Boness *et al.* 2016: 192–196, Figs 8, 10, and 11).

3. Terra Rosa, Brown Rendzina, and Foraminifers

Seven lamps (one from I'billin, two from Daburiyah, three from Shiḥin, and one from Yodefat) and the Shiḥin storage jar sampled as a comparative specimen form the petrographic group characterized by a ferruginous and slightly calcareous matrix (Fig. 4), where silt composes 7 percent to 17 percent of its volume, and is comprised of equal quantities of carbonate material (mainly of foraminifer debris and rare complete chambers), and silty quartz with accessory minute ore nodules, plagioclase olivine and hornblende. Sand-sized non-plastic inclusions comprise rare particles of biogenic chalk, micritic limestone, microfossils, and sporadic ferruginous ooliths—opaque, or with concentric inner structure and in some cases there are round voids with tiny opaque 'crust' (Fig. 5). There are also some quantities of rounded and elongated voids, apparently left after some organic matter burned away while firing. All of these were apparently part of the initial clay and were not added deliberately by the potter.

The firing temperature is estimated at 700–750º C, since carbonate material within the section partially preserved its optical properties. Some of the samples (1.4, 1.5) were fired in a reduced atmosphere; hence, their cross-sections are gray with a thin (0.2–0.5

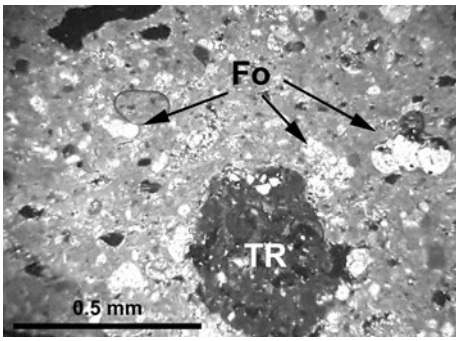


Fig. 6. Terra Rosa group

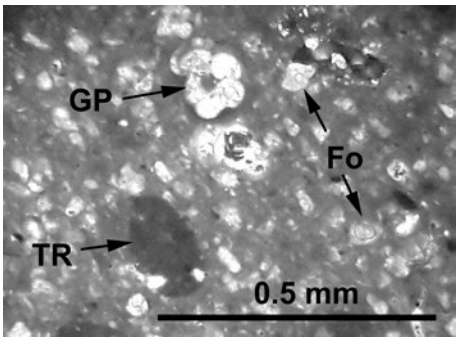


Fig. 7. Foraminiferous marl group

mm), brown layer at the very outer surface. Others were fired with enough oxygen, and their sherds are reddish brown or have a thin grayish core in thick sections.

The most plausible source of raw material for these vessels is *terra rosa* admixed with calcareous rendzina soil, both developing on top of hard limestones and soft foraminiferous chalk respectively, and both appearing in close proximity to Shiḥin (Ravikovitch 1969: map).

The ferruginous ooliths mentioned above are characteristic of Lower Cretaceous formations (Ben Tor 1966: 2), or of soils developing on top of them, and were used for pottery production in different regions through the ages of human history (Greenberg and Porat 1996: 15–16; Glass *et al.* 1993: 276–277; Goren 1995: 302–303; Wieder, Adan-Bayewitz and Asaro 1994: 312, 314; Wieder and Adan-Bayewitz 1999: 334; Shapiro 2012a: 71–72; Shapiro 2012b: 107, 109, Figs 5.7, 5.8). The outcrops of the Lower Cretaceous geological formations closest to Shiḥin are situated about 13 km east northeast from the site, at the northeastern end-flank of the Beit Netofa Valley (Bogoch and Sneh 2008: map). From there, the seasonal water flows could scatter the ferruginous ooliths down the valley. This leads to the proposition that the raw materials for the lamps attributed to this petrographic group were soils collected in the Beit Netofa Valley, which correlates with the results of previous research (Adan-Bayewitz 1993: 78–80; Wieder and Adan-Bayewitz 1999: 335–338). The most suitable materials for pottery production soil was collected by the author in the valley to the north-northeast of Shiḥin.

4. Foraminiferous Marl and Dry Terra Rosa

The most representative group is comprised of seventeen lamps (six from Shiḥin, five from I'billin, three from Daburiyah, and three from Kh. Wadi Ḥamam) share the following lithological affinities: the matrix is calcareous and rather foraminiferous marl containing about 1–2 percent of silty quartz (Fig. 4). In sample 2.3, quartz silt

is present in greater quantities (about 5 percent of the matrix volume). Sample 3.2 contains one silt-size emerald green grain of epidote. Some of the foraminifers' chambers in sample 4.6 are filled with iron oxides.

The sand size inclusions observed within the thin sections are of two types. The plastic inclusions are badly sorted (0.05–0.4 mm) nodules of ferruginous, and sometimes silty, shale. In sample 2.7, this material is dark brown, which causes the section to appear dirty. One plagioclase silt-sized grain can be seen in a ferruginous lump of sample 4.3. Samples 2.4 and 4.5 almost lack *terra rosa* nodules.

The non-plastics mineral inclusions are sporadic and comprise the following: gastropod shell fragments, 0.2–0.3 mm chalk/lime balls and grains of micritic limestone, irregular and sometimes large (0.5–1.5 mm) chunks of foraminiferous chalk. Some samples (3.2, 3.3, and 3.6) lack sand size inclusions; others (2.3, 2.4) contain large (0.2–0.3 mm) foraminifers. A single fragment of ferruginous and foraminiferous shale was observed in sample 2.6, a black nodule of apparently manganese oxides in sample 2.9, and a ferruginous oolith in sample 3.4.

Because of the optically active clay and carbonate minerals, firing temperatures are estimated not to exceed 700º C for most of the lamps attributed to this petrographic group. Some of the samples (2.6, 3.5, and 4.2) were fired at 700–750º C; in these, clay minerals are optically passive, and calcite of the foraminifers is partly decomposed. The grayish brown sherd of sample 3.6 points, apparently, to reduction firing conditions.

The identifiable foraminifers are upper Maastrichtian *Globotruncanella petaloidea* and apparently others of the corresponding age (Keller 2004: 61). The observed lithology may be attributed to the Maastrichtian chalky marl of the Ghareb formation and overlying it Paleocene marls and shales of the Taqiye formation. When fired in an oxidized atmosphere, the pottery made of these shales and marls receives light shades of brown.

The ferruginous and silty nodules within the sherds offers evidence that dried and powdered *terra rosa*, frequently forming on top of some of the hills surrounding Shiḥin (Ravikovitch 1969: map), was added to the rather calcareous Ghareb and/or Taqiye marl to improve the quality of the clay dough. According to their quantity and quality, other non-plastic inclusions accidentally stayed within the clay and were not added by the potter.

Some of the lithological aspects noted in the samples of this petrographic group suggest that the foraminiferous marl was quarried directly from the natural outcrop and was used by potters as parent material. For example, the presence of well preserved foraminifers, observed in unusually great quantities, suggests that they were not subjected to any notable translocation (erosional transportation) from the bedrock. Had this been the case, it would have caused the destruction of delicate

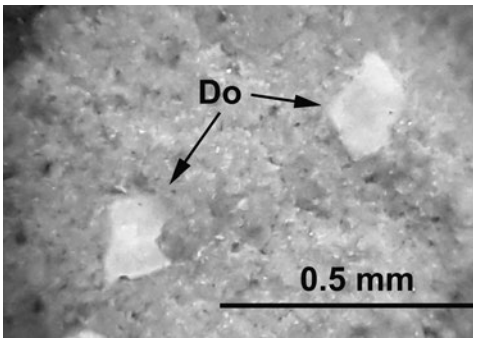


Fig. 8. Motza marl group

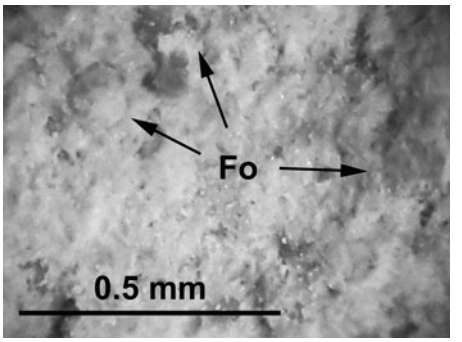


Fig. 9. Foraminiferous marl group

items. Another example is the notable absence of usual 'dust,' including a complete lack of organic matter, and the paucity of aeolian silt. In cases when the soil served as the raw material for pottery production, it is impossible to remove these materials (see above: *Terra Rosa, Brown Rendzina and Foraminifers* petrographic group).

Previous archaeometric research of the comparable oil lamps provided by Adan-Bayewitz *et al*. (2008) include the specimens sampled at Dora, Ẓippori, and Beit She'an/Scythopolis that are lithologically similar to the current petrographic group (Adan-Bayewitz *et al.* 2008: 60, Table 3). They suggested that the Brown and Pale Rendzina soils were parent materials. This suggestion may require re-assessment in the light of current investigations.

The site of Shiḥin, to whose pottery workshop (J. R. Strange 2012: 10; J. R. Strange 2013: 4–7) this petrographic group corresponds, is situated on a hill, the southern part of which is composed of Ghareb and Taqiye formations, similar to the hill to its northwest (Har Hiye) and the area to the southeast (Sneh and Avni 2008: map). Appearing frequently in Galilee in particular, and throughout the southeastern Levant in general, these formations were intensively used for pottery production since the very early periods of human history (Goren 1991; Goren 1992; a discussion of the equivalent formations within the region can be found in Goren, Finkelstein and Na'aman 2004: 92). Therefore, assigning the provenance for the lamps of this petrographic group to the Shiḥin pottery workshops should be based on the results of the archaeological excavations and surveys, together with the petrographic database.

The light tan colour of the Shiḥin production is reminiscent of the lamps manufactured in Jerusalem workshops (Berlin 2005: 46−48; Adan-Bayewitz *et al.* 2008: 38 and Fig. 3), and we can propose that the Shiḥin potters used the local calcareous marls to produce lamps of 'Jerusalem' appearance. Both Jerusalem and Shiḥin lamps were distributed to the same settlements (cf. Daburiyah, I'billin).

The sample of the Hasmonean pinched lamp was examined under the binocular

microscope only. The lamp has all the signs of over-firing. Its matrix has a gray and glassy appearance. The numerous very soft whitish round and rounded inclusions and cavities observed are apparently foraminifers, decomposed to lime or partly vanished under the firing conditions. In addition, there are rare, rounded dark brownish gray inclusions. The firing temperature may be estimated as above 750º C and probably close to 800º C. This particular lamp can be attributed to the *Foraminiferous Marl and Dry Terra Rosa* group.

Conclusions

The results of the petrographic examinations shows that the oil lamp workshop of Shiḥin produced lamps from two local raw materials. The first is Beit Netofa valley soils that were also used for the production of storage jars (*Terra Rosa, Brown Rendzina and Foraminifers* petrographic group). The second is calcareous foraminiferous marls of Ghareb and Taqiye formations, apparently mined from hills southwest of and adjacent to Shiḥin.

Despite the lack of statistically reliable quantities, the distribution of the lamps in this study suggests where further research might lead. In contrast to Gamla, Makberat B'not Yakov, and Tel Rekhesh, whose samples came from Jerusalem alone, all the samples from Daburiyah and I'billin were produced at Shiḥin. At the same time, the examined lamps from Kh.Wadi Ḥamam, Yodefat, and Shiḥin itself came from both Shiḥin and Jerusalem. Jerusalem lamps could have been brought to Shiḥin as prototypes for the local mould designers. The picture is less clear for Yodefat, whose pottery workshop did not deal with lamps, and Kh. Wadi Ḥamam, with no signs of a pottery workshop at the site.

The examination of the fresh breaks of the samples under the binocular microscope allows us to distinguish the lamps manufactured by the Jerusalem pottery workshops, (attributed to the *Motza Marl and Dolomitic Sand* petrographic group), from the lamps produced at Shiḥin, (attributed to the *Foraminiferous Marl and Dry Terra Rosa* group, Figs 16 and 17). This data is helpful for archeologists, allowing them to 'field' read lamps for further statistical investigations, which in turn will produce a better understanding of oil lamp distribution in the region.

Appendix: Stone Moulds

Shiḥin's oil lamp moulds were carved from two types of stone: a soft, dense chalk and a very soft and porous one. Some of the moulds were carved into waste (cores) from the production of stone measuring cups.

Of the three stone cup production sites known in the area, two are situated on the western slope of Har Yona, and the third is in modern Kefar Reine. All three workshops are artificial caves hewn in layers of dense chalk of the Senonian

Menuha formation (Sneh *et al.* 1998; Shapiro forthcoming a and b).

In addition, the Eocene chalky outcrop formations in the small valley between Har Hiye and Mitzpe Resh Laqish to the southwest of Shiḥin could be used for moulds. Further lithological study may help to solve this puzzle.

Fig. 10. Table of examined lamps

T/S #	Site	Permit	Reg #	Type	Petro group	Provenance
1.1	Maresha		Burial C, C 73, 62-539		Loess	Northern Negev / Shephelah
1.2	Maresha		Burial C, C 148, 62-532		Loess	Northern Negev / Shephelah
1.3	Maresha		Burial C, C 34		Loess	Northern Negev / Shephelah
1.4	Shiḥin		Motti gave me for comparison		Terra Rossa, Brown Rendzina and Foraminifers	Shiḥin – jars
1.5	Ibellin	A-1363	13		Terra Rossa, Brown Rendzina and Foraminifers	Shiḥin – jars
1.6	Daburiya	A-1715	76 / 1		Terra Rossa, Brown Rendzina and Foraminifers	Shiḥin – jars
1.7	Wadi Hammam	G-19/2010	Area A, L. 4A. 011; B. 4A 0026 L		Motza clay	Jerusalem
1.8	Shiḥin	G-58/2015	R 150413, I.13.102; L13004		Motza clay	Jerusalem
1.9	Shiḥin	G-28/2013	R 130028, I.08.06; L8004		Foraminiferous Marl and Dry Terra Rossa	Shiḥin – lamps
1.1	Shiḥin	G-28/2013	R 130322, I.10.04; L10001		Foraminiferous Marl and Dry Terra Rossa	Shiḥin – lamps
2.1	Tel Rekhesh		Room C, L. 1042, B. 10227, Area G		Motza clay	Jerusalem

T/S #	Site	Permit	Reg. No.	Type	Petro group	Provenance
2.2	Shiḥin	G-58/2015	R 150331, I.13.86, L 13005		Motza clay	Jerusalem
2.3	Ibellin	A-1278	23-Mar		Foraminiferous Marl and Dry Terra Rossa	Shiḥin – lamps
2.4	Ibellin	A-1363	181		Foraminiferous Marl and Dry Terra Rossa	Shiḥin – lamps
2.5	Daburiya	A-1715	23/4, 98-3410		Foraminiferous Marl and Dry Terra Rossa	Shiḥin – lamps
2.6	Ibellin	A-1363	129/1		Foraminiferous Marl and Dry Terra Rossa	Shiḥin – lamps
2.7	Ibellin	A-1278	70		Foraminiferous Marl and Dry Terra Rossa	Shiḥin – lamps
2.8	Wadi Hammam	G-36/2009	L. 3, B. 3B 0005		Foraminiferous Marl and Dry Terra Rossa	Shiḥin – lamps
2.9	Daburiya	A-1715	41/1		Foraminiferous Marl and Dry Terra Rossa	Shiḥin – lamps
2.1	Daburiya	A-1715	45/2, 98-3424		Foraminiferous Marl and Dry Terra Rossa	Shiḥin – lamps
3.1	Daburiya	A-1715	26/1, 98-3425		Terra Rossa, Brown Rendzina and Foraminifers	Shiḥin – jars
3.2	Ibellin	A-1278	63		Foraminiferous Marl and Dry Terra Rossa	Shiḥin – lamps
3.3	Wadi Hammam	G-19/2010	L. 4A 046, B. 4A 0116		Foraminiferous Marl and Dry Terra Rossa	Shiḥin – lamps
3.4	Shiḥin	G-27/2012	R 120272, I.4.43, L 4007		Foraminiferous Marl and Dry Terra Rossa	Shiḥin – lamps

T/S #	Site	Permit	Reg. No.	Type	Petro group	Provenance
3.5	Shiḥin	G-27/2012	R 120272, I.6.10, L 6007		Terra Rossa, Brown Rendzina and Foraminifers	Shiḥin – jars
3.6	Wadi Hammam	G-19/2010	L. 4A 046, B. 4A 0115		Foraminiferous Marl and Dry Terra Rossa	Shiḥin – lamps
4.1	Shiḥin	2013		Herodian lamp	Terra Rossa, Brown Rendzina and Foraminifers	Shiḥin – jars
4.2	Shiḥin	2013		Herodian lamp	Foraminiferous Marl and Dry Terra Rossa	Shiḥin – lamps
4.3	Shiḥin	2013		Herodian lamp	Foraminiferous Marl and Dry Terra Rossa	Shiḥin – lamps
4.4	Shiḥin	2013		Herodian lamp	Terra Rossa, Brown Rendzina and Foraminifers	Shiḥin – jars
4.5	Shiḥin	2013		Herodian lamp	Foraminiferous Marl and Dry Terra Rossa	Shiḥin – lamps
5	Shiḥin	G-45/2016	R160166, I.13.140, L 13014	Pinched lamp	Foraminiferous Marl and Dry Terra Rossa	Shiḥin – lamps
61	Gamla	A-3039	7012,1614a	Herodian lamp	Motza clay	Jerusalem
62	Gamla	A-3039	7012,1614b	Herodian lamp	Motza clay	Jerusalem
63	Makberat B'not Yakov		From Yodefat project	Herodian lamp	Motza clay	Jerusalem
64	Makberat B'not Yakov		From Yodefat project	Herodian lamp	Motza clay	Jerusalem
122	Yodefat	G-93/1994	VII. Q4.004.13	Herodian lamp	Motza clay	Jerusalem
123	Yodefat	G-113/1996	XI.R17.002.9	Herodian lamp	Terra Rossa, Brown Rendzina and Foraminifers	Shiḥin – jars

Notes

1 The storage jar from Shiḥin was sampled as comparative material.
2 As a first step, the fresh breaks of the sherds were examined under a binocular microscope at magnifications from ×20 to ×40, with the aid of a solution of 5% dilute hydrochloric acid and a steel needle. Then, thin sections were prepared and examined under a polarizing microscope at magnifications between ×20 and ×200. The descriptions of the thin sections were completed with the aid of charts and tables (Whitbread 1986: 80; Orton, Tyers and Vince 1993: 236–239). On the basis of these results and following the usual practice for petrographic studies (Goren 1995: 290), the samples were sorted into 'petrographic groups' based on the similar petrographic affinities of the matrix (clay) and sand-size non-plastic inclusions, regardless of archaeological variables such as typology or geographic location of the archaeological find-spot. By this means, comparison of the ceramic assemblage is based solely on the raw materials using independent technical criteria. The petrographic data were compared to the geologic settings in close proximity to the sites, especially those, known as production sites, like Jerusalem, Shiḥin, and Yodefat, and the surrounding geographic areas.
4. Permit A-1866 (Arubas and Goldfus 2005) courtesy of Benni Arubas.
5. Personal observation from a pottery making experiment.
6. The results of the excavations and surveys at the site undoubtedly reveal oil lamp manufacturing at Shiḥin (Strange 2012, 2013).
7. The goal is for further surveying the area: the marl quarry or the clay pit. James F. Strange reports that in the 1980s, Mr. Jimmy Ippen, the head of agriculture for Kibbutz Ha-Solelim, told him that, in order to ease their plowing and harvesting of a field, their workers had partially filled in an old clay pit on the hill now identified as Shiḥin. The southeastern portion of this pit is still visible at the foot of the northwestern slope of the hill. It is visible in aerial photographs taken in 1945. The identification of this depression as the village's clay pit need to be confirmed.
8. Israel Antiquities Authority excavation in 2001 directed by D. Amit on behalf of construction of road 6400

References

Adan-Bayewitz, D., (1993). *Common Pottery in Roman Galilee* (Ramat Gan).

Adan-Bayewitz, D., Asaro, F., Wieder, M., and Giauque, R. D., (2008). 'Preferential Distribution of Lamps from the Jerusalem Area in the Late Second Temple Period (Late first Century B.C.E.–70 C.E.)', *Bulletin of the American Schools of Oriental Research* 350: 37–85.

Ben Tor Y., (1966). *The Clays of Israel: Guide-Book to the Excursions* (Jerusalem).

Berlin A., (2005). 'Pottery and Pottery Production in the Second Temple Period'. Pp. 29−60 in B. Arubas and H. Goldfus (eds.), *Excavations on the Site of the Jerusalem International Convention Center [Binyanei Ha'Uma]: The Pottery and Other Small Finds*. Journal of Roman Archaeology Supplement 60 (Rhode Island).

Bogoch R. and Sneh A., (2008). *Geological Map of Israel 1:50000*. Sheet 4-I (Arbel). *GSI*, digital editing, [online]. Available at http://www.gsi.gov.il/eng/?CategoryID=253&ArticleID=764&dbsAuthToken [Accessed 12 Sept. 2016].

Boness, D. *et al.*, (2016). 'Petrographic Study of the Pottery Assemblages from Ḥorvat Qarqar South, a Ghassulian Chalcolithic Cemetery in the Southern Levant', *Bulletin of the American Schools of Oriental Research* 375: 185–213.

Eisenberg E., (1993). 'Rephaim, Nahal', Pp. 1277−1280 in E. Stern (ed.). *The New Encyclopedia of Archaeological Excavations in the Holy Land*. Vol. 4 (New York).

Eisenberg E., (1994). 'Nalhal Rephaim-A Bronze Age Village in Southwestern Jerusalem', *Qadmoniot* 26: 82–95 (Hebrew).

Glass, J., Goren, Y., Bunimovitz, S. and Finkelstein, I. (1993). 'Petrographic Analyses of Middle Bronze Age III, Late Bronze Age and Iron Age I Pottery Assemblages', Pp. 271–286 in I. Finkelstein, S. Bunimovitz and Z. Lederman (eds.), *Shiloh, the Archaeology of a Biblical Site* (Tel Aviv).

Goren, Y., (1991). 'Petrographic Examination of the Ceramic Assemblage from Tel 'Amal', *'Atiqot* 20: 129–130 (Hebrew).

Goren, Y., (1992). 'Petrographic Study of the Pottery Assemblage from Munhata', Pp. 329–360 in Y. Garfinkel (ed.), *The Pottery Assemblages of the Sha'ar Hagolan and Rabah Stages of Munhata (Israel)* (Paris).

Goren, Y., (1995). 'Shrines and Ceramics in Chalcolithic Israel: The View through the Petrographic Microscope' *Archaeometry* 37: 287–305.

Goren, Y., Finkelstein, I., and Na'aman, N., (2004). *Inscribed in Clay: Provenance Study of the Amarna Tablets and Other Ancient Near Eastern Texts* (Tel Aviv).

Greenberg, R. and Porat, N., (1996). A Third Millennium Levantine Pottery Production Center: Typology, Petrography, and Provenance of the Metallic Ware of Northern Israel and Adjacent Regions. *BASOR* 301:5–25.

Keller, G., (2004). 'Low-Diversity, Late Maastichtian and Early Danian Planktic Foraminiferal Assemblages of the Eastern Tethys', *Journal of Foraminiferal Research* 34/1: 49–73.

Orton, C., Tyers, P., and Vince, A., (1993). *Pottery in Archaeology* (Cambridge).

Ravikovitch, S., (1969). *Israel, Soil Map 1:250000*. Israel, North. Survey of Israel (Jerusalem).

Shapiro, A. (forthcoming-a). 'Comparative Petrographic Examination of Chalk Measuring Cups and Chalks from Reine Cave, Tzofim Cave and Yodefat Excavation'.

Shapiro, A., (forthcoming-b). 'Petrographic Analysis of Selected Pottery from Tel Hebron (1999) Excavations', *'Atiqot*.

Shapiro, A., (2012a). 'Appendix: Petrographic Report', in A. Berlin and R. Frenkel, 'The Sanctuary at Mizpe Yammim: Phoenician Cult and Territory In the Upper Galilee During the Persian Period', *BASOR* 366: 69–72.

Shapiro, A., (2012b). 'Petrographic Analysis of the Crusader-Period Pottery. Pp. 103–126 in E. Stern, *'Akko I, 1: The 1991–1998 Excavations: The Crusader-Period Pottery: Text.* Israel Antiquities Authority Reports 51/1 (Jerusalem).

Shapiro, A., Berlin, A., and Stone, P., (forthcoming). 'Tel Kedesh – Fabrics and Wares.'

Sneh A. and Avni Y. 2008. *Geological Map of Israel 1:50000*. Sheet 14-II (Mishmar HaNegev). *GSI*, digital editing, [online]. Available at http://www.gsi.gov.il/eng/?CategoryID=253&ArticleID=793&dbsAuthToken [Accessed 11 Aug. 2016].

Sneh, A., Bartov, Y., and Rosensaft, M., (1998). *Geological Map of Israel 1:200000*, Sheet 1 (Jerusalem).

Strange, J. R., (2012). 'Shiḥin, Survey', *Ḥadashot Arkheologiyot-Excavations and Surveys in Israel* 124, Accessed 19 February, 2016. http://www.hadashot- esi.org.il/report_detail_eng.asp?id= 2195&mag_id=119.

Strange, J. R., (2012). 'Report of the 2011 Survey and 2012 Excavation Seasons at Shiḥin (Full Version). ASOR 2012,' [online]. Available at https://www.academia.edu/7029643/REPORT_OF_THE_2011_SURVEY_AND_2012_EXCAVATION_SEASONS_AT_SHIḤIN_ASOR_2012 [Accessed 12 Aug 2016].

Strange, J. R., (2013). 'Annual Report of the 2013 Season of the Sikhin Excavation Project (Submitted to the Israel Antiquities Authority)', [online]. Available at https://www.samford.edu/arts-and-sciences/files/Religion/2013-Shiḥin-Excavation-Report.pdf [Accessed 12 Aug. 2016].

Wieder, M. and Adan-Bayewitz, D., (1999). 'Pottery Manufacture in Early Roman Galilee: A Micromorphological Study', *CATENA* 35: 327–341.

Wieder, M., Adan-Bayewitz, D. and Asaro, F., (1994). 'Source Materials, Micromorphology, and the Provenance of the Storage Jars from Roman Galilee', In A. Ringrose-Voase and G. Humpreys (eds.), *Soil Micromorphology*: *Studies in Management and Genesis*. Developments in Soil Science 22: 307–316.

Whitbread, I., (1986). 'The Characterization of Argillaceous Inclusions in Ceramic Thin Sections', *Archaeometry* 28: 79–88.

Tell Gush Halav during the Bronze and Iron Ages

Ido Wachtel, Roi Sabar and Uri Davidovich
The Hebrew University of Jerusalem

This paper discusses common methodological problems related to multi-period sites in highland regions – the identification of the boundaries of ancient settlements, and the estimation of their size and intensity of occupation during different periods. We tackle these obstacles using an integrated approach based on two complementary sources of data: systematic field survey combined with spatial analysis of multiple salvage excavations. This method, never before applied in delineating the history of Galilean tell sites, is demonstrated using Tell Gush Halav as a case study. This paper presents new chrono-spatial data from a recent survey conducted at this site and its vicinity, together with a spatial analysis of numerous small-scale excavations carried out at the site between 1937 and 2014. We argue that previous assessments of the site's size and importance through the Bronze and Iron Ages should be modified, and that Tell Gush Halav was in fact one of several medium-sized settlements along the northeastern margins of the Meron Range.

Introduction

Tell Gush Halav (Gischala in the Roman period, modern al-Jish) is located on a prominent chalk hill in the Upper Galilee, at an elevation of 830 m above sea level, northeast of the Meron range along the road linking Meron and Sasa (ITM grid ref. 2419/7702). The site is close to the Gush Halav Creek with its many springs, and to agricultural land, which is today planted primarily with orchards (Karmon 1960). The top of the hill on which the site is situated is a plateau of ca. 3 hectares (measuring 150 m from north to south and 200 m from east to west). The Maronite church of Mar Boutros (St. Peter) has occupied the southern end of the hill for the past century. Below the church, spread across the hill's southern, eastern and western slopes, is the modern village of al-Jish, which preserves the site's ancient name.

Tell Gush Halav has long been considered one of the Upper Galilee's key settlements. However, the site's almost continuous occupation complicates the reconstruction of its earliest history (during the Bronze and Iron Ages), which is hidden under thick layers of accumulation from the Classical and Islamic periods, as well as the houses of the present-day village.

The challenges encountered in delineating the boundaries of the ancient settlement as well as its size during multiple periods are not unique to Tell Gush Halav; indeed, they are valid for most of the sites in the Upper Galilee and other highland regions in the southern Levant. These obstacles obscure not only the single site's history, but also the broader analysis of regional settlement patterns and demographic trends, since it is often precisely the central sites in mountain regions which are most difficult to assess in terms of size and intensity. Moreover, estimating the size of these sites during each period is a complex task not merely due to repeated settlement, but also because of additional processes such as erosion and diffusion of artefacts, partial destruction of earlier occupations during later periods, and modern occupation that precludes a comprehensive survey of the entire site. Taken together, these problems appear to be the main reason that various surveys of multi-period sites in the Upper Galilee have yielded disparate size assessments, though different site definitions and assessment methods are also significant. Thus, for example, Amiran (1953) and Aharoni (1957: 14) both estimated the size of Tell Rosh (er-Ruweis) in the central Upper Galilee, northwest of the Meron range, at 2.5 hectares, while Frankel *et al.* (2001: 35, site 131) estimated it at ca. 9 hectares and Yasur-Landau *et al.* (2008: 63) at just 0.75 hectares. In contrast, Frankel *et al.* (2001: 25, site 161) estimated the size of Tell Mi'ilya in the western Upper Galilee at ca. 1.5 hectares, as compared with a 24 hectares estimation by Yasur-Landau *et al.* (2008: 63). These widely disparate assessments clearly demonstrate that the suggested size of a given site largely depends on the specific decisions taken by each expedition regarding how to overcome the common challenges to reconstructing the histories of multi-period sites in mountainous areas.

This paper re-evaluates the history of Tell Gush Halav during the Bronze and Iron Ages, based on two complementary sources of data: the results of a recent archaeological survey of the site conducted in 2014 and 2015, and a spatial and chronological analysis of all past salvage excavations carried out at the site and its surroundings. The numerous salvage excavations carried out in Gush Halav owing to modern construction provide 'windows' through which one may glimpse the development of various parts of the site. In combination with a high-resolution survey of different topographical units in the non-built areas of the site, these excavations enable a more reliable assessment of the site's size and formation processes throughout its existence. This methodology has not been employed to date in reconstructing the history of multi-period sites in the Galilee, and is therefore of clear interest beyond the deciphering of the history of the site of Gush Halav alone.

The historical sources related to Gush Halav are presented below, as well as a scrutiny of previous archaeological research conducted at this site. This is followed by the results of the new systematic survey and the analysis of previous salvage

Fig. 1. Tell Gush Halav and the eastern synagogue. View to the west (Photo: Tal Rogovski).

excavations conducted in various parts of the site during the last 80 years. This comparison enables a fresh evaluation of the settlement history of Gush Halav and an updated assessment of its size and layout throughout the Bronze and Iron Ages, culminating in a revision of the site's character and importance.

Historical Sources and Past Studies of Gush Halav

Gush Halav is not mentioned in biblical or extra-biblical sources from the 2nd and 1st millennia BC, and might have been known by different names during this time-span. As a result, the significance and extent of the early settlement are not known. Nevertheless, prevailing scholarly opinion appears to be that an important, densely populated settlement existed continuously here throughout the Bronze and Iron Ages (*e.g.*, Aharoni 1957: 14; Frankel *et al.* 2001: 139). This assumption is largely based on the prominent location of the mound within the surrounding landscape, as well as on the numerous written sources from later periods mentioning Gush Halav and indicating that it was one of the most important villages in the eastern Upper Galilee. Gush Halav is mentioned several times in the writings of Flavius Josephus, particularly in reference to the rebel John of Gischala (Yohanan Ben Levi of Gush Halav; Rappaport 2006) and fifteen times in rabbinic sources. The Mishnah (*Arakhin* 9: 6) includes Gush Halav in the list of walled towns from the times of Joshua. According to Adan-Bayewitz (1997), this list probably reflects early Jewish settlement in the Galilee during the time of John Hyrcanus. Gush Halav was also renowned for the quality of its olives and olive oil: 'eating dates

until they are consumed in Jericho, and olives – until they are consumed in Meron and Gush Halav' (*Mishnah Zeraim; Shvi'it* 38: 4). In the tenth century CE, the geographer Al-Muqaddasi described al-Jish as a large village, comparable in size to a district town (Muqaddasi 2000).

The remains of two ancient synagogues have been found in Gush Halav: one on the southern end of the summit, and the other ca. 300 m to the east, on a moderate topographic shoulder in the western bank of the Gush Halav Creek (henceforth 'the eastern synagogue'; Fig. 1). The former was documented by V. Guérin, who visited the site twice during the second half of the 19th century and witnessed the beginning of the construction of the Mar Boutros church during his second visit (Guérin 1880: 94–100). The latter synagogue was briefly excavated by Kohl and Watzinger (1916) in 1905, and more extensively by Meyers *et al.* (1990) in 1977–1978. Their excavation reported walls dating to the Persian and Hellenistic periods beneath the synagogue, as well as fills containing pottery sherds from multiple periods, including Early Bronze (EB) Age II, Late Bronze (LB) Age, and Iron Age. Additionally, numerous burial caves dated to the Roman and Byzantine periods were documented on the slopes of the hill of Gush Halav, and an impressive mausoleum was discovered on its southern slope (Vitto and Edelstein 1974, and see below).

The wealth of historical references and material finds from the Roman and Byzantine periods stands in striking contrast to the paucity of Bronze and Iron Age evidence. Aharoni initially surveyed the hill in the 1950s and noted the difficulty of collecting early pottery due to the prevalence of sherds from later periods. Aharoni refrained from estimating the size of the early settlement, but did report the collection of a few pottery fragments from each of the three Bronze Age phases (Early, Middle and Late), as well as from the Iron Age I and II (Aharoni 1957: 14).

The site was surveyed again as part of the comprehensive survey of the Upper Galilee by Frankel, Getzov, Aviam and Degani (2001). This survey estimated the size of site at ca. 5 hectares (of which the top of the mound comprises 2 hectares), and collected pottery sherds from the same periods noted by Aharoni. The survey documented two additional sites with early components: one at the location of the eastern synagogue ('Gush Halav East'; grid ref. 2424/7703), with an estimated size of 0.8 ha and sherds dated to the EB II, Iron Age, Persian, Roman, and Byzantine periods (compare the slightly different assessment by Meyers *et al.*, above); and another small site (0.1 ha in size), located ca. 150 m to the south of the former on the same topographical step and adjacent to the Gush Halav Spring, dated exclusively to the EB II ('Ein Gush Halav'; grid ref. 2425/7701). The dating of these two sites to the EBA was based on two fragments of platter rims collected at each of the sites (Frankel *et al.* 2001: 41–42, sites 340, 347, 348).

The results of these surveys, and particularly the limited quantity of early artefacts combined with the absence of corresponding spatial data, make reconstructing the development of the settlement at Gush Halav during the Bronze and Iron Ages rather difficult. Likewise, it is problematic to determine its relationship to the two sites documented to the east of the mound: was there a central site at the top of a hill with two adjacent subsidiary sites, or was it a single large site, spanning over 10 ha (at least during the EBA) and spread from the summit of the mound down to the Gush Halav Creek?

A related question is whether the limited finds from the eastern slope reflect the location of early settlements, or rather have more to do with the downward movement of objects from the top of the hill, perhaps the only site of settlement. A similar uncertainty exists regarding the size and extent of the settlement during the Roman and Byzantine periods, even though the archaeological data from these periods is far more extensive. While Meyers *et al.* (1990: 23–24) regard the eastern synagogue as an integral part of the village on the mound; Aviam (2001) has suggested that there were two adjacent villages, one on the hill and the other near the creek.

A New Survey

The recent archaeological survey of the site and its environs was carried out in 2014–2015 by two of the authors (I.W. and R.S.). The area of the mound and its slopes (in areas not occupied by modern structures) was divided into nine topographic units based on structural and topographical affinities, while each unit was subdivided into smaller collection units (i.e., polygons; Fig. 2). A team of 5–6 surveyors, spaced 10–15 m apart, surveyed each polygon and mapped using GPS while receiving a unique code for the cataloguing of the artefacts collected. Pottery sherds and other artefacts were collected systematically from the surface of each polygon, in order to enable a comparative chrono-spatial analysis of the different parts of the mound and its slopes. The overall size of the surveyed area was 7.5 ha.

The survey units included the area of the summit of the mound (I); a moderate extension north of the summit (II); and the upper part of the western slope (III). The eastern slope, stretching from the summit to the Gush Halav Creek, was divided into six additional units (IV–IX). The southern slope, densely covered by the modern village houses, could not be surveyed. However, as noted, several salvage excavations have been carried out in the village and discussed below. The results of the survey are presented in this section (Table 1; Figs 3–5), along with the quantities and distribution of pottery sherds from the Bronze and Iron Ages compared with the Roman and Byzantine periods, the latter comprising the main periods of activity at the site and its environs (Sabar 2017).

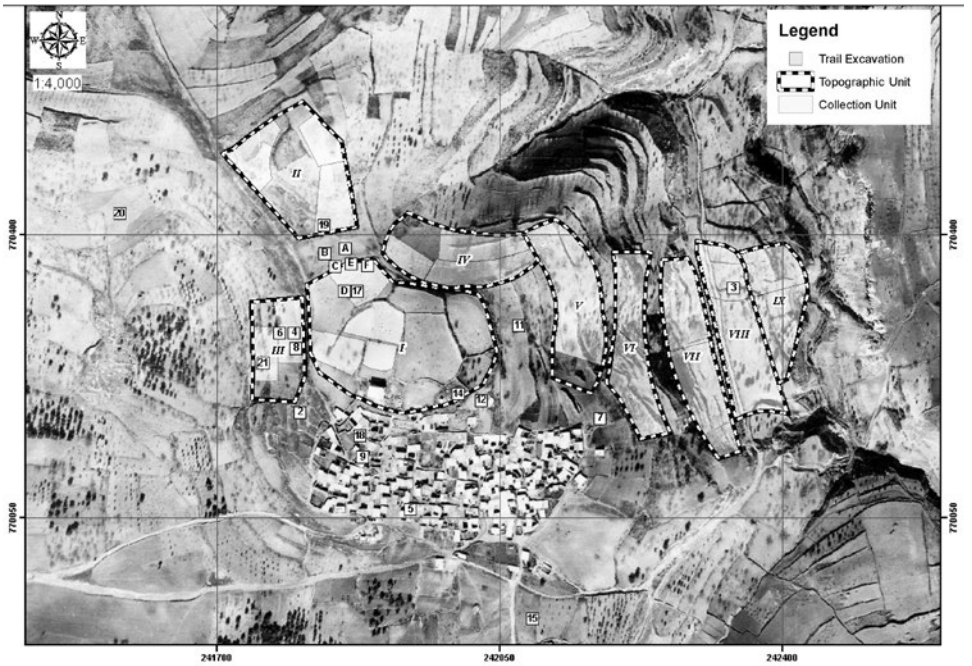


Fig. 2. The location of new survey units and past salvage excavations at Tell Gush Halav and its environs over an aerial photograph from 1945.

The top of the mound (Unit I) contained the survey's richest assemblage of pottery sherds (161 rims), the overwhelming majority of which could be generally dated to periods later than those focused on in this study. Ninety-three rims from the Roman and Byzantine periods (58% of the total), compared with only five rims (3%) from the Bronze and Iron Ages, were collected. Evidently, the low frequency of early sherds is the result of the continuous occupation and coverage by later periods, as noted already by previous scholars. On the ridge and hillock north of the mound (Unit II), up to a distance of 200 m north of the site's core, the quantity of pottery sherds recovered was extremely small, suggesting that this area was outside the boundaries of the settlement throughout its existence. Forty-five rim fragments were collected on the upper part of the western slope (Unit III); of these, 34 (75%) were from the Roman and Byzantine periods and none were from the Bronze or Iron Ages, suggesting that this area too was beyond the boundaries of settlement in the early periods. A similar quantity of sherds was collected from the upper part of the eastern slope (Unit IV): 56 rims in total, of which 24 (43%) date to the Roman and Byzantine period, and only one each to the EB and MB (3.5%); not a single sherd from the Iron Age was found. Beyond this area, the eastern slope

Survey Unit	Unit size (ha)	Surface visibility	Total no. of rims	EB II	MB II	Iron Age	Roman - Byzantine
I	0.9	Moderate-low	161	2 (1.2%)	1 (0.6%)	2(1.2%)	93 (58%)
II	0.9	Moderate-high	18	0	0	0	8 (44%)
III	0.6	Moderate	45	0	0	0	34 (75%)
IV	0.8	Moderate-low	56	1 (1.8%)	1 (1.8%)	0	24 (43%)
V	0.8	Moderate	17	1 (5.9%)	0	1 (5.9%)	13 (76%)
VI	0.8	Moderate-high	44	3 (6.8%)	2 (4.5%)	1 (2.8%)	19 (43%)
VII	1.2	Moderate-high	33	1 (3%)	0	0	22 (66%)
VIII	0.8	Moderate-low	22	3 (13.6)	0	0	11 (50%)
IX	0.7	High	107	0	0	1 (0.9%)	83 (77%)
total	7.5		503	11 (2.1%)	4 (0.8%)	5 (1%)	307 (61%)

Table 1: Results of the new survey by topographic sectors.

is steeper and partially planted with olives and Figs This area was divided into four units parallel to the slope, separated by topographic steps. In these units, a marked decline in the number of artefacts was noted, though there was a consistent (even if meagre) presence of sherds from the EB II, as well as infrequent rims from the MB II and Iron Age. This pattern continued down to the topographic shoulder upon which the eastern synagogue was built (Unit VIII), but changes dramatically in the lowest part of the slope (Unit IX). Here, a high quantity of sherds was collected, similar in total number to that observed on top of the mound: a total of 107 rims was counted, of which the overwhelming majority (83, 77%) were from the Roman and Byzantine periods. Only a single rim from the earlier periods (Iron Age) was noted.

The results of the survey enable us to clarify the settlement history during the Roman and Byzantine periods, both well represented in the different survey units (Fig. 5). The largest quantity of pottery sherds from these periods was found at the top of the mound, while the number of sherds generally decreases on the slope in relation to the distance from the summit. The significant rise in the number of

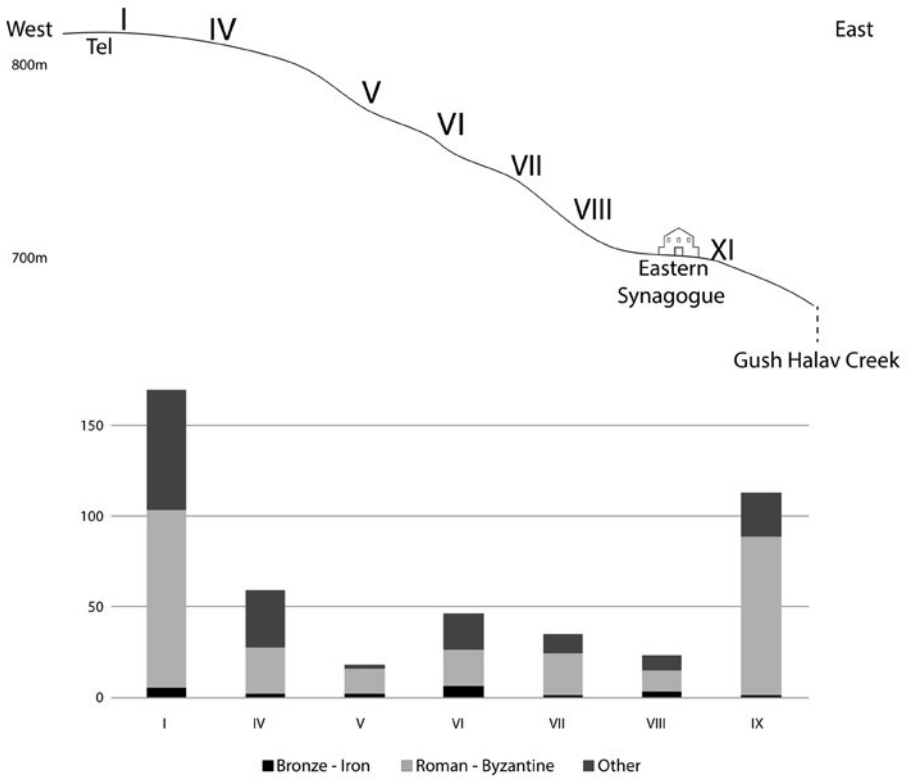


Fig. 3. Schematic section from the hill summit to Gush Halav Creek, with a graph indicating the quantity of sherds found in each topographic sector below.

sherds from these periods in the lowest unit should be understood as a support in Aviam's (2001) hypothesis (see above), i.e. that alongside the main settlement on top of the hill there was another small village (or hamlet) near the creek, with the eastern synagogue at its top. The slope between these two settlements contains a relatively small quantities of sherds from the Roman and Byzantine periods, probably originating in the mound and not reflecting settlement activity on the slope.

An examination of the distribution of sherds from the Bronze and Iron Ages reveals that few EB II rims (1–3) were collected in each of the units between the mound and the creek, while several rims of MB II and Iron Age date were collected in four units. The low frequency of sherds on the mound may be explained by the thick coverage of later periods (see below), but this explanation does not account for the meagre finds from these periods on the eastern slope: if this was an open agricultural area during the Roman and Byzantine periods (see above), we

would expect a much higher frequency of earlier sherds had this area been a part of the ancient settlement. The handful of early sherds recovered from the slope units are thus probably related to movement of artefacts from the mound, either through natural erosion or as a result of ploughing during later periods. The minor differences in frequencies of sherds collected from the various phases (EB II, MB II and Iron Age) may indicate that the settlement of the earlier period on the mound is slightly more extensive, but may also be purely coincidental (and see below).

Salvage Excavations at Tel Gush Halav and its Environs

Twenty small-scale salvage excavations were carried out at Tell Gush Halav and in the areas presently occupied by the village of al-Jish and its surrounding orchards between 1937 and 2014 (Fig. 2, Table 2). These soundings, usually comprising no more than a probe or several squares in area, were mostly published in brief reports in *Hadashot Arkheologiyot* (Archaeological News of the Israel Antiquities Authority), which included data regarding the location of the excavation, its depth, the presence of architectural remains, and a general description of the pottery. Small-scale salvage excavations rarely attract scholarly attention, yet the compilation of data from multiple excavations and its spatial analysis can contribute significantly to the reconstruction of settlement history in sites such as Gush Halav (compare Faust and Safrai 2015). We shall briefly review the various excavations in spatial order, and discuss their contributions to the reconstruction of the site's size during various periods, the thickness of the accumulating layers, and the nature of its fortifications.

Two excavations were carried out by M. Hartal at the top of the mound. One excavation was opened in the south-eastern corner of the plateau in 2006 (Fig. 2, no. 14), uncovering four layers of settlement. This excavation was the first to discover remains of floors and walls dating to the MB II and Iron Age I, sealed below a 2 m thick accumulation from the Roman period. The total thickness of the early layers was ca. 1 m, and the excavation did not reach bedrock (Hartal 2008). The second location excavated (in 2004) was in the northwestern part of the mound (Fig. 2: D); it was expanded in another excavation in 2008 (Hartal 2010a, 2010b). The accumulation above bedrock here was ca. 5 m thick, and six layers were documented, the earliest of which was dated to the Hellenistic period. Layer 3 was identified as a glacis constructed during the Late Hellenistic or Early Roman period. This glacis was covered (in Layer 2) by a sloping earth rampart, which comprises part of the site's fortification during the Early Roman period. The rampart fill contained numerous pottery sherds, mostly from the Hellenistic and Roman periods, accompanied by a smaller number of sherds from the Bronze and Iron Ages. This rampart was first identified in 1983 and 1989 in two areas at the top of the western slope excavated by Aviam, in two trenches dug to a depth of

Table 2: Excavations in Gush Halav

No.	Excavation year(s)	Location	Main Periods uncovered	Additional periods represented in ceramic findings	Description	Reference
1	1937	Southern slope	Byzantine		Two burial caves	Makhouly 1939
2	1971	Southwestern slope	Mid-Roman		Mausoleum	Vitto & Edelstein 1973
3	1977–1978	Eastern synagogue	Pre-Hellenistic Roman-Byzantine	Bronze, Iron	Galilean synagogue	Meyers *et al.* 1990
4	1983	Western slope, near the top of the tell	Early Roman	Early Bronze, Iron I, Persian, Hellenistic	Rampart reinforced by a supporting wall. 6 meter deep trench	Aviam, 1984
5	1989	Southeastern slope	Early Roman		Subterranean cave system.	Damati & Abu Uksa, 1991
6	1989	Western slope, near the top of the tell	Early Roman	Early Bronze, Iron I, Persian, Hellenistic, Early Roman	Large amounts of pottery sherds within inclined layers, apparently associated with fortifications during the Roman period.	Aviam 1988
7	2002	Eastern slope, at the edge of the village	Byzantine		Plastered installation	Mokary, unpublished
8	2002	Western slope, near the top of the tell	Late Roman–Early Byzantine, Early Muslim	Iron II, Persian, Hellenistic	Walls of a structure from the late Roman–Early Byzantine period, possibly 11th century.	Wolff 2009
9	2003	Southern slope	Ottoman		Ottoman structure of hewn stone built over a cave that was not excavated	Hartal 2006a
10	2004	Southern slope			Data unavailable	Mokary (unpublished)
11	2004	Eastern slope	Mamluk, Ottoman		Remnants of walls from recent centuries built over structure with a courtyard dated to Mamluk period	Hartal 2006b

12	2004	Southern slope, near top of the tell	Mid-late Roman, Mamluk, Ottoman	Middle Bronze, Iron	Several rock-hewn installations dated to Roman period.	Hartal 2006c
13	2004	Northern slope, near top of the tell	Early Roman	Early Bronze II, Middle Bronze II, Iron I, Hellenistic, Roman	A rampart and burn layer from Early Roman period identified at top of the slope	Hartal 2010a
14	2006	Southeastern slope, near top of the tell	Middle Bronze II, Iron I, Early Roman, Late Roman		Remnants of walls and floors from Middle Bronze and Iron periods; remains of walls and a tabun from Late Roman period	Hartal 2008
15	2007	Southern slope	Bronze (?)	Byzantine	Bronze period grave (?), accumulation with sherds from Byzantine period.	Getzov 2010
16	2007	Southern Slope	-		*ex situ* potsherds (undated)	Shadman 2008
17	2008	Northern slope, near the summit	Hellenistic, Early Roman, Middle-late Roman	Bronze, Iron	Expanded excavations at area D of 2004 dig (no. 13); glacis from the Hellenistic period covered by a rampart from the Roman period.	Hartal 2010b
18	2009	Southern slope	Iron I, Roman, Byzantine		Structure from the Iron period; a ritual bath and wall from the Roman period; Byzantine wall	Hartal 2013a
19	2010	Northern slope	Roman		Pottery sherds, soil slide downhill	Hartal 2013b
20	2012	Spur to the northeast of the tell	Hellenistic, Early Roman		Remains of structures (?) from Hellenistic and Roman periods	Cinamon 2013
21	2014	Western slope	Mid-late Roman, Ottoman		Wall and potsherds, apparent agricultural activity outside the settlement	Dalali-Amos 2015

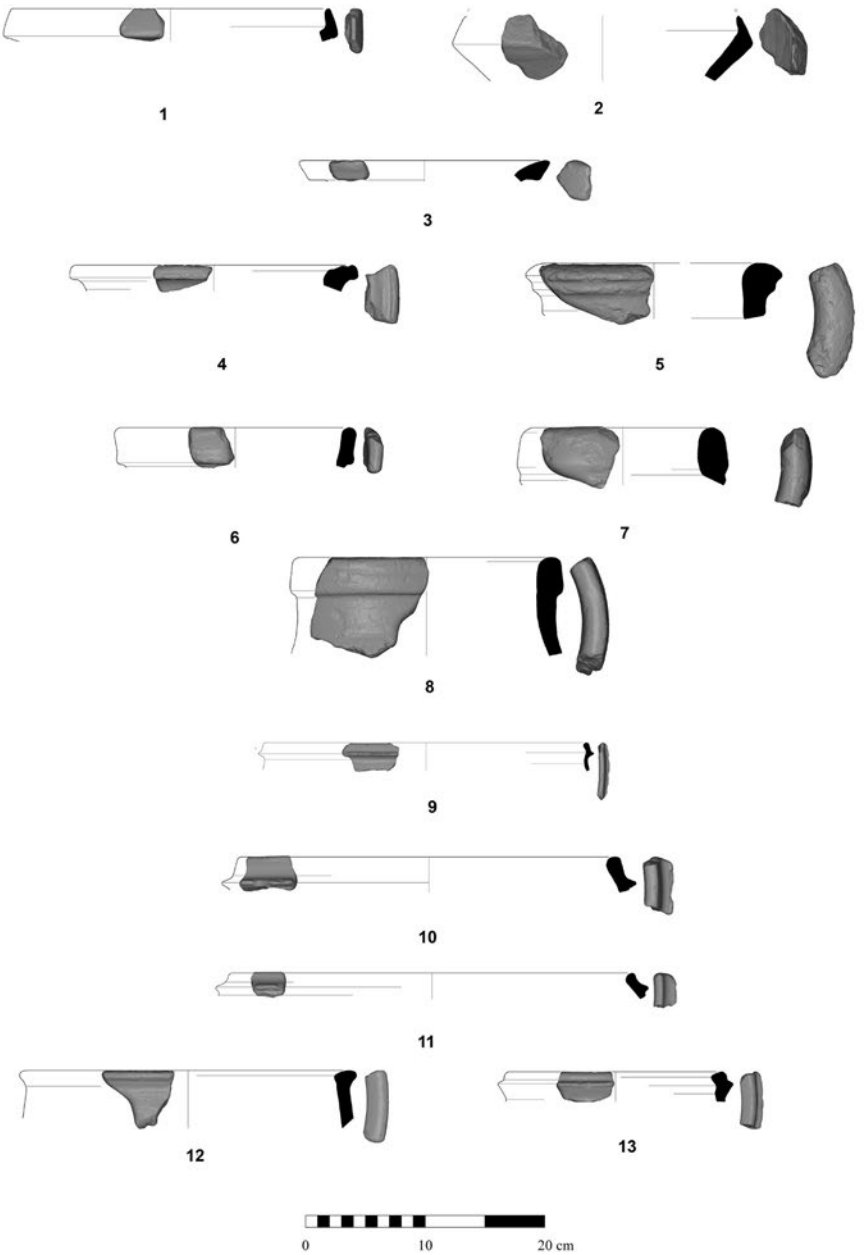


Fig. 4. Pottery from the Bronze and Iron Ages (Nos 5, 8, 9, 10, 12, 13 are from Aharoni's survey, the others from the current survey): 1–3: Early Bronze Age II; 4–5: Middle Bronze Age II; 6–9: Iron Age I; 10–13: Iron Age II.

No.	Reg. No.	Type	Period	Ware
1	GH04	Platter bowl	EB II	gray clay, gray core, small white grits, well fired.
2	GH3006	Platter bowl	EB II	orange-brown clay, gray core, small white and gray grits, well fired, combed on exterior.
3	GH1005	Jar	EB II	ornage clay, brown external surface, gray core, white grits, well fired.
4	GH2006	Jar	MB II	orange-pink clay, light gray core, white and gray grits
5	H 10	Pithos	MB II	red-brown clay, gray core, white and gray grits
6	GH19	Pithos	Iron I	light gray clay, gray core, white and gray grits
7	H 11	Pithos	Iron I	light gray-yellow clay, gray core, gray and white grits
8	H 58	Pithos	Iron I	light gray clay, gray core, white and gray grits
9	H 69	Cooking pot	Iron I	brown clay, light gray core, white grits
10	H 18	Cooking pot	Iron II	dark grey-brown clay, gray core white grits
11	GH2005	Cooking pot	Iron II	dark-brown clay, dark gray core, white grits
12	H 71	Krater	Iron I-II	brown-gray clay
13	H 70	Cooking pot	Iron II	orange-brown clay, white grits

Fig. 4a. Pottery from the Bronze and Iron Ages

3–6 m, and was subsequently dated to the time of the Great Revolt (Fig. 2, Nos 4 and 6; Aviam 1983, 1989, 2004: 106–109). Hartal found additional sloping layers on the northwestern slope of the mound, which contained pottery sherds from the Late Roman period. These were interpreted as later accumulation of refuse on the now-abandoned rampart, which was thrown outside the village and deposited on its earlier fortifications (Hartal 2010a). The depth of accumulation in this area of the mound was 7.2 m, again without reaching bedrock (Fig. 2: C-F). Most of the pottery found in the lower layers was dated to the Late Roman period, while the layers above contained mixed assemblages from various periods, including some sherds from the Bronze and Iron Ages; Hartal (2010a) suggested that the 'reverse stratigraphy' in this location was the result of landslides, though this suggestion is somewhat ambiguous with regard to the source of the accumulation containing the early sherds.

Another excavation was conducted by Wolff in 2002 just south of Aviam's 1989 excavation (Fig. 2, no. 8). This excavation uncovered several walls on bedrock, without associated floor levels, which were generally dated between the Late Roman period and the 11th century CE (Wolff 2009). Yet another excavation, to the southwest of Wolff excavation (Fig. 2, no. 21), found no settlement remains at all, implying that this part of the western slope was outside the boundaries of the ancient settlement (Dalali-Amos 2015). A similar picture was revealed on the ridge

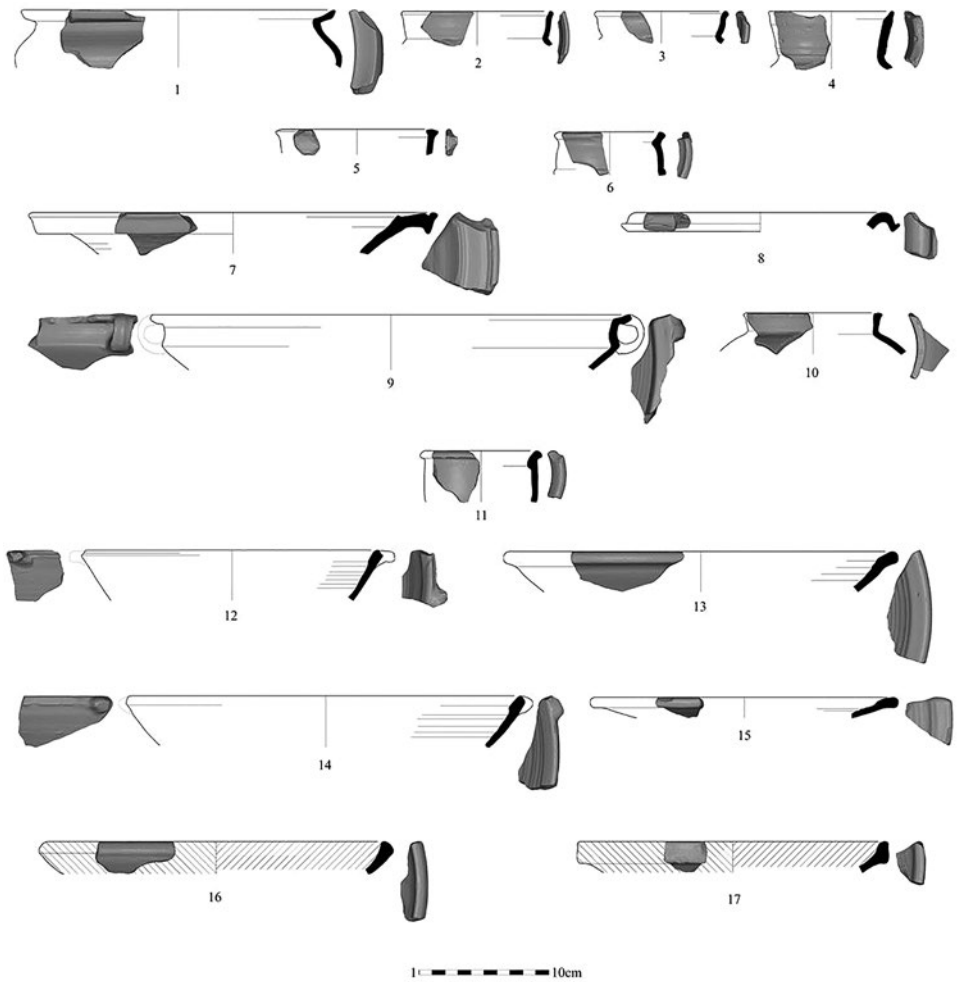


Fig. 5. Pottery from the Roman and Byzantine periods: 1–4: Early Roman; 5–8: Early-Middle Roman; 9–11: Middle Roman; 12 Late Roman; 13–15: Late Roman-Early Byzantine; 16–17: Byzantine.

northwest of the mound (Fig. 2, no 19: Hartal 2010a, Areas A-B).

Hartal conducted two additional soundings on the southern slope of the hill, within the present-day village. In 2009 he uncovered, within an accumulation of 4 m above bedrock, the remains of a structure dated from the Iron Age I, covered by two layers from the Roman and Byzantine periods, ca. 50 m south of the hill's summit (Fig. 2, no. 18; Hartal 2013a). Another area (no. 9), which was excavated ca. 80 m south of the summit in 2003, uncovered remains from the Ottoman period

No.	Reg. No.	Type	Period	Identification	Ware
1	GH3007	Open cooking pot	ER	Kf. Hananya 3a	Brownish orange with grits
2	GH999	Closed cooking pot	ER	Kf. Hananya 4a	Brownish orange with grits
3	NG002/1	Closed cooking pot	ER	Kf. Hananya 4a	Brownish orange with grits
4	GH2006	Storage jar	ER	T1.3	Light brown with gray core and grits
5	NG003/4	Closed cooking pot	ER	Kf. Hananya 4b	Brownish orange with grits
6	GH2008	Storage jar	ER/MR	ER grooved SJ	Reddish brown with grits
7	GH2006/1	Krater	ER/MR		Reddish brown with gray core and grits
8	GH1010	Krater	ER/MR	Sepphoris Krater	Reddish brown with gray core and grits
9	GH2006/2	Open cooking pot	MR	Kf. Hananya 3b	Brownish orange with grits
10	GH2006/3	Closed cooking pot	MR	Kf. Hananya 4c	Brownish orange with grits
11	GH2006/4	Storage jar	MR	MR SJ	Reddish brown with grits
12	GH2006/5	Cooking bowl	LR	Kf. Hananya 1c	Brownish orange with grits
13	NG999	Cooking bowl	LR/Byz	Kf. Hananya 1e	Brownish orange with grits
14	GH2006/6	Cooking bowl	LR/Byz	Kf. Hananya 1e	Brownish orange with grits
15	NG002/3	Cooking bowl	LR/Byz	Kf. Hananya 1e	Brownish orange with grits
16	NG002/6	Bowl	Byz	CRS1	Yellowish brown no grits
17	NG004/2	Bowl	Byz	PRS3	Reddish brown no grits

Fig. 5a. Pottery from the Roman and Byzantine periods
(ER=Early Roman; MR=Middle Roman; LR=Late Roman; Byz=Byzantine)

only (Hartal 2006a). Two other excavations conducted further along the southern and southwestern slope (Fig. 2, Nos 2 and 5) uncovered burials from the Roman and Byzantine periods, thereby helping determine the southern boundary of the settlement during these periods (Makhouly 1939; Vitto and Edelstein 1973).

Three additional excavations were carried out on the eastern and southeastern slopes of the mound. An excavation by Hartal in 2003 uncovered three layers containing remains of structures from the Mamluk and Ottoman periods directly on bedrock, suggesting that this area was not occupied prior to the Mamluk period (Hartal 2006b). Fragmentary walls, rock-hewn installations, and a mixed pottery assemblage containing Iron Age and Roman period sherds were uncovered at the top of the southeastern slope (Fig. 2, no. 12). However, no architectural remains that clearly predate the Mamluk period were found at this location (Hartal 2006c). Mokary, ca. 60 m to the east (Fig. 2, no. 7) uncovered

an installation hewn into bedrock, but no settlement remains (Unpublished: data courtesy of the Israel Antiquities Authority).

Discussion

Tell Gush Halav is a complex highland site that poses significant challenges to those attempting to reconstruct its history throughout its long existence. These challenges are similar to the difficulties encountered in numerous mountainous sites in the Mediterranean regions of the southern Levant. The research methodology presented here, which combines a high-resolution surface survey with the analysis of multiple salvage excavations, enables a reconstruction of the site formation both chronologically and spatially. The survey results indicate that, during the Bronze and Iron Ages, the Gush Halav site was confined to the summit of the natural hill on which it was situated. The meagre finds along the steep eastern slope should most likely be interpreted as the result of natural erosion from the hilltop or, alternately, as a by-product of soil improvement operations in cultivated areas during later periods, and should not be regarded as indicating settlement extension over a large area. Similarly, it is unlikely that secondary sites existed at the bottom of the eastern slope during these periods. Compelling evidence for settlement activity in the eastern synagogue area exists only for the Roman and Byzantine periods; in addition to the impressive architectural remains, it includes large amount of pottery sherds from these periods at the lowest survey unit, similar in quantity to that on the mound.

The analysis of the salvage excavations conducted at Tell Gush Halav confirms the survey results and adds data that facilitates a more reliable and precise assessment of the early settlement. The various excavations demonstrate that the Bronze and Iron Age layers on the mound are sealed beneath a thick (2–5 m deep) accumulation from later periods. Early strata with *in situ* architectural remains were identified only at two locations: the southeastern corner of the mound, and on its southern slope, ca. 50 m from the southern edge of the hilltop plateau. Remains from the MB II were found at the first location beneath an Iron Age I layer, while remains solely from the latter period were identified at the second location. These results, combined with the absence of early remains in other parts of the mound, including in excavations that reached bedrock (*e.g.*, in the northwestern part of the mound, beyond its eastern boundaries, and at the upper part of the western slope), suggest that during the Bronze Age the settlement was confined to the highest (southern) part of the natural hill, and covered an area no greater than 1–2 ha. It seems that only during the Iron Age I the settlement expanded slightly southward, to include the upper part of the hill's southern slope, but even then it covered an area no greater than ca. 3 ha. The absence of Iron Age II architectural remains in

the excavations on the hilltop and its surroundings is somewhat surprising, and probably indicates that the settlement shrank considerably during this period, perhaps to an area even smaller than the Bronze Age settlement. The representation of the early periods in the pottery assemblages leaves open the question of the settlement location during the EB II: remains from this period have not been found in any of the excavations and the quantities of potsherds from this period collected in the surveys of the mound are limited, particularly in comparison to the quantities found on the eastern slope (see Table 1 above).

Additional evidence gained from the salvage excavations pertains to the site formation processes and its early fortifications. The excavations clearly demonstrate that the present shape of the mound is the result of extensive earthworks begun during the Hellenistic period and continued more intensively during the Roman period, as part of this Jewish settlement's preparations for the Great Revolt and in its aftermath. The earthen ramparts have been identified in the northern and western parts of the hill, in some cases covering earlier layers. Deep trenches dug into the sides of the mound, reaching a depth of 5–7 m, did not uncover evidence of earlier fortifications. Thus, it seems that we can rule out the possibility that the Bronze and Iron Age settlements at Gush Halav were fortified. As to the settlement expansion beyond the fortifications after the Roman period, it appears that although remains from the Late Roman and Byzantine periods were identified on the southern slope, and possibly also on the upper part of the western slope (next to burial grounds), the settlement probably did not expand significantly to the east and west beyond the mound boundaries prior to the Mamluk period.

Our final point concerns the chronology of the early periods of activity at the site, as revealed by the recent survey. The site at Gush Halav was established during the EB II, at the beginning of the 3rd millennium BCE. Pottery sherds from this period were recovered primarily in the various surveys, and remains of that early settlement have not been uncovered to date. Nonetheless, the center of the EBA settlement was probably on the summit of the natural hill. Sherds from this period found on the eastern slope probably originate at the top of the hill, though we cannot rule out the possibility that some activity from this period took place on the slope. The EB II was followed by a long occupation gap, of roughly a millennium, before a resettlement in the latter part of the MBA (MBII-III). This is the first phase from which architectural remains have been uncovered at the site. There is no clear occupational evidence from the LBA, suggesting a significant decline or even a total abandonment of the site (on the problem of identifying the LBA in the Upper Galilee, and on the paucity of sites from this period, see Wachtel, in preparation). Occupation of the site resumed during the Iron Age I, a period during which the settlement reached its maximum size (of its ancient sequence), followed by another decline during the Iron Age II.

The pattern of settlement we have detailed above is significantly different from the pattern presented in earlier studies of the site. These studies suggested, explicitly or implicitly, that the site at Gush Halav was continuously (or nearly continuously) occupied throughout the Bronze and Iron Ages, and until the modern era. Such continuity, if it did indeed exist, would indicate the prominence of the site of Gush Halav within the settlement system of the Upper Galilee. However, it is precisely the lack of such continuity, combined with the modest size of the settlement during most periods, which call into question the arguments for the centrality of Gush Halav in relation to other settlements in the Galilean highlands. Our revised reconstruction, suggesting that the site was occupied primarily during the peak periods of settlement in the Upper Galilee and that it was no greater than 2 ha in size during most phases (with the exception of a brief expansion during the Iron Age I), highlights Gush Halav's similarity to nearby sites such as Sufsaf/Safsufa, Sasa, 'Alma and Teitaba. These sites, located several km away from Gush Halav, are comparable to the latter both in size and in their geographical and environmental characteristics, and during certain periods may have even been larger than Gush Halav (Frankel *et al.* 2001, sites 290, 308, 314, 316; Wachtel, in preparation). Thus, Gush Halav was neither a central settlement in the eastern Upper Galilee nor a site with longer or more continuous occupation than others: rather, we argue, it was one of several sites of comparable size and status located in the fertile foothills of the Meron range.

Conclusions

There is great value in both systematic surveys yielding large sherd collections and spatial analyses of multiple salvage excavations conducted at sites covered by modern villages for delineating the settlement history of upland multi-period sites, in this case the site of Gush Halav. Our systematic survey facilitates a comparative diachronic analysis of different parts of the site as reflected by surface densities of datable pottery. Further spatial analysis of twenty small-scale salvage excavations yield additional data related to the site formation processes, and provide an independent tool to evaluate the survey results.

Despite the obvious limitations and difficulties in defining the size and boundaries of sites such as Gush Halav, these two methods contribute to a more accurate, both spatially and chronologically, valuation of site history and changes in its occupied area through time. This integrated method, never before applied in delineating the history of Galilean tell sites, suggests that the site of Gush Halav was inhabited infrequently during the main periods of occupation of the mountainous Upper Galilee (Early Bronze Age II, Middle Bronze Age II, Iron Age I and Iron Age II). Its size did not exceed 1–2 hectares

during most periods, with a possible exception during Iron Age I, when it probably reached ca. 3 hectares. Gush Halav thus emerges as one site in a chain of medium-sized sites that occupied the fertile areas northeast of the Meron Range during the Bronze and Iron Ages, rather than a large and central site as previously assumed.

Acknowledgements

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Bibliography

Adan-Bayewitz, D., (1997). 'The Tannaitic List of 'Walled Cities' and the Archaeological-Historical Evidence from Iotapata and Gamala', *Tarbiz* 66/4: 449–470 (Hebrew).

Aharoni, Y., (1957). *Settlement of the Israelite Tribes in Upper Galilee* (Jerusalem).

Amiran, R., (1953). 'Khirbet Tell er-Ruweisa in the Upper Galilee', *Eretz-Israel* 2: 117–128 (Jerusalem, in Hebrew).

Aviam, M., (1983). Gush Halav. *Hadashot Arkheologiyot* 84: 11.

Aviam M., (1999). Gush Halav. *Hadashot Arkheologiyot* 109: 10.

Aviam, M., (2001). 'The Ancient Synagogues at Bar'am' . Pp. 155–171 in J. Neusner, A. J. Avery-Peck, and B.Chilton (eds) *Judaism in Late Antiquity* (Leiden).

Aviam, M., (2004). *Jews, Pagans and Christians in the Galilee* (New York).

Cinamon, G., (2013). Gush Halav. *HA-ESI 125*

Dalali-Amos, E., (2015). Gush Halav. *HA-ESI 127.*

Damati, E. and Abu Uksa, H., (1991). 'Gush Halav', *Hadashot Arkheologiyot* 97: 11–13.

Faust, A. and Safrai, Z., (2015). *Settlement History of Ancient Israel: Quantitative Analysis in Light of Salvage and Initiated Excavations*, (Ramat Gan, Hebrew).

Frankel, R., Getzov, N., Aviam, M. and Degani, A., (2001). *Settlement Dynamics and Regional Diversity in Ancient Upper Galilee* (Israel Antiquities Authority Reports 14) (Jerusalem).

Getzov, N., (2010). 'Gush Halav', *Hadashot Arkheologiyot* 122.

Guérin, V., (1880). *Description Géographique Historique et Archéologique de la Palestine, vol. 3: Galilee* (Paris).

Hartal, M., (2006a). 'Gush Halav (A) [Final Report]', *Hadashot Arkheologiyot–Excavations and Surveys in Israel* (Internet Edition only) 118.

Hartal, M., (2006b). 'Gush Halav (B)', *Hadashot Arkheologiyot–Excavations and Surveys in*

Israel (Internet Edition only) 118.
Hartal, M., (2006c). 'Gush Halav (C)', *Hadashot Arkheologiyot–Excavations and Surveys in Israel* (Internet Edition only) 118.
Hartal, M., (2008). 'Gush Halav', *Hadashot Arkheologiyot–Excavations and Surveys in Israel* (Internet Edition only) 120.
Hartal, M., (2010a). 'Gush Halav [Preliminary Report, 15/09/2010]', *Hadashot Arkheologiyot–Excavations and Surveys in Israel* (Internet Edition only) 122.
Hartal, M., (2010b). 'Gush Halav [Preliminary Report, 11/10/2010]', *Hadashot Arkheologiyot–Excavations and Surveys in Israel* (Internet Edition only) 122.
Hartal, M., (2013a). 'Gush Halav (A) [Preliminary Report 11/11/2013]', *Hadashot Arkheologiyot–Excavations and Surveys in Israel* (Internet Edition only) 125.
Hartal, M., (2013b). 'Gush Halav (B) [Preliminary Report 18/11/2013]', *Hadashot Arkheologiyot–Excavations and Surveys in Israel* (Internet Edition only) 125.
Karmon, Y., (1960). 'Soil Utilisation in the Safed Area', *Bulletin of the Israel Exploration Society* 24/4: 210–228 (Hebrew).
Kohl, H. and Watzinger, C., (1916). *Antike Synagogen in Galilaea* (Leipzig).
Makhouly, N., (1939). 'Rock-Cut Tombs at El-Jish', *The Quarterly of the Department of Antiquities in Palestine* 8: 45–50.
Meyers, E.M., Meyers, C.L. and Strange. J.F., (1990). *Excavations at the Ancient Synagogue of Gush Ḥalav* (Winona Lake).
Muqaddasī, M., (2000). *The Best Divisions for Knowledge of the Regions [Ahsan al- Taqāsīm fī Ma'rifat al-Aqālīm]* (Reading).
Rappaport, U., (2006). *Yohanan of Gush Halav: From the Galilean Hills to the Walls of Jerusalem*. (Jerusalem, Hebrew).
Shadman, A. (2008)., 'Gush Halav', *Hadashot Arkheologiyot–Excavations and Surveys in Israel (Internet Edition only)* 120
Sabar, R. (2017)., *The Eastern Upper Galilee During the Hellenistic, Roman and Byzantine Periods: Settlement History of an Ethnic Border Region,* M.A. thesis, The Hebrew University of Jerusalem, (Jerusalem, Hebrew).
Vitto. F. and Edelstein, G., (1974). 'The Mausoleum at Gush-Halav', *Qadmoniot* 25/26: 49–55. (Hebrew).
Wachtel, I., (forthcoming). *The Upper Galilee during the Bronze and Iron Periods: Patterns of Settlement, Economy and Society*. Ph.D. dissertation, The Hebrew University of Jerusalem, (Jerusalem, Hebrew).
Wolff, S., (2009). A Sounding near the Summit of Gush Halav, *'Atiqot* 61: 41–50.
Yasur-Landau, A., Cline, E.H. and Pierce, G.A., (2008). 'Middle Bronze Age Settlement Patterns in the Western Galilee, Israel', *Journal of Field Archaeology* 33/1: 59–83.

A New Inter-Regional Trajectory for Interactions Between Northeast Africa and the Southwest Levant during the 4th millennium BCE

Samuel Atkins
Ben-Gurion University of the Negev, Israel

The 4th millennium BCE was a period of radical transformations taking place in northeast Africa and the southwest Levant. Early interactions between these regions, up to the present time, have been understood as occurring under the impetus of nascent centres of royal power in Upper Egypt. The present paper suggests that the importance of regional dynamics and localised identities have been undervalued. With the application of approaches drawn from sociology and colonial theory, a new trajectory has been derived accounting for the diversity in forms of relations that developed between northeast Africa and the southwest Levant during this period.

Introduction

Tomb U-J, the most lavishly equipped of the graves uncovered from Cemetery U at Abydos in Egypt, dates to the earliest phase of Naqada III (ca. 3300–3200 BCE). The tomb was found to comprise 12 chambers and an array of goods considered to be unique for such an early stage in the social formation of Nile Valley culture (Figs 1–2). The largest chamber (1), in the western corner of the tomb, housed the coffin itself along with what has been interpreted as a funerary shrine (Dreyer, 2011) containing personal items including an ivory sceptre, jewellery and cosmetic utensils. Among the other luxury items that survived were multiple sets of ivory game pieces, remains of wooden furnishings and boxes, and a range of stone vessels including an obsidian bowl with carved decoration. Most significantly for the present discussion, other chambers housed some 2000 ceramic vessels of which around 700 were originally identified as imports from the southwest Levant (Fig. 3). Although this provenance has been called into question for a large proportion of the vessels (Porat and Goren, 2001; *contra* McGovern, 2001), it remains that intensified cultural exchange is witnessed by these finds, at least on a stylistic level.

It has been suggested that the lavish display and deposition of luxury and imported goods witnessed by the contents of Tomb U-J had become an integral part of the

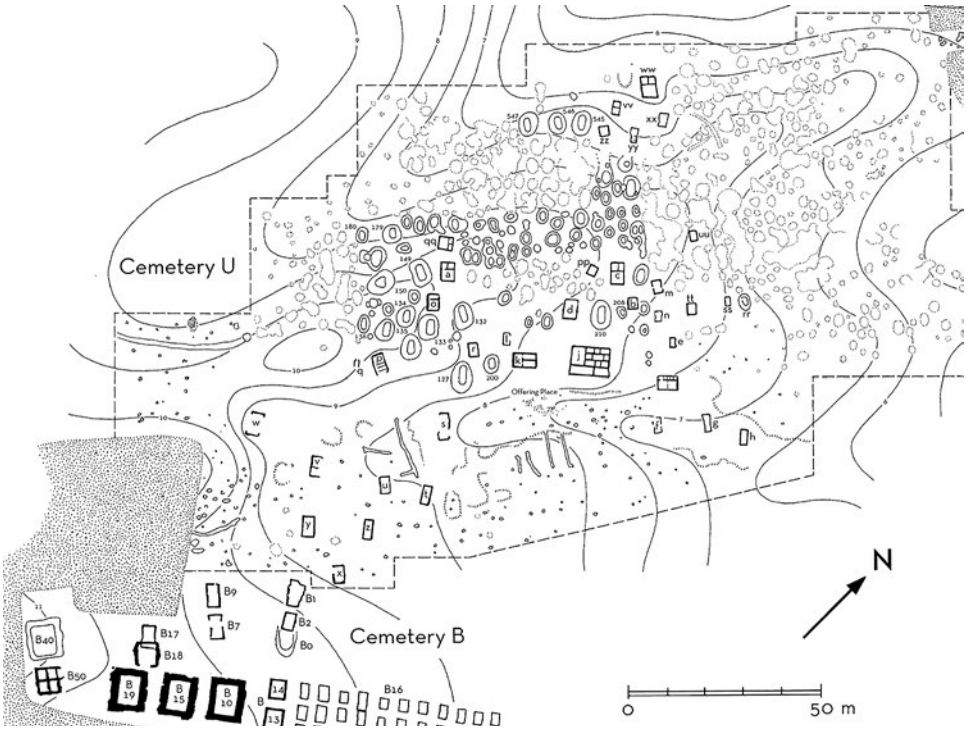

Fig. 1. The tombs of Cemeteries U and B, Abydos (*after* Dreyer 2011: Fig. 14.1).

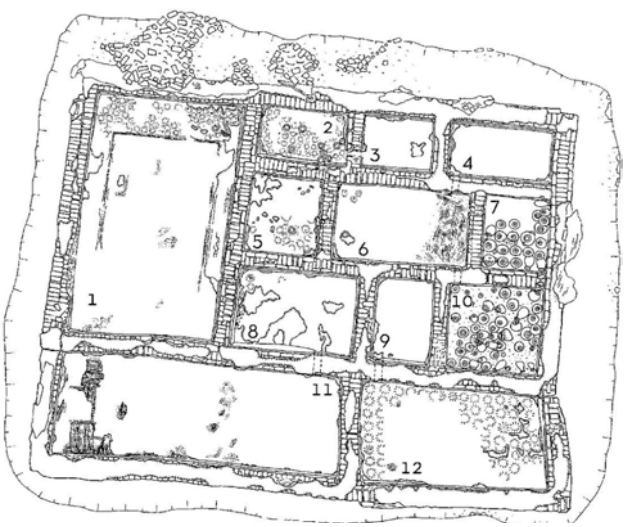

Fig. 2. Tomb U-j, Abydos (*after* Dreyer 2011: Fig. 14.3).

Fig. 3. 'Imported' wine jars from Chamber 10 of Tomb U-J, many of which may have been produced locally at Wadi Qena (*after* Dreyer 2011: Fig. 14: 7; Porat and Goren 2001; 2002).

funerary ritual of the inhabitants of the Nile Valley during the 4th millennium BCE; a complex practice which was at least stimulated if not initiated by the expansion of long-distance trade (Wengrow, 2006: 76). Tomb U-J represents something of a zenith in this activity, but the earliest evidence for interregional contact extends as far back as the Chalcolithic. The shells of a bi-valve mollusc, Chambardia Rubens Acruata, indigenous to the Nile basin, has been attested at sites in the southwest Levant from the Chalcolithic into the Early Bronze Age (Bar-Yosef Mayer, 2002; Sharvit *et al.* 2002; Braun, 2011; Van den Brink and Braun, 2008). Such were most likely prized for their ornamental aesthetic appeal, with their attractive mother-of-pearl interior shell (See Fig. 4; Goren and Fabian, 2002). Mace-heads found in the southwest Levant have also testified to Chalcolithic contacts; one from Gat Guvrin made of 'Egyptian' gabbro (Braun, 2011). In addition, ivory figurines from Abu-Matar, Beer Sheva, made of hippopotamus teeth are also indicative of these early contacts (Perrot 1955; 1959). In Egypt, there are a smaller quantity of Levantine

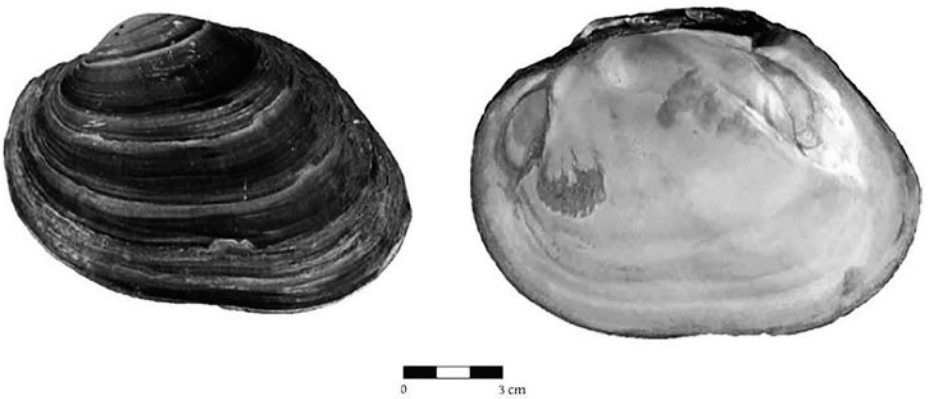

Fig. 4. Chambardia Rubens Acruata: modern example (*after* Braun 2011: Fig. 12.1).

imports represented, than northeast African imports in the southwest Levant. Although questioned by some researchers, ceramic finds from the earliest levels at Buto have even been suggested to indicate an early Levantine presence in Lower Egypt (Yekutieli, *pers. comm.*; Braun, 2011; Faltings, 2002; Porat, 1997).

These sparse and equivocating indicators of exchange during the Chalcolithic gave way to a diverse and extensive corpus of data from sites in both regions during the EBI, to such an extent that comments can be made regarding sub-regional trajectories and intraregional networks. Recent expeditions by the Jagiellonian University at sites in the Nile Delta have culminated in a new approach examining this area independently of inappropriate socio-cultural assumptions drawn from analyses of Nile Valley cultural expressions, along with the associated terminological baggage. The site of Tell el-Farkha in the eastern Nile delta, has emerged as an administrative and cultic centre during the Early Bronze Age (Cialowicz, 2011: 763). Evidence for extensive beer production and administrative control of goods entering the delta have led to discussion of the site as an *entrepôt* for this region (Cialowicz, 2011; Cichowski, 2008; Chlodnicki, 2008: 498). Ritual knives and a wealth of gold and ivory figurines have been recovered in the vicinity of proposed 'shrines' dated to the start of the Naqada III. Also present at the site were a range of EB1a2 and EB1b1 Erani C Levantine forms, as well as some 'hybrid' types such as vessels with incorporated wavy-ledge handles.

The earliest ceramic material in Canaan bearing witness to northeast African interaction comes from a few sites in the southwest Levant and seems to date to the EBIa. Naqadan and Naqadan-styled pottery of this period has been recovered from Taur Ikhbeineh and Site H (Oren and Yekutieli, 1992;

Gophna, 1995: 49–51). One study by Eric Kansa has suggested that even in this early period, there had been a minimal migration of Nilotic kin-groups into the region, who had become largely integrated with the local population (Kansa, 2001: 268). It seems that the north Sinai also became an active channel of communications between two regions in this phase with increased settlement activity (Yekutieli, 2002; Oren 1973; 1989). By the EBIb2 period, some sites in Canaan seem to demonstrate a much stronger northeast African presence. Large scale fortifications have been discovered at Tell es-Sakan at what may be a site of purely Egyptian character (Miroschedji and Sadeq, 2005; Braun, 2012: 46). Large quantities of Naqadan ceramics have also been recovered from Tel Erani, Small tel Malhata, Halif Terrace and Afridar among others (Yeivin, 1961; Kempinski and Gilead, 1991; Brandl, 1989; Andelkovic, 1995; Ilan, 2002; Levy *et al.*, 2001; Golani, 2014). By the close of Naqada III and the onset of the first Dynasty in the late EB Ib2, we may infer a formal administrative involvement of northeast Africans in the southwest Levant established by the testimony of royal *serekhs* and other administrative paraphernalia that have been recovered from sites across Canaan. Nine royal *serekhs* were recovered from Lod, some of which probably refer to Narmer's predecessor, Ka, or another local ruler (Van den brink and Braun, 2002).

A number of different approaches attempt to understand 4th millenium northeast African interactions with the southwest Levant. The goal of this paper is to present a summary of the range of these approaches and, through taking an interregional approach incorporating some useful models drawn from the colonial theory of Chris Gosden and Gil Stein, a new trajectory and explanation is offered. Finally, some new directions are suggested for future research.

Recent approaches

Military Imperialism

The concept of there having been a military aspect to the northeast African presence in the southwest Levant has been common among scholars in recent years following earlier interpretations (eg. Yadin 1955; Yeivin 1960). Both Campagno (2004; 2008) and Yekutieli (2008) have argued for the use of direct military force by invasive northeast Africans as being a part of a conflict of ethnicity and an Egyptian ideology of groups 'other' than their own, as is witnessed on the Narmer Palette and other textual and pictographic sources. Andelkovic contested that the employment of military force on a large scale was not required, but was used on a small scale to subdue local populations in the southwest Levant (Andelkovic, 2002). Yekutieli, due to the lack of Levantine imports in Egypt during the EBIb2 period, has suggested that an

Egyptian colony conducted raids for the obtainment of slave-labour forces (1998). The use of negative evidence is problematic and should always be handled cautiously, and yet the stark observation remains that in over 50 years of research no significant evidence of direct military conflict has yet been found from the EB I southwest Levant other than a few 'Egyptian' or local military implements scattered across sites in the region (Andelkovic, 1995: 70; Avrutis, 2012: 227), and uncertain destruction layers at Ashqelon and Erani (Yekutieli 1998). The royal *serekhs* of Narmer, Ka and other unidentifiable rulers which have been recovered from other sites such as Lod, Palmahim Quarry, Arad, Tel Halif, Horvat Illin Tahtit and Small Tel Malhata (Van den brink and Braun, 2002; Braun, 2011; Amiran, 1974; Amiran *et al.*, 1983) do not prove any military involvement. They only testify to the waxing influence of evidently powerful individuals from northeast Africa.

Economic Colonialism

Other scholars have taken approaches rooted in 'world systems' theory and 'core-periphery' dynamics of interregional socio-economic relationships as originally conceived by Wallerstein, who drew upon earlier concepts of dependency theory, but which have undergone several further adaptations in application to ancient societies (Wallerstein 1974; 1980; 1989; Frank 1966; 1967; 1969; 1993 Schneider 1977; Rowlands 1987; Kohl 1987; Edens 1992; Algaze 1993). These concepts were conveniently employed in the understanding of the EBI 'Egyptian' presence in Canaan as a form of state-sponsored colonial enterprise (Oren 1989; Schulman 1989; Porat 1992; Brandl 1992; Levy *et al.* 1997; Andelkovic 1995; 2002; Van den Brink & Levy 2002; Gophna & Van den Brink 2002; Miroschedji 2002; Yekutieli 2004; Miroschedji & Sadeq 2005). Most of these elaborations upon the premise of an essentially exploitative asymmetrical economic relationship have hinged upon the discovery of what Braun has referred to as 'tier 1' in his four-tiered hierarchy of northeast African presence at sites in the EBI southwest Levant which seem to demonstrate an exclusively 'Egyptian' occupation (eg. Tell es-Sakan and En Besor; Braun 2004; 2011; 2014). These have been presented by some as a colony with territorial boundaries (Porat 1992; Brandl 1992; Miroschedji 2002). The *serekhs* scattered across Canaan and the bullae from En Besor are used as evidence of 'Egyptian' state administration and control of trading relationships (Schulman 1992; Porat 1992; Andelkovic 1995; Miroschedji 2002; Van den Brink & Levy 2002; Yekutieli 2004; Miroschedji & Sadeq 2005). The main problem with these 'core-periphery' applications is that as yet little evidence has been uncovered supporting a view of large scale exploitative export of goods from Canaan to northeast Africa during the EBIb2. One would expect to observe evidence of the large-scale export of surpluses such as grain, wine, olive oil, copper, livestock,

or (as Yekutieli 1998 has suggested) slaves. Notwithstanding the latter two being difficult to locate archaeologically, little evidence exists of such economic exploitation, quantities of Levantine imports in northeast Africa seemingly being for the most part small in scale.

Balanced Commercialism

A third approach has been to view the relationship between the two regions as that of gradually developing reciprocal trade without the expressly exploitative colonial dynamics outlined above (Ben-Tor 1991; Braun 2002; Kansa 2001; Kansa and Levy 2002). Contacts are suggested to begin with early exchanges during the Chalcolithic and EBIa and reach a zenith towards of end of the EBIb (Rizkana and Seeher 1987;1989;1990; Faltings 2002; Van den Brink & Levy 2002; Braun 2002; Braun 2011). While more concurrent with the diversity of social interactions associated with the northeast African contact and presence at sites in the southwest Levant during the 4th millennium BCE, these approaches still prove problematic when attempting to understand sites such as Tel es-Sakan (as has been suggested by Braun 2014). The large fortifications at this site would have required the deployment of a large workforce hardly at the disposal of the small kin-based groups depicted by Kansa and Levy (Braun, *in press*; Kansa 2001; Kansa and Levy 2002).

Regional Approaches

More recently, a number of scholars have taken the approach of viewing the northeast African presence in the southwest Levant within the context of long-term regional and sub-regional developments (Macynska, 2008; 2011; 2013; Kohler 2008; Cialowicz, 2011; Guyot, 2011; Braun, 2014). A key in the emergence of this approach has been the growth in understanding of developmental trajectories at sites in the Nile Delta independent of the more widely known sites in the Nile Valley such as Abydos and Hieronkonpolis. Lending further credence to earlier claims concerning the possibility of competitive factional northeast African involvement in the southwest Levant, excavations at Tel el-Farkha in the Nile Delta have revealed a large economic centre active from Naqada IIB/C and by no means culturally uniform with Nile Valley cultures, or even the centres of Maadi or Buto (Chlodnicki 2008; Cialowicz 2011; Macynska 2008; 2013: 58). These approaches have tended towards a view which is dismissive of core-periphery dynamics in earlier interaction phases due to the apparent socio-cultural disunity and even competition between sites in northeast Africa at least up to the later Naqada II (Macynska 2011: 773; 2013: 210–211). Scholars have highlighted a problem in that previous researches have tended to view southwest Levantine society

during the EBI period as somehow less 'complex', or a periphery to Egypt's core, when the evidence from these regions suggests no extreme imbalance in socio-economic development (Macynska 2011: 773; Braun 2014: 45–46).

These latter approaches have their own problems in that they have tended to be Egypto-centric, at least in terms of data if not theory, and few have provided extensive analysis of the trajectory of social developments in the southwest Levant. But the view of interrelations between these regions as a meeting of fluid and dynamic regional socio-economic systems, with often competitive and disunited sub-regional factions, has evidently led to fruitful avenues of new research in recent years. An emphasis on variety and competition in the nature of contacts forces archaeological research to focus on observable contact zones in the record, instead of relying heavily on theoretical rhetoric and embroidered storytelling. An interregional approach is taken here with the addition of the following supplementary theoretical approaches which may be usefully employed in understanding the form of contacts in archaeologically observable contact zones. The following two theoretical approaches are explained here alongside their expected archaeological signatures when applied to the context of northeast African and southwest Levantine interactions during the 4th millennium BCE.

Gosden's 'Middle Ground'

Gosden's 'middle ground' is one of three models he suggests as a more nuanced understanding of colonial relations in general (2004). Drawing upon concepts previously deployed by Irad Malkin (eg. 1998), Gosden defies the notion of colonialism as a culturally destructive process in all instances. Such colonial encounters in which incomers have wantonly destroyed prior cultural systems by force without recognition of value are confined to what Gosden describes as '*Terra Nullius*'. Gosden suggests that these kinds of relations, although common during the early modern period, are not witnessed in any record of antiquity. He suggests that almost all forms of colonial relations in ancient societies have been a combination of what he calls 'colonialism within a shared cultural milieu' and 'middle ground' relations. It does not do justice to the complexity of Gosden's argument to present the former of these two as a straightforward antithesis of '*Terra Nullius*', but in that the latter is the present focus it will suffice to elaborate here that 'colonialism within a shared cultural milieu' describes a form of colonial relations established upon the dissemination of cultural capital created by the 'core' society that becomes dominant through elite groups and involves no movement of people by necessity. The 'middle ground' describes situations in which negotiated cultural dynamics are formed as radically conflicted socio-cultural systems of incomers and locals confront one another. No military domination or oppression is involved

in this scenario as both locals and incomers attempt to develop understanding of the social relations of the other. Gosden suggests that as these conflicting but flexible identities attempt to find a negotiated socio-cultural equilibrium, new structures of understanding are formed. These situations are proposed to be vibrant and innovative, existing in a fragile tension between two worlds as they collide in new 'creole' or 'hybrid' expressions of identity.

Expected Archaeological Signatures

'Middle ground' relations should result in considerable 'hybridisation' of cultural forms such as has been the testimony of the ceramic corpus recovered from many EBI sites in the southwest Levant (Braun & Van den Brink 2003; Braun 2005; Braun 2014). A key in determining the appropriateness of Gosden's 'middle ground' lies in determining ethnic and socio-cultural boundaries. These are difficult to discern, but have been the subject of fruitful research in the field (Kansa 2001; Kansa & Levy 2002; Braun 2005). The only way these boundaries and their state of flux (or lack thereof) may be determined is by examining cultural formation in contact zones.

The 'Trade Diaspora' Model

The concept of a 'trade diaspora' was conceived by Cohen (1971) and defined as 'a nation of socially interdependent but spatially dispersed communities'. The concept has been developed and applied in a diversity of circumstances but the central tenets of the model have remained similar (Curtin 1984; Stein 1999; 2002; 2005; Spence 2005). The model essentially describes the dispersal of specialised merchant communities from their homeland into a foreign region which maintain a culture distinct from their host communities, yet are organised in their social and economic ties with partner trade outposts and maintain a strong affinity of identity with one another. Acting as 'cross-cultural brokers' (a term coined by Curtin 1984), the groups would attempt to maintain a monopoly on their specialist commercial enterprises.

Despite the specificity of this definition, the 'trade diaspora' model has proved to be a very flexible one applicable to a range of situations in which incomers held positions diversely from an ostracised but useful underclass such as the Jews of medieval Europe, to equal but autonomous communities, to dominance over their host communities after the European colonial outposts of Africa and Asia (Curtin 1984: 5–6; Stein 1999: 49; 2002: 32–34). The endurance of any particular trading diaspora depends on the ability of incomers to maintain a distinct socio-cultural and ethnic identity to locals and thus continue to secure their monopoly on cross-cultural brokerage. Where the diaspora becomes too integrated with the indigenous population, it may be said generally to lose functionality. Equally,

where the cross-cultural brokerage is effective and trade prosperous, it may work itself out of existence through local adoption of incoming practices. Any number of hybridizations, or negotiated cultural dynamics similar to those in Gosden's 'middle ground', may exist between these two extremes and have varying effects on the prosperity of the diaspora.

Expected Archaeological Signatures

Evidence should indicate a prevalence of distinctive incoming material culture across sites in the host region. To evidence a diaspora and not simply trade, it would be expected that architectural styles, domestic practices and burial rites might be imported from the homeland and maintained. Clear boundaries between incoming and local communities would be expected to be witnessed at intra-site levels, alongside a cohesion of culture and identity between diaspora communities across the region. Cultural blends and 'hybrid' forms would be more likely to be confined to local tastes; one would expect this kind of activity to be avoided by incomers conscious of endangering their monopoly on cross-cultural brokerage.

A Note on Chronology

Before examination of the present data, recent advances in radiocarbon dating necessitate a clarification of the chronology adopted for the present research (Table 1). New research has suggested that the Naqada I phase began around the 38th century BCE, 200 years later than previously supposed (Dee *et al.* 2013; 2014). Conversely the transition from the Chalcolithic to the EBI has been shifted backwards with new radiocarbon techniques into the first half of the 4th millennium BCE, although the authors have qualified their research by maintaining that results show considerable intersite variation (Braun *et al.* 2013). As Yekutieli's (2006) chronology used at Tell Erani held transitions between phases to be in the centre of these more recently established ranges, it continues to be used here, with only two minor modifications. Firstly, the onset of the EBI is extended back to 3700 BCE to account for the variance at sites with considerably earlier resultant dates. Secondly, the onset of EBII is placed at 3000 BCE accounting for the many new calibrated dates for the earliest EBII phases that fall inside the 3rd millennium BCE (Regev *et al.* 2012). A rough outline for Nile Delta cultural formation has also been included here (after Macynska 2011; 2013).

The Development of Interactions

The emergence of interactions between northeast Africa and the southwest Levant was evidently slow in development and intertwined in complex, long-term transformative socio-cultural processes taking place in both regions. Largely, the data for Late Chalcolithic and EBIa contacts agrees

<table>
<tr><th>x</th><th>Southern Levant</th><th>Upper Egypt</th><th>Lower Egypt</th></tr>
<tr><td rowspan="2">4000</td><td rowspan="2">Late Chalcolithic</td><td rowspan="2">Badarian</td><td rowspan="2">Fayumian/Merimde/
El Omari Cultures</td></tr>
<tr></tr>
<tr><td rowspan="2">3800</td><td rowspan="2">Naqada IA</td><td rowspan="6">Early Lower Egyptian Chronology (LEC)</td></tr>
<tr></tr>
<tr><td rowspan="3">EBIa1</td><td>IB</td></tr>
<tr><td rowspan="2">IC</td></tr>
<tr><td rowspan="2">3600</td></tr>
<tr><td>IIA</td></tr>
<tr><td rowspan="3">EBIa2</td><td>IIB</td></tr>
<tr><td>IIC</td><td rowspan="2">Middle LEC</td></tr>
<tr><td rowspan="2">3400</td><td>IID1</td></tr>
<tr><td rowspan="3">EBIb1</td><td>IID2</td><td rowspan="2">Late LEC</td></tr>
<tr><td>IIIA1</td></tr>
<tr><td colspan="2">Naqada IIIA2</td></tr>
<tr><td rowspan="2">3200</td><td rowspan="3">EBIb2</td><td colspan="2" rowspan="2">IIIB</td></tr>
<tr></tr>
<tr><td colspan="2" rowspan="2">IIIC/Dynasty 1</td></tr>
<tr><td>3000</td><td>EBII</td></tr>
</table>

Table 1. A new chronology for EBI Egypto-Levantine interactions (*after* Yekutieli, 2006; Braun *et al.*, 2013; Dee *et al.*, 2013; Maczynska, 2011; 2013).

with previous interpretations that sporadic examples of imports testify to the fluid movement of nomadic groups across the north Sinai, but no large-scale commercial interest or exchange (eg. Miroschedji 2002; Van den Brink & Levy 2002). It is likely that most of the exchange in these early phases followed a 'down-the-line' model for trade carried out between elites via nomadic groups acting as intermediaries across the landscape as has been illustrated by the presence of imported mace-heads scattered across sites in the southwest Levant (Braun 2011: 108; Renfrew & Bahn 2008: 375). The social and ethnic origins of intermediaries is difficult to ascertain but the presence of locally made Levantine 'V-shaped' pottery at Buto I suggests that craft specialists with knowledge of imported manufacturing techniques were present at the site during a Chalcolithic-EBI transitional phase (Faltings 2002). Previously supposed Canaanite populations at Maadi in the Chalcolithic can no longer be viewed as an accurate representation, with all ceramic evidence from the site most likely synchronous with an early EBIa phase (Braun &

Van den Brink 2008: 656–657). Supposed 'Canaanite' architecture at the site can be explained by conceptual transmission with no exact parallels being known from the southwest Levant, while those closest are from EBIa contexts (Perrot 1984; Hartung 2004; Wengrow 2006: 84–87; Braun & Van den Brink 2008: 657–658). The 'ware V' (the term applied by excavators to indicate imports from the southwest Levant) pottery is suggested to be more closely analogous to early EBI assemblages (at eg. Afridar) with features such as strap-handles, loop-handles and wavy-ledge handles being prevalent (Van den Brink & Braun 2008: 656–657). The subterranean structures have also been shown to bear more convincing comparison with apsidal house forms from the EBI central and northern Levant than with the more labyrinthine subterranean architecture of the Beersheva valley (Perrot 1984; Hartung 2004; Wengrow 2006: 84–87; Van den Brink & Braun 2008: 657–658). The present author is in basic agreement with these reassessments of the data from Maadi, with the qualification that a short late Chalcolithic phase is not precluded by any of these findings. No finds clearly indicative of a Late Chalcolithic phase (eg. v-shaped bowls, cornets etc. as at Buto) have been recovered. Excluding one 5th millennium outlier, six radiocarbon dates from Maadi ranged between the mid-39th and 36th centuries BCE (Rizkana and Seeher 1990: 104). When taking into account the bias caused by 'old-wood effect', these dates agree well with the suggestion that the occupation at Maadi was primarily synchronous with an early EBI phase in the southwest Levant. In this way, the present author agrees with Watrin in placing the earliest phase at Buto 'several generations' prior to the first phase at Maadi (Watrin 2007: 9).

Most of the material associated with the southwest Levant from Maadi and Wadi Digla may be confidently dated to the EBIa, with an occupation that is suggested to have lasted around 300–350 years beginning at the close of the Chalcolithic (Hartung 2004: 353). The 'Palestinian' imported ceramic assemblage at Maadi and Wadi Digla is most closely analogous to early EBI assemblages at southwest Levantine sites such as Afridar with its wavy-ledge handles, high loop handles and strap handles (for comparison see Rizkana and Seeher 1987: 31, Plates 72–77; vs. Golani 2008: Fig. 9.12–15; Khalaily 2004: Fig. 10: 1–4, Fig. 17: 1–5; Braun & Gophna 2004: Fig. 22). Since it is now evident that an interregional exchange system in tabular scrapers existed into the Early Bronze Age alongside continued use of Canaanean blades in the southwest Levant, there is no reason to assume that lithic finds at Maadi previously associated with the Chalcolithic should not be viewed as further evidence of EBI interactions (Rosen 1997: 109). As stated above, curvilinear architectural features at Maadi find their closest correlates in the southwest Levantine Early Bronze Age also witnessed at Afridar (*e.g.* Area M – Golani 2008: Plan 3; Area F – Khalaily 2004: Plan 3; *contra* Hartung 2004: Fig.1).

Fig. 5. The fortifications at Tel Erani, Area N, following excavations in 2013 (*after* Yekutieli 2015).

Actual commercial exchange began around the mid-4th millennium BCE as evidenced by regular (possibly seasonal) contacts between local and incoming groups at Taur Ikhbeineh (Oren & Yekutieli 1992: 368–371). It was suggested by the site's excavators, on account of the presence of locally manufactured pottery of both northeast African and Levantine traditions, that both Egyptian and Levantine ceramic workshops may have been working in tandem at the site (Oren & Yekutieli 1992). The presence of the Chambardia shells continued at other sites such as Palmahim, Horvat Ptora and Site H, Nahal Besor (Wadi Ghazzeh), in the EBIa (Milevski & Baumgarten 2008: 615; Braun 2000). Very few ceramic imports have been recovered from these sites with only a few present at Site H, and possibly some Egyptian-inspired wares present at Nizzanim (Braun 2011: 108; Gophna 1992: 388–389; Yekutieli & Gophna 1994: 172). The establishment of Ashqelon-Afridar as a centre for copper processing in this period, along with its strategic placement on the Mediterranean littoral, is also indicative of the opening of long-distance exchange relations along pack-donkey routes through the Sinai (Golani 2004; 2008; 2014; Khalaily 2004; Baumgarten 2004; Braun and Gophna 2004). With additional copper finds Lachish, trade in metals and the well-established import of Chambardia Rubens to southern Canaan from Chalcolithic phases

may have acted as motivations for exchange (Milevski & Baumgarten 2008: 615; Tuffnell 1958; Braun 2011: 105; Braun & Van den Brink 2008; Commenge & Alon 2002; Bar-Yosef Mayer 2002).

Parallel social developments took place in the mid-4th millenium at sites in both the southwest Levant and the eastern Nile Delta with the establishment of regional centres of production and distribution. Tell el-Farkha may have functioned as a specialised centre for beer production and early commercial exchanges both with the east and southern centres situated in the Nile Valley as early as EBIa2 (Cialowicz 2012; Cichowski 2008). The specialised centre at Afridar may have been complimented by similar developments at Tel Erani; a very large, possibly urban site in the EBIb which has also returned material from the Chalcolithic and EBIa periods (Brandl 1989; 1992; Kempinsky & Gilead 1991; Yeivin 1960). There are as yet no clear stratigraphic sequences from these early phases at the site, but renewed excavations may provide further information (Yekutieli 2015).

Assertion of Local Identities in the EBIb1

The ceramic corpus of the Erani C phase so prevalent at sites across the southwest Levant during the EBIb1 has been characterised by scholars as a continuation in the diversification of local traditions (Yekutieli 2006; sites with Erani C material: Hartuv – Mazar and Miroschedji 1996; Afridar – Golani 2008; Lachish – Tuffnell 1958; Amaziya – Milevski *et al.* 2012; Horvat Ptora – Milevski & Baumgarten 2008; Halif Terrace – Levy *et al.* 1997; Azor – Golani & Van den Brink 1999; Nesher Ramla – Avrutis 2012; Taur Ikhbeineh – Oren and Yekutieli 1992). More intensive study of regional variations in Erani C assemblages is needed to ascertain whether there were competing centres of production for the material and yet it is clear that northeast African elements seem to have played no part in its stylistic formation (Yekutieli 2006; Braun 2011: 110–112). The diminishing of Naqadan pottery and hybrid forms at Taur Ikhbeineh suggests that the Erani C phase represents a period of the assertion of expressly local identities in the southwest Levant.

In northeast Africa, receipt of foreign influence was felt in stylistic dynamics which included the continued and increased use of the co-opting of the Levantine ledge-handle, later to become an essential part of the Naqadan ceramic corpus (Braun 2011). The influence of southwest Levantine material was just one element in a system of complex and varied creative processes occurring in the region as Nile Valley cultural traditions began to become interspersed in material culture at sites in the Fayum and Nile Delta, resulting in hybridized funerary practices at sites such as Minshat Abu Omar and Kom el-Khilgan (Macynska 2013: 90–98). At Tel el-Farkha, the first Naqadan residence on the Western Kom existed alongside a large structure of Lower Egyptian architectural tradition on the Central Kom

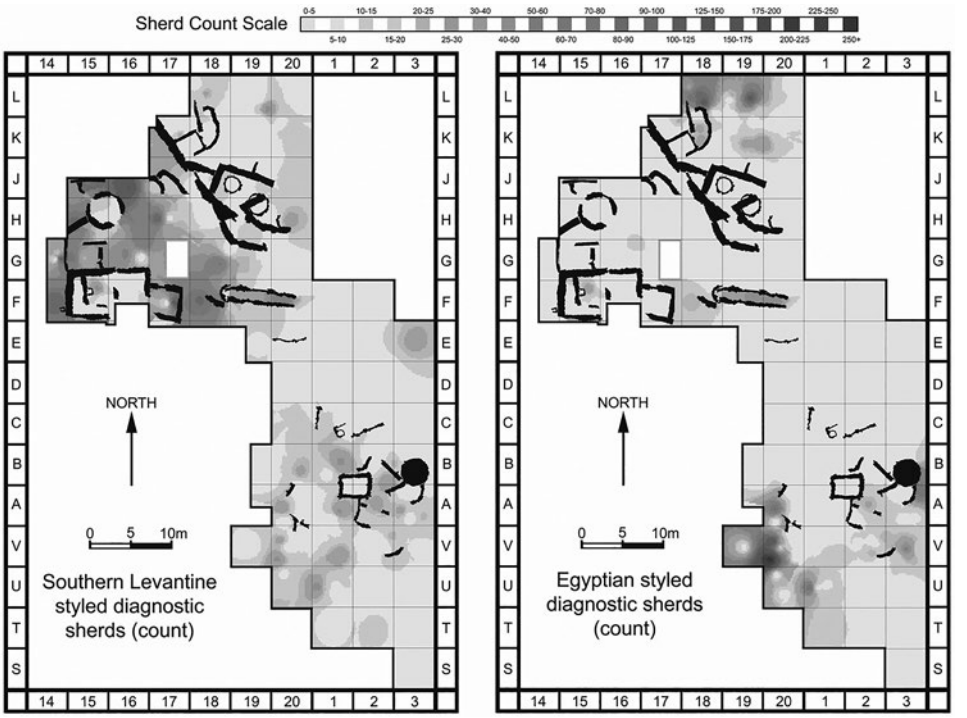

Fig. 6. Spatial distributions of south Levantine and Egyptian styled pottery at Tel Halif Terrace (*after* Kansa *et al.* 2002: Fig. 5).

(Cialowicz 2012). Administrative and social institutions are indicated by this in the handling of increasing quantities of imported material from the southwest Levant. It is during the Erani C phase that Farkha probably adopted a formalised role as intermediary in long-distance exchange between the Levant and Upper Egypt.

The lavish funerary display of Tomb U-j from this phase at Abydos represents not only a progression in the assertion of distinctive Upper Egyptian elite burial tradition, but also the role of exotic imported material as a means of exhibiting the authority commanded by the deceased. That this authority may have been partially projected is suggested by the questionable possibility that some of the 'imported' vessels in the tomb were produced locally (Porat & Goren 2001: 481; 2002; *contra*. Hartung *et al.* 2015; McGovern 2001). That a ritual symbolism played a part in shaping Upper Egyptian demand for southwest Levantine imported material is beyond contradiction, and the finds from U-j clearly demonstrate that such long-distance exchange was well-established by the Naqada III period. Also apparent are variations in material culture even within Nile Valley cultures as is witnessed by the recently discovered animal cemetery at Hierakonpolis (Friedman 2011). The concept of 'Egypt'

as a discrete socio-cultural unit in the Naqada IID/IIIA period must now be abandoned in favour a more nuanced and complex understanding.

The EBIb2 Northeast African Presence in Canaan: Testing New Models of Interaction

Gosden's Middle Ground and a Dysfunctional Trade Diaspora

The incursion of northeast African groups into the southwest Levant evidently took place suddenly at the close of the Erani C phase. The foundation and rapid development of a massive fortification system at Tel es-Sakan, as well as the establishment of a northeast African residence at En Besor and the possibility of a further northeast African centre at Tel Ma'ahaz, have indicated that the northeast African venture into the region was large-scale at its outset (Miroschedji *et al.* 2001; Gophna 1995; Gophna & Gazit 1985). The lack of hybrids recovered from Sakan, and only a very few 'Egyptianized Canaanite' holemouth jars from En Besor, suggests that a distinct northeast African socio-cultural identity was maintained at these two sites. At Tel Erani and Tel Halif Terrace, where an enclave of northeast Africans is believed to have been present alongside a local Canaanite population, a range of hybridized vessels has been found believed to have been produced by both locals and incomers (Kansa 2001; Kansa & Levy 2002; Kempinsky & Gilead 1991; Brandl 1989). Only at Halif Terrace has it been possible, through spatial distribution analysis of the ceramic material, to show that locals and incomers were almost certainly living side by side without clearly demarcated social boundaries (Fig. 6; Kansa 2001; Kansa & Levy 2002). Given the presence of such hybrid forms at a number of other sites including Ashqelon-Afridar (Golani 2014: 122), Amaziya (Milevski *et al.* 2014: 714), el Maghar (2010: 9), Palmahim (Braun 2000: 26–27), and Nesher Ramla (Avrutis 2012: 116–118,123), it does not seem unreasonable to suggest that social boundaries were likely to have become more fluid on the fringes of the northeast African presence in Canaan.

This has a few implications for the nature of the northeast African presence. Firstly, a decay in control over social boundaries between local and incoming groups suggests that the settlements at Tel es-Sakan, En Besor and possibly Tel Ma'ahaz were more organised incursions than the enclaves at Tel Erani, Tel Halif Terrace and possibly other sites. As has been suggested by researchers at Tel Halif Terrace, enclaves may have been occupied by kin-based mercantile groups with varied motivations for migration some of which may have been economic (Kansa 2001: 106). Secondly, varied localised relations between incoming and local communities outside the main formalised incursions at Tel es-Saken and En

Besor, at which a clear ethno-cultural identity seems to have been maintained, suggests that the enclave communities at least at Tel Halif Terrace were operating outside of official sponsorship by these centres. Thirdly, if these groups were working independently, taking advantage of the opportunities afforded by fluid trade networks through the north Sinai, then their activities would most likely have been disruptive to the social synthesis of those that founded Tel es-Sakan. What is tentatively suggested in this case is that the organised foundations at Tel es-Sakan and En Besor were established as a controlled economic venture; a trade diaspora. But that negotiated socio-cultural dynamics between unsponsored migrants and locals on the fringes of northeast African influence, in a manner best understood through Gosden's 'middle ground', caused a gradual disintegration of the exclusive exercise of trade conducted by the diaspora. The northeast African presence in the southwest Levant may have been terminated as a result of economic unviability due to dysfunction in the control of social relations.

Who Built the Walls of Tel es-Sakan?

The northeast African presence in the southwest Levant has generally been explained by scholars in the context of the 'Naqadan expansion' and 'cultural unification' of Egypt. The premise behind such approaches is that the momentum of expansion in dominance of Upper Egyptian culture carried forward into an occupation in southern Canaan under the leadership of 'Dynasty 0 rulers' such as Narmer (eg. Yekutieli 2004: 163; Andelkovic 2011: 30; Braun 2011: 112). But this view is problematic. The authority exercised by the Dynasty 0 rulers is dubious with tomb contexts for these figures being much more modest in scale than for the owner of Tomb U-j or even U-k (Dreyer 2011; Wengrow 2006: 256; Hartung 2001: Abb 1; Petrie 1901; Kaiser & Dreyer 1982; Dreyer 1990). Evidence evincing the power wielded by these individuals is largely limited to symbolic and iconographic pieces such as the Narmer and Scorpion mace-heads and the Narmer Palette from Hierakonpolis (Kohler 2002; Quibell 1898; Millet 1990; Wengrow 2006: 41–43; Adams 1974: 5–13), as well as the widespread distribution of *serekh* signs both at sites in the northern Nile basin and the southwest Levant. In earlier periods, *serekh* signs were used at sites in the Nile Valley in the designation of elite funerary goods but later became attached to royal functions in the redistribution of goods (Wengrow 2006: 208–211; Van den Brink 1992). The distribution of *serekhs* such as those spread across sites in Canaan should not be understood as a demonstration of the exercise of power by a particular ruler over the regions in which these artefacts are found, but rather as a statement of the wealth and influence of that ruler in distributing elite goods over long distances.

The wealth of seals recovered from En Besor can be more appropriately explained as local formalised administration rather than the oversight of an Egyptian state. The large-scale construction projects at Tel es-Sakan were most

likely sponsored by the evidently wealthy elites who were well-established at Tell el-Farkha during this period (Cialowicz 2008; 2012a; Braun 2014: 47). This latter site was ideally situated to engage in a large-scale economic venture. Tell es-Sakan would establish profitable exchange relationships with expanding south-Levantine centres such as at Ashqelon-Afridar and Tel Erani. The exact relationship between elites in the Nile Valley and Delta is impossible to determine at present, although the large scale administrative-cultic centre which continued to function until the mid-1st Dynasty, with its abundance of figurine deposits, is again suggestive of regional variability rather than the centralised control of a pristine Egyptian state.

A Final Dilemma

A problem which has remained elusive to researchers is what the actual substance of exchange was during the late EBI that could have motivated the establishment of a 'trade diaspora'. If there was any exploitative economy functioning in the form of bulk goods exchange via the northeast African centre at Tel es-Sakan, it has remained invisible up to the present time. Yekutieli has explained this with the suggestion that the substance of exchange may have been human commodity; a late EBI slave-trade (Yekutieli 1998). While this might usefully provide an explanation for the workforce required for and motivations behind the construction of large-scale architectural features at Tel es-Sakan and Tel Erani (Fig. 5; Yekutieli 2015), the argument should be corroborated by further evidence of conflict and resistance. Most of the evidence so far available for such resistance is only implicit. Some cultural encounters between locals and incomers visible in the record, such as at Halif Terrace and possibly also Taur Ikhbeineh, point to peaceable and creative interaction processes.

More fruitful avenues of exploration in this area may be found in the possibility that technological exchange was a motivation for northeast African settlement in Canaan. The innovation of plough agriculture has been suggested as one such enviable technological advancement which had its origins east of Africa (Wengrow 2006: 144–145). Further excavations and evidence of agricultural activity from the Nile Delta may provide further understanding of the timeframe and manner of introduction of such technology into northeast Africa. The development and organization of Tel es-Sakan is of central importance to the subject in question. Until further research is possible at this site, it will most likely continue to be difficult to provide adequate explanations of the nature of the flow of exchange goods or the position of northeast Africans within the regional economic system of the southwest Levant during the EBIb2.

Summary: A New Trajectory for 4th Millennium Interactions

The northeast African presence in the southwest Levant was terminated as suddenly as it had begun around the time of the onset of the 1st Dynasty. If, as has been suggested above, the close of this phase was due to foundations in Canaan having become dysfunctional as an economic venture, then ultimate centralisation of the Egyptian state at approximately 3050 BCE may have been representative of the establishment of tighter controls on foreign relations. This concept that unofficial economic activity was a characteristic feature of times of weak central authority in Egypt was suggested by Eric Kansa in his doctoral thesis centred on the northeast African presence at Tel Halif Terrace (2001: 106). The idea is supported by a similar parallel process of withdrawal from Nubia with the onset of the 1st Dynasty (Williams 2011: 91; Smith 1966: 51–52; Smith & Giddy 1985: 317–318). The disappearance of the Nubian A-group at such a pivotal moment in the consolidation of Egyptian power is suggestive of the insular intentions of the earliest clear expressions of unified Egyptian royal power. A millennium of diverse and creative encounters, social transformations and expansive overland interregional exchange networks was brought to an abrupt close.

The following six phases are proposed as an up-to-date trajectory for the development of interactions, as indicated by the present data and explained above.

Phase 1 (Late 5th millennium – 3700 BCE)

The Late Chalcolithic is characterised by sporadic contacts resultant from nomadic groups travelling between the southwest Levant and northeast Africa through north Sinai. Exchange was limited to transmission between elites via 'down-the-line' distributive mechanisms.

Phase 2 (3700 – 3500 BCE)

The EBIa1 phase in the southwest Levant and Naqada IB/IC/IIA phases in northeast Africa was a phase of intensified cultural transmission. Specialized copper processing began at Ashqelon-Afridar for the purpose of long-distance trade. Copper finds from Maadi may have been the receipt of such exchange. Pack donkey trade routes through the north Sinai most likely opened during this phase.

Phase 3 (3500 – 3350 BCE)

The EBIa2 is characterised by the the parallel establishment and growth of commercial centres in the southwest Levant and Nile Delta. The first phases at Taur Ikhbieneh dating from the EBIa2 demonstrate the first observable contacts between northeast African and southwest Levantine groups in Canaan with examples of Naqadan pottery and the creation of hybrid forms. Tell el-Farkha emerged as an

economic hub for long-distance elite exchange between the southwest Levant and Nile Valley. Ashqelon-Afridar expanded and use of north Sinai routes intensified.

Phase 4 (3350 – 3200 BCE)

The EBIb1 Erani C phase is characterised by the assertion and diversification of local cultural identities in Canaan. The contemporary Naqada IID2/IIIA phase in northeast Africa was a period of dynamic and transformational creative processes as Nile Valley culture began to influence cultures to the north and simultaneous stylistic influences from the east were felt. The central importance of Tell el-Farkha as an axis for exchange was consolidated with the establishment of Naqadan and Lower Egyptian administrative residencies side-by-side. Imports from the southwest Levant acted as a catalyst for consumptive demand in funerary displays of the Nile Valley and the expression of elite authority through the ability to command lavish funerary deposits of exotic material such as at Abydos Uj.

Phase 5 (3200 – 3050 BCE)

The EBIb2 northeast African presence in the southwest Levant was a sudden incursion of organised settlement at new foundations at Tell es-Sakan and at least one smaller satellite settlement at En Besor. The venture commenced under the sponsorship of elite groups in the Delta based at the large regional administrative-cultic centre of Tell el-Farkha. Other unofficial enclaves at Canaanite centres disrupted control of commerce and socio-cultural boundaries in the trading diaspora. Flexible socio-cultural boundaries negotiated at enclaves where incomers and locals lived alongside, and at other fringes of the northeast African presence, led to the regular creation of hybrid ceramic forms at sites across Canaan. Local elites in the Nile Valley began to assert symbolic power in new ways and gradually their rule was consolidated.

Phase 6 (3050 – 3000 BCE)

The onset of the 1st Dynasty and the consolidation of royal power over a nascent unified Egyptian state led to increased centralisation and withdrawal from foreign ventures as well as the assertion of greater control over exchange. The influence of Tell el-Farkha faded and its authority was displaced by new centres to the south.

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References

Adams, B., (1974). *Ancient Hierakonpolis (and Supplement)* (Warminster).

Algaze, G., (1993). 'Expansionary Dynamics of Some Early Pristine States'. *American Anthropologist* 95/2: 304–333.

Amiran, R., (1974). 'An Egyptian Jar Fragment with the Name of Narmer from Arad'. *Israel Exploration Journal* 24: 4–12.

Amiran, R., Ilan, O. and Arnon, C., (1983). 'Excavations at Small Tel Malhata: Three Narmer Serekhs'. *The Israel Museum Journal* 2: 75–83.

Andelkovic, B., (1995). *The Relations Between Early Bronze Age I Canaanites and Upper Egyptians* (Belgrade).

Andelkovic, B., (2002). 'Southern Canaan as an Egyptian Protodynastic Colony', *Cahiers Caribéens d`Egyptologie* nos 3/4, février/mars 2002: 75–92.

Andelkovic, B., (2011). 'Political Organization of Egypt in the Predynastic Period'. Pp. 25–32 in E. Teeter (ed.), *Before the Pyramids: The Origins of Egyptian Civilization* (Chicago).

Avrutis, V.W., (2012). *Late Chalcolitihic and Early Bronze Age I Remains at Nesher-Ramla Quarry* (Haifa).

Avrutis, V.W. and Van den Brink, E., (2010). 'Finds from a Late Early Bronze Age I Burial Ground at "Nesher"-Ramle (el-Hirbe), Israel, Reflecting Egyptian-South Levantine Interrelations', *Cahiers Caribéens d'Egyptologie* 13–14: 45–60.

Bar-Yosef Mayer, D.E., (2002). 'Egyptian-Canaanite Interaction during the Fourth and Third Millennia B.C.: The Shell Connection'. Pp. 129–135 in E.C.M. van den Brink and T.E. Levy (eds). *Egypt and the Levant: Interrelations from the 4th through the Early 3rd Millennium B.C.E* (London).

Baumgarten, Y., (2004). 'An Excavation at Ashqelon, Afridar – Area J', *'Atiqot* 45: 161–184.

Ben-Tor A., (1991). 'New Light on the Relations between Egypt and Southern Palestine during the Early Bronze Age', *BASOR* 281: 3–10.

Braun, E., (2000). 'Post Mortem: a Late Prehistoric Site at Palmahim Quarry', *Bulletin of the Anglo-Israel Archaeological Society* 17: 17–28.

Braun E., (2002). 'Egypt's First Sojourn in Canaan'. Pp. 173–189 in E.C.M. van den Brink and T.E. Levy (eds), *Egypt and the Levant: Interrelations from the 4th through the Early 3rd Millennium BCE* (London).

Braun, E., (2004). 'Egypt and the Southern Levant: Shifting Patterns of Relationships during Dynasty 0. Pp. 507–517 in S. Hendrickx, R.F. Friedman , K.M. Ciałowicz and M. Chłodnicki (eds), *Egypt at its Origins. Studies in Memory of Barbara Adams. Proceedings of the International Conference "Origin of the state. Predynastic and Early Dynastic Egypt", Kraków, 28th August – 1st September 2002*, OLA 138 (Leuven).

Braun, E., (2005). 'Identifying Ethnicity from Prehistoric Pottery in Ancient Egypt and

the Southern Levant'. Pp. 140–54 in J. Clarke (ed.), *Archaeological Perspectives on the Transmission and Transformation of Culture in the Eastern Mediterranean*, Levant Supplementary Series 2, (Oxford).

Braun, E., (2011). 'Early Interaction Between Peoples of the Nile Valley and the Southern Levant'. Pp. 105–124 in E. Teeter, (ed.), *Before the Pyramids: The Origins of Egyptian Civilization* (Chicago).

Braun, E., (2012). 'On Some South Levantine Early Bronze Age Ceramic Wares and Styles', *Palestine Exploration Quarterly* 144: 5–32.

Braun, E., (2014). 'Reflections on the Context of a Late Dynasty 0 Egyptian Colony in the Southern Levant: Interpreting Some Evidence of Nilotic Material Culture at Select Sites in the Southern Levant (ca. 3150 BCE – ca. 2950 BCE). Pp. 37–56 in A. Macynszka (ed.), *The Nile Delta as a Centre of Cultural Interactions between Upper Egypt and the Southern Levant in the 4th millennium BC*. Poznań Archaeological Museum. Studies in African Archaeology vol. 13 (Poznań).

Braun, E., (*in press.)* Little Pot Who Made Thee? Dost Thou Know Who Made Thee?, in: B. Bader, CH.M. Knoblauch and E.Ch. Köhler (eds), *Vienna 2. Ancient Egyptian Ceramics in the 21st century. Proceedings of the International Conference held at the University of Vienna 14th-18th May, 2012* (Leuven).

Braun, E. and Gophna., R., (2004). 'Excavations at Afridar-Area G', *'Atiqot* 45: 185–242.

Braun, E. and Van den Brink, E., (1998). 'Some Comments on the Late EB I Sequence of Canaan and the Relative Dating of Tomb U-j at Umm el Ga`ab and Graves 313 and 787 from Minshat Abu Omar with Imported Ware: Views from Egypt and Canaan', *Egypt and the Levant* 7: 71–94.

Braun, E., Van den Brink, E., Regev, J., Boaretto, E. and Bar., S., (2013). 'Aspects of Radiocarbon Determinations and the Dating of the Transition from the Chalcolithic Period to Early Bronze Age I in the Southern Levant' *Paleorient* 39/1: 23–46.

Brandl, B., (1989). 'Observations on the Early Bronze Age Strata of Tel Erani'. Pp. 357–388 in P.R. de Miroschedj (ed.)*, L'urbanisation de la Palestine à l'âge du Bronze ancien: bilan et perspectives des recherches actuelles, Actes du colloque d'Emmamüs (20–14 Octobre 1986),* BAR IS 527 (Oxford).

Brandl B., (1992). 'Evidence for Egyptian Colonization in the Southern Coastal Plain and Lowlands of Canaan during the EB I period'. Pp. 441–477 in E.C.M van den Brink (ed.), *The Nile Delta in Transition: 4th – 3rd Millennium B.C.* (Tel Aviv).

Campagno M., (2004). In the Beginning was the War. Conflict and the Emergence of the Egyptian State. Pp. 689–703 in S. Hendrickx, R.F. Friedman, K.M. Cialowicz and M. Chlodnicki (eds), *Egypt at its Origins. Studies in Memory of Barbara Adams, Proceedings of the International Conference 'Origin of the State. Predynastic and Early Dynastic Egypt'* (Leuven).

Campagno, M., (2008). 'Ethnicity and Changing Relationships between Egyptians and South Levantines during the Early Dynastic Period'. Pp. 689–705 in B. Midant-Reynes, Y. Tristant, J. Rowland and S. Hendrickx (eds) *Egypt at its Origins 2*: *Proceedings of the International Conference 'Origin of the State. Predynastic and Early Dynastic Egypt', Toulouse (France)* Orientalia Lovaniensia Analecta 172 (Leuven).

Chlodnicki, M., (2008). 'Trade and Exchange in the Predynastic and Early Dynastic Period in the Eastern Nile Delta'. Pp. 489–500 in B. Midant-Reynes, Y. Tristant, J. Rowland and S. Hendrickx (eds) *Egypt at its Origins 2*: *Proceedings of the International Conference 'Origin of the State. Predynastic and Early Dynastic Egypt', Toulouse (France)* Orientalia Lovaniensia Analecta 172 (Leuven).

Cialowicz, K., (2011). 'The Early Dynastic Administrative-Cultic Centre at Tell el-Farkha'. Pp. 763–800 in R. Friedman and F. Fiske (eds), *Egypt at its Origins 3 Proceedings of the Third International Conference 'Origin of the State. Predynastic and Early Dynastic Egypt'* (London).

Cialowicz, K., (2012). 'Lower Egyptian Settlement on the Western Kom'. Pp. 149–162 in M. Chłodnicki, K.M. Ciałowicz and A. Mączyńska (eds), *Tell el-Farkha I. Excavations 1998–2011* (Kraków).

Cichowski, K., (2008). The Brewery Complex from Tell el-Farkha. Archaelogical Aspects of the Discovery, Pp. 33–40 in B. Midant-Reynes, Y. Tristant, J. Rowland and S. Hendrickx (eds), *Egypt at its Origins 2*: *Proceedings of the International Conference 'Origin of the State. Predynastic and Early Dynastic Egypt', Toulouse (France)* Orientalia Lovaniensia Analecta 172 (Leuven).

Cohen, A., (1971). 'Cultural Strategies in the Organization of Trading Diasporas', Pp. 266–81 in C. Meillassoux (ed.), *The Development of Indigenous Trade and Markets in West Africa (*London).

Commenge, C. and Alon, D., (2002). 'Competitive Involution and Expanded Horizons: Exploring the Nature of Interaction between Northern Negev and Lower Egypt (c. 4500–3600 BCE)'. Pp. 130–153 in E. van den Brink & T. E Levy (eds). *Egypt and the Levant: Interrelations from the 4th through the Early 3rd Millennium B.C.E.* (London).

Curtin, P., (1984). *Cross-Cultural Trade in World History* (Cambridge).

Dee, M., Wengrow, D., Shortland, A., Stevenson, A., Brock, F., Flink, L., and Ramsey, C. (2013). 'An Absolute Chronology for Early Egypt using Radiocarbon Dating and Bayesian Statistical Modelling', *Proceedings: Mathematical, Physical and Engineering Sciences,* 469/2159: 1–10.

Dee M., Wengrow, D., Foster, S., Stevenson, A. and Ramsey, C., (2014). 'Cultural Convergence in the Neolithic of the Nile Valley: a Prehistoric Perspective on Egypt's Place in Africa.' *Antiquity* 88/139: 95–111.

Dreyer, G., (1990). 'Umm el-Qaab: Nachuntersuchungen im fruhzeitlichen Konigsfriedhof', *Mitteilungen des Deutschen Archaologischen Instituts, Abteilung Kairo* 46: 53–89.

Dreyer, G., (1998). *Umm el-Qaab I: das prädynastische Königsgrab U-j und seine frühen Schriftzeugnisse* (Mainz).

Dreyer, G., (2011). 'Tomb U-j: A Royal Burial of Dynasty 0 at Abydos'. Pp. 131–138 in E. Teeter (ed.), *Before the Pyramids: The Origins of Egyptian Civilization* (Chicago).

Edens, C., (1992). 'Dynamics of Trade in the Ancient Mesopotamian "World System"'. *American Anthropologist* New Series, Vol. 94/1: 118–139.

Faltings, D., (2002). 'The Chronological Frame and Structure of Buto in the Fourth Millenium B.C.E.' Pp. 130–153 in E. Van den Brink & T. E Levy (eds). *Egypt and the Levant: Interrelations from the 4th through the Early 3rd Millennium B.C.E.* (London).

Frank, A. G., (1966). 'The Development of Underdevelopment', *Monthly Review* 18/4: 17–31.

Frank, A. G., (1967). *Capitalism and Underdevelopment in Latin America: Historical Studies of Chile and Brazil* (New York).

Frank, A. G., (1969). *Latin America: Underdevelopment or Revolution: Essays on the Development of Underdevelopment and the Immediate Enemy* (New York).

Frank, A. G., (1993). 'Bronze Age World System Cycles'. *Current Anthropology*, 34: 383–429.

Friedman, R., (2011). 'Hierakonpolis'. Pp. 33–44 in E. Teeter (ed.), *Before the Pyramids: The Origins of Egyptian Civilization* (Chicago).

Golani, A., (2004). 'Salvage Excavations at the Early Bronze Age Site of Afridar, Ashqelon-Area E', *'Atiqot* 45: 9–62.

Golani, A., (2008). 'The Early Bronze Age Site of Ashqelon, Afridar-Area M', *'Atiqot* 60: 19–52.

Golani, A., (2014). 'Ashqelon during the EB I Period – a Centre for Copper Processing and Trade. Pp. 119–137 in Macynszka (ed.), *The Nile Delta as a Centre of Cultural Interactions between Upper Egypt and the Southern Levant in the 4th Millennium BC*. Poznań Archaeological Museum. Studies in African Archaeology vol. 13 (Poznan).

Golani, A. and van den Brink., E., (1999). 'Salvage Excavations at the Early Bronze Age IA Settlement of Azor', *'Atiqot* 28: 1–49.

Gophna, R., (1992). 'The Contacts between 'En Besor Oasis, Southern Canaan, and Egypt during the Late Predynastic and the Threshold of the First Dynasty; a Further Assessment'. Pp. 385–394 in E.C.M. van den Brink (ed.), *The Nile Delta in Transition: 4th–3rd Millennium B.C.* (Tel Aviv).

Gophna, R., (1995). *Excavations at `En Besor* (Tel Aviv).

Gophna, R. and Gazit, D., (1985). 'The First Dynasty Egyptian Residency at 'En Besor' *Tel Aviv* 12: 9–16.

Gophna, R. and van den Brink, E., (2002). 'Core-periphery Interaction between the Pristine Egyptian Nagada IIIb State, Late Early Bronze Age I Canaan, and Terminal A-Group Lower Nubia: More Data'. Pp. 280–285 in E.C.M. van den Brink and T.E. Levy (eds), *Egypt and the Levant: Interrelations from the 4th through the Early 3rd Millennium B.C.* (Leicester).

Goren, Y. and Fabian, P., (2002). *Kissufim Road – A Chalcolithic Mortuary Site.* Israel Antiquities Authority Reports 16 (Jerusalem).

Gosden, C., (2004). *Archaeology and Colonialism* (Cambridge).

Guyot, F., (2011). Primary and Secondary Social Evolutions from the Nile Valley to the Northern Negev in the Mid-4th Millenium BC.' Pp. 1255–1270 in R. Friedman and F. Fiske, (eds) *Egypt at its Origins 3 Proceedings of the Third International Conference 'Origin of the State. Predynastic and Early Dynastic Egypt'* (London).

Hartung, U., (2001). *Umm el-Qaab II. Importkeramik aus dem Friedhof U in Abydos (Umm el-Qaab) und die Beziehungen Ägyptens zu Vorderasien im 4. Jahrtausend v. Chr*. (Mainz).

Hartung, U., (2004). 'Rescue Excavations in the Predynastic Settlement at Maadi', Pp. 337–356 in S. Hendrickx, R.F. Friedman , K.M. Ciałowicz & M. Chłodnicki (eds), *Egypt at its Origins. Studies in Memory of Barbara Adams. Proceedings of the International*

Conference Origin of the State. Predynastic and Early Dynastic Egypt, OLA 138 (Leuven).

Hartung, U., E. Köhler, C., Müller, V. and Ownby, M. (2015). 'Imported Pottery from Abydos - A New Petrographic Perspective', *Ägypten und Levante / Egypt and the Levant* 25: 295–333.

Ilan, O., (2002). 'Egyptian Pottery from Small Tel Malhata and the Interrelations Between the Egyptian 'Colony' in Southwest Palestine and the 'Canaanite' Arad Basin and Central Highland'. Pp. 306–322 in E.C.M. van den Brink and T.E. Levy (eds), *Egypt and the Levant: Interrelations from the 4th through the early 3rd Millennium B.C.* (London).

Kaiser, W. and Dreyer, G., (1982). 'Umm el-Qaab - Nachuntersuchungen im friihzeitlichen Konigshof - 2. Vorbericht'. *Mitteilungen des Deutschen Archaologischen Instituts Abteilung Kairo* 38: 211–269.

Kansa, E., (2001). *Smitten by Narmer: Ethnicity, Economy and Trade in the 4th Millennium BCE Egyptian Presence in the Southern Levant.* Unpublished PhD Thesis. Harvard University (Cambridge).

Kansa, E. and Levy, T. E., (2002). Ceramics, Identity and the Role of the State: The View from Nahal Tillah. Pp. 190–212 in E. van den Brink & T. E Levy (eds). *Egypt and the Levant: Interrelations from the 4th through the Early 3rd Millennium B.C.E.* (London).

Kempinski, A. and Gilead, I. ., (1991). 'New Excavations at Tel Erani: A Preliminary Report of the 1985–1988 Seasons'. *Tel Aviv* 18: 164–92.

Khalaily, H., (2004). 'An Early Bronze Age Site at Ashqelon, Afridar—Area F', *'Atiqot* 45: 121–160.

Kohl P., (1987). 'The Ancient Economy, Transferable Technologies and the Bronze Age World System: a View from the North Eastern Frontier of the Ancient Near East'. Pp. 13–24 in M. Rowlands M. Larsen and K. Kristiansen (eds) *Centre and Periphery in the Ancient World* (London)

Köhler, Ch. (2002). 'History or Ideology? New Reflections on the Narmer Palette and the Nature of Foreign Relations in Pre- and Early Dynastic Egypt.' Pp. 499–513 in E.C.M. van den Brink and T.E. Levy (eds), *Egypt and the Levant. Interrelations from the 4th through the early 3rd Millennium BCE.* (London).

Köhler, Ch. (2008) 'The Interaction Between and the Roles of Upper and Lower Egypt in the Formation of the Egyptian State: Another View.' Pp. 515–543 in B. Midant-Reynes, Y. Tristant, J. Rowland, S. Hendrickx. *Egypt at its Origins 2 Proceedings of the International Conference 'Origin of the State. Predynastic and Early Dynastic Egypt'* OLA 172 (Leuvan).

Levy, T.E., Alon, D., Rowan, Y., Grigson, C., Holl, A., Smith, P., Goldberg, P., Witten, A.J., Kansa, E., Moreno, J., Yekutieli, Y., Porat, N., Golden, J., Dawson, L. And Kersel, M., (1997). 'Egyptian-Canaanite Interaction at Nahal Tillah, Israel (ca. 4500–3000 B.C.E.): an Interim Report on the 1994–1995 Excavations', *Bulletin of American Schools of Oriental Research* 307: 1–52.

Levy T.E., Alon,,D., van den Brink, E., Kansa E. and Yekutieli, Y., (2001). 'The Protodynastic/ Dynasty 1 Egyptian Presence in Southern Canaan: A Preliminary Report on the 1994 Excavations at Nahal Tillah, Israel'. Pp. 441–446 in S.R. Wolff (ed.), *Studies in the Archaeology of Israel and Neighboring Lands in Memory of Douglas L. Esse* (Chicago-Atlanta).

Maczynska, A., (2008). Some Remarks on Egyptian-Southern Levantine Interrelations in the First Half of the 4th Millenium BC. Pp. 763–782 in B. Midant-Reynes, Y. Tristant, J. Rowland, S. Hendrickx. *Egypt at its Origins 2 Proceedings of the International Conference 'Origin of the State. Predynastic and Early Dynastic Egypt'* OLA 172 (Leuvan).

Maczynska, A., (2011). 'The Lower Egyptian-Naqada Transition: A View from Tell el-Farkha', Pp. 879–908 in R.F. Fiske and P.N. Fiske (eds), *Egypt at its Origins 3. Proceedings of the International Conference, 'Origin of the State. Predynastic and Early Dynastic Egypt', London, 27th September – 1st August 2008*, OLA 205 (Leuven).

Maczynska A., (2013). *Lower Egyptian Communities and their Interactions with the Southern Levant in the 4th millennium BC* (Poznań).

Malkin, I., (1998). 'The Middle Ground: Philoktetes in Italy'*, Kernos* 11: 31–41.

Mazar, A. & P. de Miroschedji., (1996). 'Hartuv, an Aspect of the Early Bronze I Culture of the Southern Israel'*, Bulletin of the American Schools of Oriental Research* 302: 1–40.

McGovern P., (2001). The Origins of the Tomb U-j Syro-Palestinian Type Jars as Determined by Neutron Activation Analysis. Pp. 407–416 in U. Hartung, (ed.), *Die Importgefasse aus dem Friedhof U in Abydos* (Mainz).

Milevski, I., (2011). *Early Bronze Age Goods Exchange in the Southern Levant: A Marxist Perspective* (London).

Milevski, I. and Y. Baumgarten., (2008). 'Between Lachish and Tel Erani: Horvat Ptora, a New Late Prehistoric Site in the Southern Levant'. Pp. 609–624 in J. Córdoba, J.M. (ed.), *Proceedings of the 5th International Congress on the Archaeology of the Ancient Near East* vol. II (Madrid).

Milevski, I., Braun, E., Varga, D. and Yisrael, Y., (2012). 'A Newly-Discovered Early Bronze Age Settlement and Silo Complex at Amaziya, Israel', *Antiquity* 86: 331.

Milevski, I., Braun, E., Varga, D. and Yisrael, Y., (2014). 'The Early Bronze Age Settlement and Large-Scale Silo Complex of Amaziya, Israel'. Pp. 713–722 in Meyer, J.W., Bieliński, P., Gawlikowski, M., Koliński, R., Ławecka, D., Sołtysiak, A. and Wygnańska, Z., *Proceedings of the 8th International Congress on the Archaeology of the Ancient Near East, Volume 2* (Wiesbaden).

Millet, N.B., (1990). 'The Narmer Macehead and related objects', *Journal of the American Research Centre in Egypt* 27: 53–59.

de Miroschedji, P.R., (2002). The Socio-Political Dynamics of Egyptian-Canaanite Interaction in the Early Bronze Age, Pp. 39–57 in E.C.M. van den Brink and T.E. Levy (eds), *Egypt and the Levant. Interrelations from the 4th through the Early 3rd Millennium B.C.E.* (London).

de Miroschedji, P.R., and Sadeq, M., (2005). 'The Frontier in the Early Bronze Age: Preliminary Soundings at Tell al-Sakan (Gaza Strip), Pp. 155–169 in J. Clarke (ed.), *Archaeological Perspectives on the Transmission and Transformation of Culture in the Eastern Mediterranean* (Oxford).

de Miroschedji, P.R., *et al.*, (2001). 'Les Fouilles de Tell es-Sakan (Gaza) nouvelles données sur les contacts égypto-cananéens aux IV – IIIeme millénairese'*, Paléorient* 27/2: 75–104.

Oren, E., (1973). 'The Overland Route between Egypt and Canaan in the Early Bronze Age (Preliminary Report)', *Israel Exploration Journal* 23/4: 198–205

Oren, E., (1989). 'Early Bronze Age Settlement in North Sinai: A Model for Egypto-Canaanite Interactions'. Pp. 389–406 in P. de Miroschedji (ed.), *L'urbanisation de la Palestine a l'age do Bronze ancient: Bilan et perspectives des recherches actuelles.* BAR IS 527 (Oxford).

Oren, E. and Y. Yekutieli., (1992). 'Taur Ikhbeineh – Earliest Evidence for Egyptian Interconnections.' Pp. 361–384 in E. van den Brink (ed.), *The Nile Delta in Transition: 4th-3rd Millennium B.C.* (Jerusalem).

Perrot, J., (1955). The Excavations at Abu Matar, Near Beersheva. *Israel Exploration Journal* 5: 17–41, 73–84, 167–89.

Perrot J., (1959). Statuettes en ivoire et autres objets en ivoire et en os provenant des gisements préhistoriques de la région de Béershéba, *Syria* 36/1-2: 8–19

Perrot, J., (1984). Structures d'habitat, mode de vie et environnement. Les villages souterrains des pasteurs de Beershéva, dans le Sud d'Israël, au IVe millénaire avant l'ère chrétienne. *Palerorient* 10: 75–96.

Petrie, W.M.F., (1901). *The Royal Tombs of the Earliest Dynasties*. (London).

Porat, N., (1992). 'An Egyptian Colony in Southern Palestine during the Late Predynastic/ Early Dynastic Period', Pp. 433–440 in E.C.M van den Brink (ed.), *The Nile Delta in Transition: 4th–3rd Millennium B.C.* (Tel Aviv).

Porat, N., (1997). 'Petrography and Composition of the Pottery'. Pp. 223–231 in T. von der Way (ed.), *Tell el-Fara'in* (Mainz).

Porat, N and Goren, Y. ., (2001). 'Petrography of the Naqada IIIa Canaanite Pottery from Tomb U-j in Abydos.' Pp. 466–481 in U. Hartung (ed.). *Umm El-Qaab II. Importkeramik aus dem Friedhof U in Abydos (Umm el-Qaab) und die Beziehungen Ägyptens zu Vorderasien im 4. Jahrtausend v. Chr.* (Mainz).

Porat, N. and Goren, Y., (2002). 'Petrography of the Naqada IIIa Canaanite Pottery from Tomb U-j in Abydos'. Pp. 252–270 in E.C.M. van den Brink and T.E. Levy (eds), *Egypt and the Levant, Interrelations From the 4th through the Early 3rd Millennium BCE* (London).

Quibell, J.E., (1898). 'Slate Palette from Hierakonpolis'. *Zeitschrift der fur Agyptische Sprache und Altertumskunde* 36: 81–84.

Regev, J., de Miroschedji, P., Greenberg, R., Braun, E., Greenhut, Z. and Boaretto, E., (2012). Chronology of the Early Bronze Age in the Southern Levant: New Analysis for a High Chronology. *Radiocarbon* 54/3–4: 525–566.

Renfrew, C. and Bahn, P., (2008). *Archaeology: Theories, Methods and Practice.* 5th Edition (London).

Rizkana, I. and Seeher, J. ., (1987). *Maadi I: The Pottery of the Predynastic Settlement* (Mainz am Rhein).

Rizkana, I. and Seeher, J., (1989). *Maadi III. The Non-Lithic Small Finds and the Structural Remains of the Predynastic Settlement* (Mainz).

Rizkana, I. and Seeher J., (1990). *Maadi IV: The Predynastic Cemeteries o f Maadi and Wadi Digla* (Mainz).

Rowlands, M., (1987). 'Centre and Periphery: a Review of a Concept'. Pp. 1–11 in M. Rowlands, M. Larsen and K. Kristiansen (eds), *Centre and Periphery in the Ancient World* (Cambridge).

Schneider, J., (1977). Was there a Pre-Capitalist World System? *Peasant Studies* 6: 20–29.

Schulman, A., (1989). 'Historiography and Historicity of the Relations of Egypt and Canaan in the EB I'. Pp. 433–543 in P. de Miroschedji (ed.), *L'urbanisation de la Palestine a l'age du Bronze ancient.* BAR 527(i) (Oxford).

Schulman, A., (1992). 'Still More Egyptian Seal Impressions from 'En Besor', Pp. 395–418 in E.C.M van den Brink (ed.), *The Nile Delta in Transition: 4th–3rd Millennium B.C*. (Tel Aviv).

Sharvit, J., Galili, E., Rosen B. and van den Brink, E.C.M., (2002). 'Predynastic Maritime Traffic along the Carmel Coast of Israel: A Submerged Find from North Atlit Bay.' Pp. 159–166 in E.C.M. van den Brink and E. Yannai (eds), *In Quest of Ancient Settlements and Landscapes. Archaeological studies in honour of Ram Gophna* (Tel Aviv).

Smith, H., (1966). 'The Nubian B-Group', *Kush* 14: 69–124.

Smith, H. and L. Giddy., (1985). 'Nubia and Dakhla Oasis in the Late Third Millenium BC: The Present Balance of Textual and Archaeological Evidence'. Pp. 317–30 in F. Geus and F. Thill, (eds), *Mélanges offerts à Jean Vercoutter, Editions Recherches sur les Civilisations* (Paris).

Spence, M.W., (2005). 'A Zapotec Diaspora Network in Classic Period Central Mexico'. Pp. 173–205 in G. Stein (ed.), *The Archaeology of Colonial Encounters: Comparative Perspectives* (Santa Fe).

Stein, G., (1999). *Re-thinking World Systems: Diasporas, Colonies and Interaction in Uruk Mesopotamia* (Tucson).

Stein, G., (2002). 'Colonies without Colonialism: A Trade Diaspora Model of Fourth Millennium B.C. Mesopotamian Enclaves in Anatolia'. Pp. 27–64 in Claire L. Lyons and J. K. Papadopoulos (ed.) *The Archaeology of Colonialism* (Los Angeles).

Stein, G., (2005). *The Archaeology of Colonial Encounters: Comparative Perspectives* (Sante Fe).

Tuffnell, O., (1958). *Lachish IV, The Bronze Age* (Oxford).

van den Brink, E., (1992). 'Corpus and Numerical Evaluation of the "Thinite" Potmarks'. Pp. 265–96 in R. F. Friedman and B. Adams (eds), *The Followers of Horus: Studies Dedicated to Michael Allen Hoffman*, *1949–1990.* Oxbow Monograph 20 (Oxford).

van den Brink, E. and Braun, E., (2002). 'Wine Jars with Serekhs from Early Bronze Lod: Appellation Vallée du Nil Contrôlée, but for Whom?' Pp. 167–92 in E. C. M. van den Brink and E. Yannai (eds), *In Quest of Ancient Settlements and Landscapes: Archaeological Studies in Honor of Ram Gophna*, (Tel Aviv).

van den Brink, E. and Braun, E., (2003). 'Egyptian Elements and Influence oп the Early Bronze Age I of the Southern Levant', *Archeo-Nil*, 13: 77–91.

van den Brink, E. and Braun, E., (2008). 'Appraising South Levantine-Egyptian Interaction: Recent Discoveries from Israel and Egypt'. Pp. 637–688 in B. Midant-Reynes, Y. Tristant, J. Rowland, S. Hendrickx. *Egypt at its Origins 2 Proceedings of the International Conference "Origin of the State. Predynastic and Early Dynastic Egypt", Toulouse (France), 5th-8th September 2005*.

van den Brink, E. and Levy, T.E., (eds), (2002). *Egypt and the Levant: Interrelations from the 4th through the Early 3rd Millennium B.C.E.* (London).

Wallerstein, I., (1974). *The Modern World-System: Capitalist Agriculture and the Origins of the European World-Economy in the Sixteenth Century* (New York).

Wallerstein, I., (1980). *The Modern World-System II: Mercantilism and the Consolidation of the European World-Economy, 1600–1750* (New York).

Wallerstein, I. 1989. *The Modern World-System III: The Second Era of Great Expansion of the Capitalist World-Economy, 1730–1840s* (San Diego).

Watrin, L., (2007). 'The Relative Chronology of the Naqada Culture: A View from Buto, Ma'adi, Harageh and Gerzeh'. Pp. 1–30 in H. Hanna, (ed.), *The International Conference on Heritage of Naqada and Qus Region* (Cairo).

Wengrow, D., (2006). *The Archaeology of Early Egypt: Social Transformations in Northeast Africa, 10,000 to 2650 BC* (Cambridge).

Williams, B., (2011). Relations between Egypt and Nubia in the Naqada Period. Pp. 83–92 in E. Teeter (ed.), *Before the Pyramids: The Origins of Egyptian Civilization* (Chicago).

Yadin, Y., (1955). 'The Earliest Record of Egypt's Military Penetration into Asia? Some Aspects of the Narmer Palette, the 'Desert Kites' and Mesopotamian Seal Cylinders', *Israel Exploration Journal* 5/1: 1–16.

Yeivin, S., (1960). 'Early Contacts between Canaan and Egypt', *Israel Exploration Journal* 10: 193– 203.

Yeivin, S., (1961). *First Preliminary Report on the Excavations at Tel "Gat" (Tell Sheykh `Ahmed el-`Areyny): Seasons 1956–1958*. Jerusalem.

Yekutieli, Y., (1998). *The Early Bronze Age I of North Sinai-Social, Economic and Spatial Aspects*, Unpublished Ph.D. Thesis, Ben Gurion University of the Negev (Hebrew with English summary).

Yekutieli, Y., (2002). 'Settlement and Subsistence Patterns in North Sinai during the Fifth to Third Millennia BCE'. Pp. 422–433 in E.C.M. van den Brink, T.E. Levy (eds), *Egypt and the Levant, Interrelations From the 4th through the Early 3rd Millennium B.C.E.* (London).

Yekutieli, Y., (2004). 'The Desert, the Sown and the Egyptian Colony', *Agypten und Levante* 14: 163–171.

Yekutieli, Y., (2006). 'The Ceramics of Tel Erani Layer C', *Journal of the Serbian Archaeological Society* 22: 225–242.

Yekutieli, Y., (2008). 'Symbols in Action – the Megiddo Graffiti Reassessed.' Pp. 807–837 in B. Midant-Reynes, and Y. Tristant, (eds), *Egypt at Its Origins 2* (Leuven).

Yekutieli, Y., (2015). 'The Renewed Excavations at Tel Erani'. Unpublished paper presented on the 9th January 2015 at the British Association of Near Eastern Archaeology conference (London).

Yekutieli, Y. and Gophna, R., (1994). 'Excavations at an Early Bronze Age Site Near Nizzanim', *Tel Aviv* 21: 162–85.

Megalithic Architecture in Judea and the Shephelah: New Evidence from Kfar Uriyya and Nahal Timna

Michael Freikman and Alla Nagorskaya
The Hebrew University of Jerusalem and Israel Antiquities Authority

Megalithic burial structures are widespread in various regions of the ancient Near East. However, they were virtually absent from the archaeological record of the hilly areas and coastal plain of today's Israel, and it has been generally accepted that this type of burial architecture is not present in these parts of the country. Yet, the results of salvage excavations carried out on behalf of the Israel Antiquities Authority during recent years significantly alter this assumption. The remains of the megalithic structures presented in this paper attest to the existence of this phenomenon in the Shephelah, and the material found within them enables us to date their construction in this part of the ancient Near East as early as the Early Bronze Age I.

Introduction

Megalithic mortuary architecture in the ancient Near East has been documented all over the region since the early 19th century (cf. Hartal 1987; Freikman 2013). Although megalithic burial structures are widespread across the region, they are not evenly distributed: the largest concentrations of these structures are found along the Syrian-African rift, while Judea and the Shephelah are usually described as lacking this type of architecture. However, discoveries made during recent salvage excavations at the sites of Kfar Uriyya and Nahal Timna (Fig. 1) show that the state of affairs may be significantly different. In this short paper we will present new data from this part of the Southern Levant.

The Sites

Kfar Uriyya

This salvage excavation was carried out by I. Zilberbod on behalf of the Israel Antiquities Authority during 2006 (Israel Antiquities Authority license no. 4661/2006). Four areas (A–D) were excavated. Among the architectural features excavated in area B, structure F9 is of special interest. This structure, located on the western slope of a hill overlooking the Shephelah, was originally defined

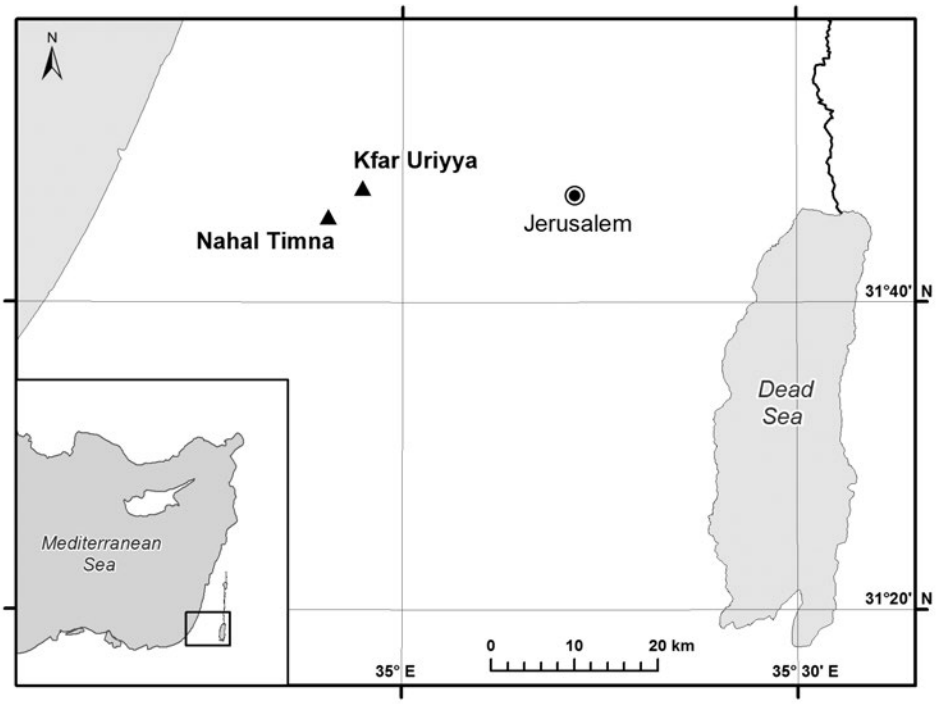

Fig. 1. Map showing the location of Kfar Uriyya and Nahal Timna.

as an agricultural clearance heap, but the heap turned out to conceal a massive construction built of medium-sized to large field stones (Figs 2, 3), some of them reaching a size of 1.0 × 0.85 m. The construction has three walls (W59, W60, and W61) and uses bedrock as the fourth wall. These walls stand to a height of up to four irregular courses reaching a total height of 0.6 m, but may have been disturbed by later activities. They form a rough rectangle with inner dimensions of 2.2 × 0.9 m. The structure was covered with large flat capstones, two still *in situ* and the third discovered broken inside the burial cell. Cell L230 was originally accessed from the east via a *dromos* (L226) enclosed by W52 and W66, which were significantly disturbed during construction of the later clearance heap. The inner space of the burial cell was filled with yellowish-brown debris and that of the *dromos* with small pebbles and debris from the clearance heap. No finds other than several intrusive Early Roman potshards were discovered in the structure.

Nahal Timna

In 2004, a short salvage excavation was carried out by K. Bar-On on behalf of the Israel Antiquities Authority (Israel Antiquities Authority license no. 4279/2004). Four small areas (A–D) were excavated. Remains of three structures were

Fig. 2. Photograph of the structure from Kfar Uriyya.

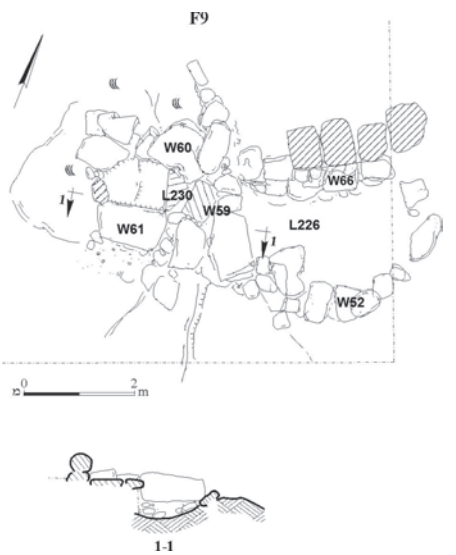

Fig. 3. Plan and section of the structure from Kfar Uriyya.

exposed in area C in a saddle between two low hills, 150 m from Nahal Timna and more than 500 m from Nahal Soreq (Fig. 4).

Megalithic structure C1 is a large rectangular structure with outer dimensions of 4.8 × 4.5 m (Figs 5, 6). It was built of large partially worked stones, some of them orthostats reaching a height of 0.7–1 m. In some cases the orthostats were reinforced with additional stones to make them fit the wall of the structure and reach a uniform width. This structure consisted of a roughly circular burial cell (L307 and L308) and a *dromos* of irregular form (L310). The *dromos* was accessed through an entrance located in the southwestern part of the structure and was paved with small pebbles. The burial cell was in turn accessed through an opening (1 m wide) in W36. It was divided into two halves (L307 and L308) by a partition wall (W38). This partition wall was constructed directly on the bedrock and was integrated into W31. The eastern half of the burial cell (inner dimensions 1.5 × 1 m) is slightly smaller than the western part (1.8 × 1 m). Somewhat later, partition wall W38 was cancelled; it was covered with small pebbles and the cell was turned into a single space. The upper part of the structure was severely damaged by later activities.

Two additional structures (C2 and C3) were discovered 30 m from structure C1. A small area of 15 sq m was tested in the northeastern part of structure C2 (Fig. 5). It was severely damaged and the only surviving architectural remains consisted of a small section of a single semicircular wall constructed of medium–sized field stones found under the upper fill. The larger structure (C3) is 12 m in diameter (Fig. 6). The excavators carried out a test section of 10 sq m in the northern part of the structure. No walls were discerned, but large stones found in the northern part of this area could attest to a burial cell of the robbed megalithic structure. Both structures C2 and C3 were probably originally built as megalithic burial structures similar to structure C1 and their remains were later used as the foundations of agricultural clearance heaps. Two cupmarks found between structures C1 and C3 are especially noteworthy (Fig. 3). They are V-shaped in section and may be related to the megalithic burials. However, it was recently proposed that cupmarks of this type result from the quarrying of flint lenses from the limestone bedrock (Grosman and Goren-Inbar 2007). These activities have been dated mostly to the Pre-Pottery Neolithic period and in that case would be unrelated to the structures under discussion.

Finds

As the structures were severely damaged and probably robbed in antiquity, the finds were scarce. Structures C1, C2, and C3 yielded 24 potshards altogether. All of the pottery was produced from similar well-fired buff clay and shows no signs of the use of a potter's wheel. No restorable vessels or large fragments were found.

Fig. 4. General Plan of the Nahal Timna site.

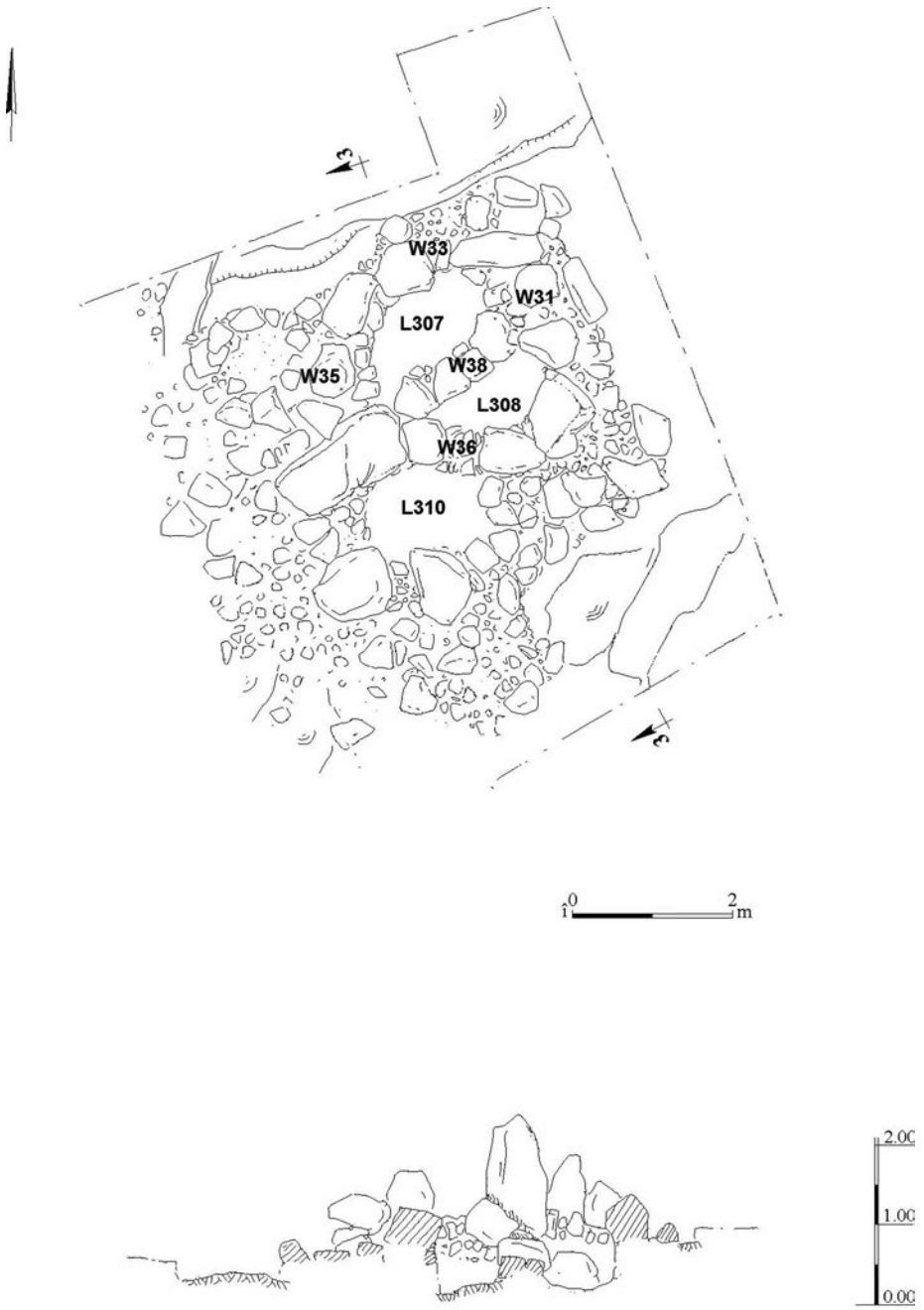

Fig. 5. Plan of the structure C1 at Nahal Timna.

Fig. 6. Photograph of the structure C1 at Nahal Timna.

Open vessels are represented by three simple rims of small, shallow hemispherical bowls (Fig. 9:1–3). This bowl type is common during the Early Bronze Age I and is attested at many nearby sites, such as ‘Eshtaol (Freikman personal observation), Tel Halif (Alon and Yekutieli 1995: 168, Fig. 20:10, 11), Jericho (Kenyon 1960: Figs 11, 17), ‘Azur (Ben-Tor 1975: 25, Fig. 5), and a burial at Kh. Hani (Lass 2003: 21, Fig. 20:25). Three additional everted rims belong to two different jug types (Fig. 9:4–6), one of them (Fig. 9:6) decorated with applied rope decoration under the neck. Similar jugs are attested in the EB I at various sites, such as Jericho (Kenyon 1960, Figs 12-13). A few more fragments of thick flat bases belong to storage vessels, possibly storage jars. They were coated with white slip in a fashion that is typical of local pottery vessels of this kind dating from the EB I. Two handles include a lug handle (Fig. 9:7) and a handle with an impressed herringbone decoration (Fig. 9:8). Such handles are attested at the contemporary sites of Jericho (Kenyon 1960: Fig.12: 5), Tel ‘Erani (Yekutieli 2002: *62–*63, Pl. 1:9, 11) and Hartuv (Mazar and Miroschedji 1996: 23, Fig. 18:5–8, Fig. 20). Body shards include four fragments with applied rope decoration typical of the EB I (Fig. 9:9–12). On three of these, the decoration was cut into a band of clay applied to the wall of the vessel with the help of a knife or similar tool, and on the fourth it was probably impressed by the potter’s thumb.

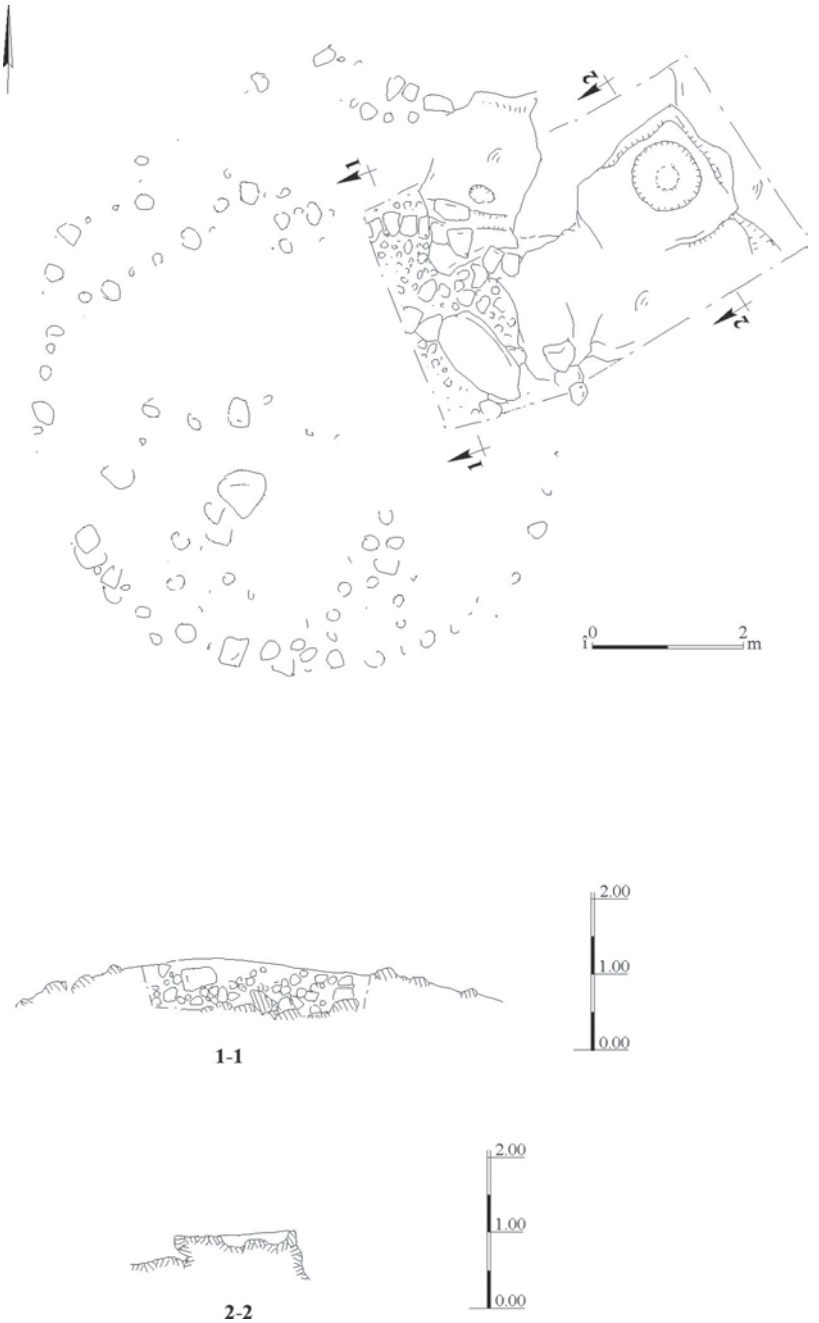

Fig. 7. Plan of the structure C2 in Nahal Timna.

Fig. 8. Plan of the structure C3 at Nahal Timna.

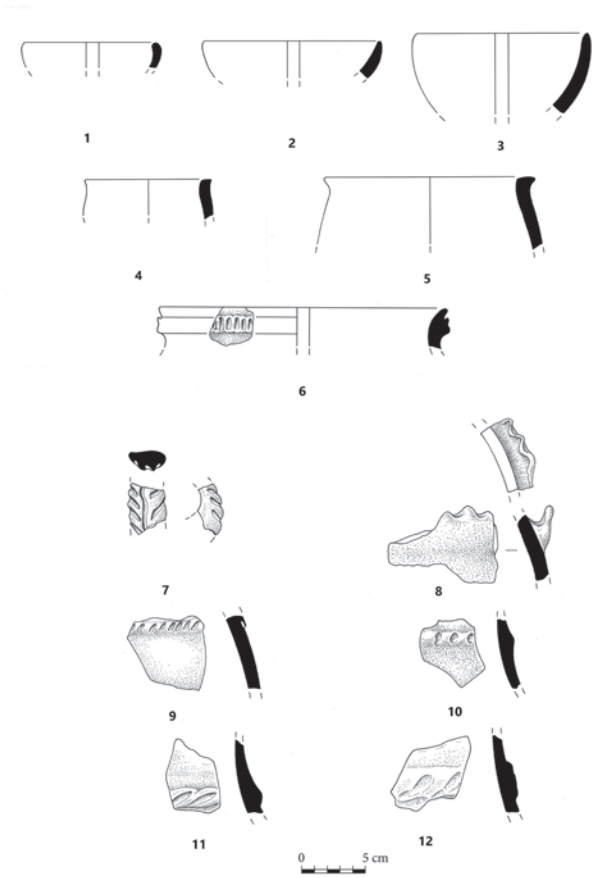

Fig. 9. Pottery from Nahal Timna.

No.	Locus	Context	Description
1	205	Structure C2	Hemispherical bowl
2	308	Structure C1	Hemispherical bowl
3	310	Structure C1	Hemispherical bowl
4	305	Structure C1	Jug
5	304	Structure C1	Jug
6	201	Structure C2	Jug, rope decoration
7	314	Structure C1	Handle with rope decoration
8	201	Structure C2	Ledge handle
9	305	Structure C1	Body fragment, rope decration
10	310	Structure C1	Body fragment, rope decration
11	301b	Structure C1	Body fragment, rope decration
12	301b	Structure C1	Body fragment, rope decration

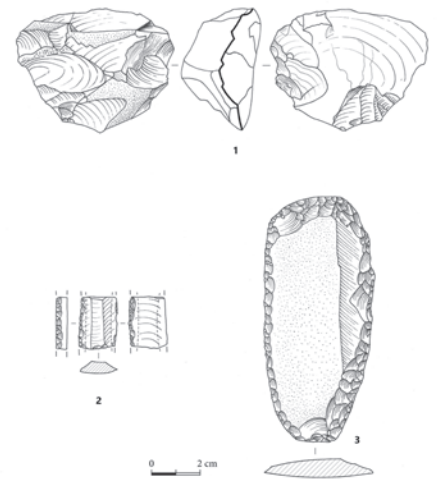

Fig. 10. Stone objects from Nahal Timna.

Number	Locus	Context	Description
1	306	Structure C1	Core
2	400	Structure C3	Retouched blade
3	402	Structure C3	Tabular scraper

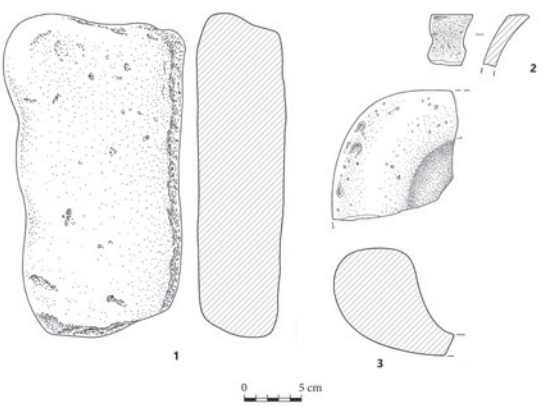

Fig. 11. Stone tools from Nahal Timna.

No.	Locus	Context	Description
1	-	Structure C1	Funerary stele (?), limestone
2	400	Structure C3	Limestone bowl
3	200	Structure C2	Basalt bowl

Fig. 12. A megalithic structure, Lachish. (Courtesy of the Wellcome Trust).

A stone slab shaped in the form of a rough rectangle and measuring 35 × 15 × 8 cm was found between the stones of the fill of structure C1 (Fig. 10:1). It was made from a rock that was deliberately selected and brought to the construction site from elsewhere. We interpret this object as a funerary stele, which was probably originally placed on the top of burial structure C1. A fragment of a stone bowl was found in structure C3 (Fig. 10:2). However, as the structure was severely damaged, it is not clear whether this bowl belongs to the original burial deposit. An additional object found in the context of C3 is a rim fragment of an elaborate basalt bowl (Fig. 10:3).

Chipped stone finds include a core (Fig. 11:1), a fragment of a Canaanean sickle blade (Fig. 11:2), and a complete tabular scraper (Fig. 11:3).

In general, the archaeological material discovered in the context of the three structures is homogenous and can safely be dated to the latter part of the EB I. The assemblage can be interpreted as deriving from mortuary offerings deposited in megalithic burials that hence date from this period.

Discussion

The megalithic burial structures at Nahal Timna and Kfar Uriyya are not the only ones known in this region. Such structures have been reported from numerous sites from the earliest days of archaeological research. Many were severely damaged small trilithons, which are no longer extant today. Megalithic burials were reported near el-Mueighr in Judea and a single dolmen from Samaria (Oliphant 1880: 149–50). Several megalithic burials were reported from the vicinity of Beth-Guvrin and Tell Sandahanna (Macalister 1901: 222–34; Bliss and Macalister 1902: 192).

Vincent (1901: 278–84) reported a single megalithic structure near el-Jib, an additional one near Abu-Dis, and one more in Wadi Marj es-Set. Abel (1910: 532–56; 1922) mentioned megalithic structures in Judea and Samaria, including a few monuments in Nahal Qanah and near Mount Gerizim. Later, Lewi (1921: 62–70) mentioned additional megalithic monuments in this area. A single severely damaged megalithic monument was reported from Lachish still visible in the 30s (Fig. 12); it is noteworthy that it was located in an area rich in Chalcolithic finds (Tufnell 1958). A single complete megalithic burial located on the road between Jericho and Shechem was mentioned by Olmstead (1972: 30). These megalithic structures were not always properly recorded and in some cases were probably erroneously identified; for example, clearance heaps 7, 8, 10, 15, 17, 20–25 near A-Tel and 17, 80, 93, 127 in Wadi e-Jdid were defined by Conder (1889: 165–70) as 'dolmens'. Nevertheless, most of them were probably burial structures of various kinds similar to those found in the Jordan valley, Galilee, and the Golan Heights.

Thus, the structures found in Nahal Timna and Kfar Uriyya supplement those mentioned above. In any case, only a few megalithic structures survive today in the Shephelah, Judea, and Samaria. This is hard to explain in light of the fact that hundreds of such burials are known from areas located only 30–40 kilometers away. We might speculate that megalithic burial architecture was much more widespread across the area during the Early Bronze and Chalcolithic periods, but most of these structures were dismantled during the Iron Age or later periods. Such buildings were considered to belong to pagan ritual and were destroyed, and the stones were possibly reused as the construction material. Similar practices during later periods are attested in Judaic sources (Halperin 1984). The stones of these structures constituted ready-hewn raw material and could be dismantled and put to secondary use in buildings and agricultural installations. Similar processes are still observed nowadays in adjacent regions, for example at Kfar Yuba in Jordan during the last ten years (D. Browning, *pers. comm.*).

In conclusion, the structures excavated in Kfar Uriyya and Nahal Timna shed additional light on protohistoric burial practices in Judea and the Shephelah and are an important addition to our knowledge of the megalithic phenomenon in the southern Levant.

Acknowledgments

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References

Alon, D. and Yekutieli,Y. (1995). 'Tel Ḥalif Terrace 'Silo Site'', *'Atiqot* 27: 149–90.

Ben-Tor, A., (1975). *The First Season of Excavations at Tell Yarmuth*. Qedem 1. (Jerusalem).

Bliss, F., and R. Macalister., (1902). *Excavations in Palestine during the Years 1898–1900*. (London)

Conder, C.R., (1882). 'Captain Conder's Reports' *Palestine Exploration Fund Quarterly Statement* 14: 10–13, 68–89.

Conder, C.R., (1889). *Survey of Western Palestine I* (London).

Freikman, M., (2014). *Megalithic Architecture in the Southern Levant: Case Study of the Golan*. Unpublished PhD dissertation, Hebrew University of Jerusalem.

Grosman, L., and Goren-Inbar, N., (2007). 'Taming' Rocks and Changing Landscapes: A New Interpretation of Neolithic Cupmarks', *Current Anthropology* 48: 732–40.

Halperin, M., (1984). 'The Dolmens – Pagan Practices from the Mishnah and Talmudic Periods', *Moreshet Dereh* 43: 6 (Hebrew).

Hartal, M., (1987). *Dolmens in the Land of Israel* (Tel Aviv).

Kenyon, K., (1960). *Excavations at Jericho* I. *Tombs Excavated in 1952–4,* (London).

Lass, E., (2003). 'An Early Bronze Age IB burial cave and a Byzantine farm at Horbat Khirbet Burj Haniya (West)', *'Atiqot* 44: 1–51.

Lewy, J., (1921). 'Archäeologische Reste im Südwesten Samarias', *Zeitschrift des Deutschen Palästina-Vereins* 44: 62–70.

Macalister, R.A.S., (1900). 'A Dolmen near Beit Jibrin', *Palestine Exploration Fund Quarterly Statement* 32: 222–24.

Macalister, R.A.S., (1901). 'On a Sepulchral Cist near Tell Sandahannah', *Palestine Exploration Fund Quarterly Statement* 33: 231–32.

Mazar, A., and P. de Miroschedj., (1996). 'Hartuv, an Aspect of the Early Bronze I Culture of Southern Israel', *Bulletin of the American Schools of Oriental Research* 302: 1–40.

Olmstead, A.T., (1972). *History of Palestine and Syria to the Macedonian Conquest*, (Westport).

Oliphant, L., (1880). *The Land of Gilead*, (Edinburgh).

Tufnell, O., (1958). *Lachish IV. The Bronze Age*, (Oxford).

Yekutieli, Y., (2002. 'The Pottery Assemblage of Phase C from the Early Bronze IB1 in Area DII at Tel Erani', *Beer-Sheva* 15: *59–*79 (Hebrew).

Field Notes
The Second Season of Excavation at Horvat Midras

Orit Peleg-Barkat
Hebrew University

The second season of excavations at Horvat Midras (Fig. 1), located in the Adulam Grove Nature Reserve in the Judaean Foothills, c. 6 km northeast of Beit Guvrin was conducted under the auspices of the Hebrew University and lead by Orit Peleg-Barkat from July 24 to August 18 2017. This season the excavation focused on three areas, A, C, and D and uncovered a Roman ashlar building, remains of the Hellenistic settlement and a funerary monument. Based on previous surveys and short salvage excavations, the site was probably founded in the Persian or Early Hellenistic periods and reached its zenith as a Jewish settlement in the Early and Middle Roman periods (1st century BCE–2nd century CE). This settlement, which included buildings, caves, ritual baths, extensive hiding complexes, columbaria *and other agricultural installations, seems to have been significantly richer and larger than other nearby rural sites.*[1]

Area A

A well-built Roman period ashlar structure, founded on bedrock continued to be exposed in the western section of the site. The building had an entrance from the west through an impressive staircase that was exposed in the previous season. The staircase leads to a wide, paved raised podium (18.2 × 12.1 m). In order to date the structure and define its eastern boundary, we focused on the southwestern corner of the podium, the northeastern corner and parts of the eastern section. We hoped this will also help us to better understand the later phases of the building.

A well-built north-south wall that abutted the northern wall of the building was exposed. This wall is clearly the eastern enclosure wall of the podium. The podium's intricate and piled foundation, below the pavement, abutted this wall and indicated that although this wall is abutting the northern wall and was not incorporated into it, the eastern wall indeed closed the pavement bedding to the east. Nevertheless, it did not constitute a closing wall for the entire complex. The northern wall and the southern wall of the compound continued east and their remains were discovered to a distance of c. 15 m from the western wall of the podium. Flat arched supports abut the eastern side of the eastern wall of the podium that appeared to support a flight of steps or another paved surface that

Fig. 1. Map showing the location of Horvat Midras

was built as part of the complex east of the paved podium that apparently served as a forecourt in front of another structure that is situated to its east. The nature of this structure we intend to expose next season.

The southern wall of the building was preserved five courses high above the level of the building's floor and was exposed as it continued eastward, c. 15 m from the southwestern corner of the building, which was also exposed this season. Near the threshold of the opening in the western wall of the podium, another section,

Fig. 2. The inner face of the southern wall of the ashlar building in Area A, abutted by a Mameluke period wall (Photo: Tal Rogovski)

preserved from the podium pavement, was exposed. The stones are arranged in a circular design that indicates the existence of a circular element in the middle of the forecourt, whose character must remain for the time being only conjectural.

The continuation of the excavation of the podium bedding yielded consistent ceramic and numismatic finds that indicate that this podium should be dated to the first half of the second century CE at the earliest. The structure was previously identified by several scholars as a Late Roman synagogue of the Jewish settlement at Horvat Midras. This identification, however, is inconsistent with the data gathered from excavations and surveys of contemporary sites in the Judaean Foothills, as well as from historical sources, indicating a decline of the thriving Jewish community in this region after the Bar Kokhba Revolt (132–135 CE). Based on its architectural design of a podium accessed via a monumental staircase, its architectural decoration (including an acroterion) and its location overlooking the main route leading to Beit Guvrin, it seems more probable to identify it as a Roman temple.

The remains of a square Mameluke building (possibly a tower) was discovered inside this Roman building. Its builders re-used the southern wall of the Roman

Fig. 3. The threshold in the western wall of the podium and the podium's original pavement. On the left is the later Mameluke paving of a structure that reused the southwestern part of the Roman podium (Photo: Tal Rogovski)

building and also used cornices and other building stones from the collapsed Roman structure to repair its damaged outer face. In addition, at least two other stages of settlement were identified dated to the Ottoman period.

At the base of this building, we conducted a short trial excavation near a massive terrace wall to examine whether this wall could be connected to the ashlar-built complex described above. The excavation here lasted merely a few days and we were unable to reach the levels that could date the wall, but another wall, which predated the terrace wall was exposed to its west, indicating a more complex stratigraphy here than we anticipated.

Area C

Evidence for intensive settlement at the site during the Hellenistic period (third and second centuries BCE) was discovered in Area C, located in the northwestern part of the site, along the slope. At least two phases of household and quarry waste were identified in the excavation of the debris along the slope. This debris was supported by crude retaining walls. On top of one of these walls,

Fig. 4. Two phases of refuse pits and quarry debris seen in cross-section in Area C (Photo: Tal Rogovski).

a massive1.1 m wide wall, whose function has not yet been clarified, was built at the lower part of the slope.

The layers of household waste included a large number of pottery fragments (including imported vessels), lamps, burnt bones, charred olive pits, Ptolemaic and Seleucid coins, a Hellenistic olive press stone fragment, building stones and the head of a zoomorphic figurine, probably a pig. The pottery types parallel contemporary ceramic assemblages discovered in nearby Marisa. The figurine, a couple of pig bones discovered in the assemblage, and especially the ceramic resemblance to that from Marisa, combined with the fact that no coins or potsherds dated to the first century BCE were found (following the Hasmonean conquest of Idumaea), suggest that the Hellenistic period inhabitants of Horvat Midras had close affinity with those in Marisa.

The debris and the retaining wall at the bottom of the slope were founded directly on bedrock. The pottery from this section included slightly earlier pottery than the debris at the upper part of the slope, indicating that at least two phases existed in the dumping of refuse and quarrying debris on the slope. This probably indicates that the debris is not a constructive fill intended to carry a structure that

Fig. 5. The southern facade of the funerary monument in Area D (Photo: Tal Rogovski).

stood up the slope, but rather was disposed of by the inhabitants of the settlement during the Hellenistic period.

Next season we intend to conduct a number of probe trenches in the hill at the top of the slope in order to trace remains of buildings from the Hellenistic settlement. This will help to ascertain the size and nature of the settlement. Up until the excavation, we had no indication of the existence of an intensive settlement at Horvat Midras during the Hellenistic period. This is particularly interesting since the site is located in the border area between Idumaea and Judaea during the Persian and Hellenistic periods.

Area D

In Area D, located at the top of the hill, the excavation was concentrated on the southern side of an ashlar-built, large funerary monument with a c. 10 m square podium and a stepped pyramid-shaped superstructure (Rahmani 1964). The excavation in this area was carried out in cooperation with the Heritage and Landscape Division of the Israel Nature and Parks Authority.

The first week of the excavation was dedicated to documenting the monument and the collapse surrounding it. The plan of the monument and its immediate vicinity was prepared and all the stones of the collapse were marked, numbered, measured and photographed. The two upper layers of collapse were removed. Those stones lying at the bottom of the pile of debris, were covered with a layer of solidified chalk as hard as concrete. This forced us to narrow our excavation area and a small pit was dug adjacent to southern face of the monument. A small section of bedrock was exposed to the southwest, where the solidified chalk layer was absent.

The c. 1.6 m-high podium was built of three well-dressed courses, whose top and bottom consisted of a moulded profile set on a well-built ashlar foundation, . A layer of soil abutting the foundations and the finds in it was exposed below the layer of solid chalk. This material is critical for dating this monument. In addition, carbon and quartz samples were taken for further tests that can help determine the construction date.

The team also excavated a small section of a quarry southwest of the monument, that was probably used for extracting the monument's stones and later turned into an agricultural installation. A burial cave adjacent to the funerary monument on its northern side was mapped and documented. Although the cave has mostly collapsed and the part that remained was never excavated, the remains enable to ascertain that the cave and the pyramidal monument share the same orientation and symmetry longitudinal axis and therefore belong together with the pyramid serving as a memorial (*nefesh*) for the burial cave.

The Horvat Midras excavation expedition owes its gratitude to the Israel Nature and Parks Authority for its continued assistance and fruitful cooperation. We also thank more than 150 volunteers who joined us during the season.

Notes

1. For earlier research at the site, see the list of references, below.

References

Dahari, U., (1989). 'Horvat Midras–Rock-Cut Burial', *Hadashot Arkheologiyot – Excavations and Surveys in Israel* 93: 84–85.

Di Segni, L., (1991). 'A Fragmentary Greek Inscription from the Giv'at Seled Burial Cave', '*Atiqot* 20: 164–165.

Ganor, A., Klein, A., Avner, R and Zissu, B., (2011). 'Excavations at Horvat Midras in the Judaean Shephelah 2010–2011: Preliminary Report'. Pp. 200–214 in D. Amit (ed.), *New Studies in the Archaeology of Jerusalem and its Region- Collected Papers V,* (Jerusalem).

Kloner, A., (1978). 'Horvat Midras', *Qadmoniot* 44: 115–119 [Hebrew].

Kloner, A., (1991). 'A Burial Cave from the Early Roman Period at Giv'at Seled in the Judean Shephelah', '*Atiqot* 20: 159–163.

Rahmani, L.I., (1964). 'A Partial Survey of the Adulam Area', *Yediot* 28: 209–231.

Shatzman, I., (2013). 'Herod's Childhood and the Idumaean Provenance of his Family: Marisa or Horvat Midras?' *Scripta Classica Israelica* 32: 123–152.

Zissu, B., and Kloner, A. (2010). 'Horvat Midras (Kh. Durusiya): A Reassessment of an Archaeological Site from the Second Temple Period and the Bar-Kokhba Revolt'. Pp. 231–253 in E. Baruch, A. Levy-Reifer and A. Faust (eds), *New Studies on Jerusalem*, (Ramat-Gan).

Zissu, B., Kloner, A, Ganor, A., Avner R. and Klein, A., (2016). 'Horvat Midras (Khirbet Durusiyah): An Ancient Settlement and its Artificial Cavities in the Judean Foothills, Israel', *Opera Hypogea* 2: 11–28.

Book Reviews

Lester L. Grabbe, *Ancient Israel: What Do We Know and How Do We Know It?* Revised edition. London: Bloomsbury T&T Clark, 2017. Pp. xxii + 365. £21.99. ISBN: 9780567670434

The volume under review is a second, revised edition of book that appeared in 2007. While the aims and general structure of the new edition are by and large the same, the new research that has appeared since the first edition, and manner in which the author, Lester Grabbe, relates to it, makes the revised version a worthwhile endeavour.

Prof. Grabbe intended this volume as an introduction to how one can study the history of Israel – both from a methodological and theoretical point of view, but also based on a review of the primary sources that are available for the historian, whether textual, archaeological, or other. That said, this volume is much more than that: if I had to recommend one text book for college level students of the ancient history of Israel and Judah, and of the Iron Age Southern Levant in general, I would, without hesitation, recommend this volume. While not all topics are covered in a broad and even manner befitting an introductory historical survey, the measured, well-balanced, up to date and informed discussions on all the issues that are covered are, in my opinion, what a college level student should be reading. This is so for the discussion on the principles and methods of analysis (Chapter 1), the overview of the 2nd Millennium (Chapter 2), the three chapters (Chapter 3-5) on the Iron Age, and the summary chapter.

As in previous publications by Lester Grabbe, I am always impressed by his in-depth knowledge of the historical sources, the up-to-date archaeological finds, his sound theoretical and methodological foundations, but most importantly, that his views do not seem tainted by the highly divisive camps in the study of ancient Israel. While he definitely is not conservative in his outlooks and used a highly critical perspective when studying the biblical text and other sources, he is far from being positioned in the so-called "minimalist" camp. Time and again, his judicious assessments of the relevant data and sources are both refreshing and insightful.

The volume is all the more important in light of several volumes that have appeared in recent years, which attempt to summarize the history of ancient Israel. Time and again, I have found that these volumes are either not up to date on the relevant data, are not cutting edge on method and theory, are too entrenched in factional views of the history of ancient Israel (whether conservative or minimalist), and in some cases, when dealing with some topics, what might be seen as attempting to revive long-dead debates.

Thus, in summary, not only do I recommend this volume as text book for college level courses in biblical and ancient near eastern history, I think scholars dealing with the various topics covered in this volume would benefit from reading Grabbe's even handed overviews and assessments for these issues. Perhaps, in the future, this volume can be expanded to a full-scale history of ancient Israel – but in the meantime – I would choose this volume over those currently available.

Aren M. Maeir
Bar-Ilan University

Mark Toher, *Nicolaus of Damascus. The Life of Augustus and The Autobiography. Edited with Introduction, Translations, and Historical Commentary*. Cambridge: Cambridge University Press, 2017. Pp. xii + 488. £99.99. ISBN: 9781107075610.

Scholar, statesman, apologist, a man so 'sweet' of temperament that he had a type of date named after him, the polymath Nicolaus is one of the more unlikely figures to emerge from the court of Herod the Great. Nicolaus was also one of the more prolific writers from antiquity. The late tenth century encyclopaedia, the *Suda*, lists several works: an extensive *Universal History* in eighty books, a *Life of Caesar* (sc. Augustus), and an *Autobiography*. From elsewhere we know of a work of ethnography and commentaries on Aristotle. Not one of these works has survived intact. What relics we have of Nicolaus' oeuvre are due to the labours of a group of scholars and copyists operating in the court of Constantine VII Porphyrogenitus. The fragments of the *Life of Caesar* are perhaps the most tantalising of all these remains, providing us with a contemporary portrait of the man who did more than any other to shape the political character of the next three hundred years of the Roman Empire – Augustus.

Toher's edition of the fragments of the *Life of Caesar*, and of Nicolaus' *Autobiography* is a welcome addition to scholarship. Toher, whose distinguished contributions to the study of Nicolaus stretch back thirty years, is the natural candidate to produce such a commentary. The result does not disappoint.

Toher's introduction provides a detailed account of Nicolaus' life and outlines the nature of the two works in question and their textual traditions. Historical and historiographical 'problems', such as the the chronology of Nicolaus' career and the composition of his works are dealt with securely. Most notably, Toher presents a compelling argument for dating the *Life* after Herod's death in 4 B.C.E, and perhaps even as late the last years of Augustus' reign, against Jacoby and others who have dated the *Life of Caesar* to the 20s B.C.E. Structurally, Toher shows how the *Life* owes much to the late-Classical and Hellenistic tradition of encomiastic biography, and offers a stimulating comparison of the *Life* with Xenophon's *Cyropaedia*. As one might expect from a historian of the Peripatetic persuasion, Toher demonstrates Nicolaus' affinity with Aristotelean ethical theory. Like his coeval Dionysius of Halicarnassus, Nicolaus' stylistic models were firmly classical, and the commentary brings out numerous linguistic parallels to classical authors. Nicolaus' putative debt to the lost autobiography of Augustus is wisely downplayed.

In what is such a full introduction, it is a pity that Toher's treatment of the *Excerpta Constantiniana* is cursory, and more could have been said about the methods of the excerpters as well as the nature of the project. Here some more recent scholarship has been neglected, which has implications for points of detail as well as interpretation. For example, the Tours Codex of the *Excerpta de virtutibus et vitiis*, has been cogently dated by Andreas Németh 970s or 980s, rather than to eleventh century as maintained by Toher following the traditional designation.

More seriously, whether we may still dismiss Constantine's project as '*anti histoire*', as Toher does (following Paul Lemerle), seems more contentious now than it did thirty years ago.

Toher has adopted a sensibly conservative attitude to the Greek text, and has opted to follow (in the main) the text of Nicolaus printed in the *editio maior* of the *Excerpta Constantiniana* by Büttner-Wobst (for the *Excerpta de virtutibus et vitiis*) and de Boor (for the fragments preserved in the *Excerpta de insidiis*), rather than that printed by Jacoby in the *Die Fragmente der grieschichen Historiker*. Textual concordances are given to the most accessible editions of Nicolaus by Jacoby and by Karl Müller (in the venerable *Fragmenta historicorum graecorum*). Toher's translation, which is printed facing the Greek text (with *apparatus criticus*), is clear and accurate, and serves as a crutch for those readers with little or no Greek. Given this feature of the volume, it would perhaps have made sense had the commentary provided *lemmata* in Greek *and* English, rather than just the Greek.

The commentary, purportedly a 'historical commentary', is in fact far more ambitious than what this descriptor may suggest. Indeed, Toher provides ample consideration of textual and philological points of interest, which some readers may find superfluous. Ultimately, a historical (or historiographical) commentary

should ask two questions of the text: What does this passage tell us about the work of the author? and What does this passage tell us about the subject of the work? Toher's commentary succeeds in addressing these two questions. Moreover, given the importance of Nicolaus' narrative for the events of March 44 B.C.E., this section of Toher's commentary is a highlight and satisfies expectations. However, this reviewer feels that the commentary on the *Life*, as a whole, might have been tighter, and that some of the linguistic points or unexamined stylistic parallels could have been omitted without diminishing the value of the commentary. On very rare occasions there are slips. A subscription by the scribe of the Tours MS directing the reader to the collection περὶ ἑλληνικῆς ἱστορίας (pp. 156, 228), is misunderstood as being an erroneous reference to a 'Greek History' by Nicolaus; whereas in fact the excerptor is referring to the (now lost) collection of excerpts 'Concerning *pagan* history'.

The commentary on the *Autobiography* is far sparser, and gives (perhaps the false) impression of being something of an afterthought.

Cambridge University Press has produced a generally handsome volume, although this reviewer did note some typesetting errors, especially in the section dealing with the *Autobiography*, which will hopefully be removed from future printings. Spelling follows the North American convention (*e.g.* honor, theater), which will doubtless rankle with some of Toher's more sensitive Anglophone readers.

These niggles aside, this is an important and useful contribution to scholarship. In terms of its scope and thoroughness, Toher's endeavour has superseded the previous two English language commentaries and translations of the *Life*. It may be hoped that Toher's volume, like the best commentaries, represents the beginning of a dialogue, rather than the last word on its subject.

C.T. Mallan
St Benet's Hall and The Queen's College, Oxford

Yosef Garfinkel, Igor Kreimerman and Peter Zilberg, *Debating Khirbet Qeiyafa: A Fortified City from the Time of King David.* Jerusalem: Israel Exploration Society, The Hebrew University of Jerusalem, 2016. Pp. 269. ISBN: 9789652211064.

For anyone wanting to know about the site, this volume is the best introduction, but readers should be aware this is the work of an enthusiast, convinced of his interpretation of the site he has excavated, arguing vigorously against his critics. Although sure Khirbet Qeiyafa was a fortified Judaean city in the kingdom of

David, at the heart of this book Garfinkel presents the primary archaeological results of his work as Ch. 3, 'The Archaeology of Khirbet Qeiyafa' (pp. 36-98). The plentiful photographs, drawings and descriptions provide a unique picture of a tenth century town. Khirbet Qeiyafa enjoys the great advantage of presenting an early Iron Age II occupation level untouched by later building for six hundred years. The hilltop site, on the north side of the valley of Elah between Socoh and Azekah, was surrounded by a stone wall, still standing three metres high in places, which prevented erosion of structures built close inside it. Excavations at several points revealed houses built with their inner rooms as its casemates, their walls up to two metres high containing a considerable depth of debris. The broken pots, often almost wholly restorable, and other objects imply a sudden destruction, although the place was not burnt, nor were any human remains found. Iron and bronze swords, axes and other tools seem to have been deliberately hidden, suggesting the inhabitants fled with the hope of returning.

Beside the wall, two gateways and about a dozen houses, three areas are described as 'cultic installations' because they contained natural stone blocks standing on end, other unusual structural features (a bench, a 'high place', a stone basin), pottery libation vessels and, in Room G of Building 10, a terra-cotta model 'house' shrine and another in stone. These shrines are the earliest of their type recovered in situ in the Holy Land, the stone one having particular interest for its recessed door frame and the imitation beam ends above it. (Garfinkel and Madeleine Mumcuoglu have written a book about this: Solomon's Temple and Palace: New Archaeological Discoveries, Jerusalem: Biblical Archaeology Society and Bible Lands Museum, 2016.) The excavator notes that the site yielded no clay figurines, as so many others have done.

Setting the scene for his account of the excavations, Garfinkel has a chapter explaining briefly his methods and how relating archaeological discoveries to biblical narratives raises problems. That leads to Ch. 2 which commences with a defence of each word in the book's title, then explores 'Scientific Paradigms of King David', opposing 'minimalist' views, maintaining Iron Age IIA began about 1,000 B.C.E., and that Khirbet Qeiyafa belonged to the kingdom of Judah. 'Methodological Considerations' occupy Chs 4 and 5, dealing with questions of objectivity, falsifiability, economy and the place of the Bible, criticising various recent writers for their misuse of these methods, but concluding that the Bible does not have priority over archaeological data.

In Chs 6-8, Garfinkel responds to critics of his Stratigraphy and Chronology, setting out the problem the 'Low Chronology' faces in the light of Carbon 14 dates provided by olive pips at the site.

Peter Zilberg contributed Ch. 9, 'The Debate on Writing and Language (pp. 157-72), concentrating on the 'best known discovery', the ostracon found in 2008. He

surveys attempts to identify its language by ‘Identification of diagnostic elements according to the different proposed readings’, listing seven which take the first letters as ’l t’ś. He follows Haggai Misgav’s initial interpretation as ‘Do not do/ make’ and argues at length that the verb is Hebrew (or possibly Moabite) against C. Rollston’s contention that its language cannot be decided. To support his case, Zilberg adduces the reading of the next letters as w῾bd ’t, the direct object marker ’t being Hebrew and Moabite. While noting ‘the text is broken here’ (pp. 164-65), he fails to mark the t as completely restored, although he does so on p. 160. At the outset Zilberg lists a ‘large number’ of authors who have written about the ostracon, naming but taking no notice of the arguments of those who understand the opening letters differently. He includes Emile Puech’s ’l t’šq: w῾bd ’[l] in his list, ignoring the reviewer’s reading’l t’š as a personal name, ‘the goddess (or Ellat) helped’, followed by another name ‘and Obed’(following Ed. Cook). A computerised analysis has since supported that proposal (Levy and Pluquet: 2016; cf. Richelle, 2016). In an essay which emphasizes ‘Methodologically speaking, one should … present as many distinctive features as possible …’ (p. 160), depriving readers of knowledge of alternative readings is a major flaw.

Happily, the second inscription from Khirbet Qeiyafa, found in 2012, is easier to understand. Incised on the shoulder of a jar before firing in firm, regular letters, it reads ‘X Ishba῾al son of Beda῾’, with only traces of the first word. Recovery of these two inscriptions is significant for the history of writing in the Holy Land, for so few specimens are available from about 1,000 B.C.E.

Whether the occupants of Khirbet Qeiyafa were Philistines, Canaanites, Israelites of Judahites is the question Ch. 10 investigates, the last being preferred, while Ch. 11 considers the site’s ancient name, looking at five proposals, deciding for Shaarayim. Israel Finkelstein’s idea that the site was part of a ‘Kingdom of Saul’ is discounted in Ch. 11. The last two chapters assess the ‘Contributions of Khirbet Qeiyafa to Iron Age Archaeology and History’ and ‘The Biblical

Tradition, Khirbet Qeiyafa and King David’. The former helpfully sets the discoveries in their broader context, the latter knits together material and textual records. Archaeology reveals a hill- top town deliberately constructed, occupied perhaps for a single generation, then abandoned and apparently looted. Without written sources, one might imagine a local chief had selected the site to establish his seat, his death resulting in his followers deserting the place in the face of a stronger man, or being deported. Marrying biblical texts with archaeological findings is the

climax of Garfinkel’s presentation. About 1,000 B.C.E. King David controlled Jerusalem, Hebron and Khirbet Qeiyafa, which was built to protect the border with Philistine Gath. Hundreds of locally made jar handles with a finger impression on each attest administration, maybe tax collection, for a central authority, while a badly damaged large building on the highest point may have been ‘the central

governor's palace', both suggesting a superior power in Jerusalem. He goes beyond the evidence, however, when he asserts his site proves the existence of the Kingdom of Judah in the tenth century B.C.E. (p. 107). At best it may indicate that it was part of a larger entity; only through biblical interpretation may he conclude that entity was the Kingdom of Judah.

Although he claims to approach the biblical narratives without preconceptions, Garfinkel readily treats some episodes as mythological or legendary. He mistakenly labels the marriage of Pharaoh's daughter to Solomon legendary because it is known pharaohs in the fourteenth century B.C.E. did not do so (p. 112). Yet in the tenth century the 21st and 22nd Dynasty pharaohs did give their daughters to other rulers and officials. Narratives which include 'miracles' he does not treat as historical, yet many ancient kings report divine interventions in their affairs. Ancient people attributed events which were opportune and otherwise inexplicable to them to their gods. Modern scholars may have other explanations but should not treat the reports as unhistorical.

Interpretation of Khirbet Qeiyafa will continue to stimulate debate which the valuable bibliography covering the many studies of the site will foster. Few excavations have been so fully published and discussed, so all who study the time of King David will be greatly indebted to Yosef Garfinkel.

Alan Millard
University of Liverpool

Bibliography

Levy, E. and Pluquet, F., (2016). 'Computer experiments on the Khirbet Qeiyafa ostracon, *'Digital Scholarship in the Humanities* 31 August 2016. Published by Oxford University Press on behalf of EADH. 1-21; http://dsh.oxfordjournals.org

Richelle, M., (2015). 'Quelques nouvelles lectures sur l'ostracon de Khirbet Qeiyafa,' *Semitica* 57: 147- 162.

Jean-Baptiste Humbert, Alain Chambon, and Jolanta Młynarczyk, *Khirbet Qumrân et Aïn Feshkha: Fouilles du P. Roland de Vaux: IIIa: L'archéologie de Qumrân*. Novum Testamentum et Orbis Antiquus, Series Archaeologica 5A. Göttingen: Vandenhoeck & Ruprecht, 2016. Pp. 536, incl. 179 figures and 113 plates. €400.00. ISBN: 9783525540541.

A much-awaited volume, this is the third in a series of reports whose remit is the publication of Roland de Vaux's excavations at Qumran and 'Ein Feshkha. The present work is the first of two projected volumes on the site's stratigraphy,

and it focuses on loci or structures surrounding the main and western buildings. These include the triangular annexe to the east of the main building (*e.g.*, L44, L45, L59, L60, L61, L64, L65, L80, L84); a series of stepped pools, installations, and open spaces to the southeast (*e.g.*, L68, L69, L70, L71, L75); the long hall and adjacent room with the large pottery stockpile (i.e., L77 and L86/87/89), and the esplanade to the south (i.e., L90, L93, L94, and L98); the large cistern and stepped pools to the southwest (i.e., L83, L85, L91), and adjacent loci (*e.g.*, L81, L83, L85, L88, L95, L96, L97); and the various open spaces and water features to the northwest (*e.g.*, L130, L131, L132, L135, L138). The stratigraphic analysis is preceded by a few random chapters discussing the general interpretation of the site, the cemetery, the animal bone deposits, the long walls that characterize the landscape between Qumran and ʻEin Feshkha, the effect of earthquakes on the site, and the significance of the various ash layers, among others. This comprises the bulk of the book, and it is authored by Jean- Baptiste Humbert, with the technical assistance of Alain Chambon.

The volume also includes a final report by Jolanta Młynarczyk on the ceramic lamps from Qumran and ʻEin Feshkha. Młynarczyk presents a catalogue of all the lamps, accompanying photographs and illustrations, and a typology. There is also a short study by Hervé Monchot on the animal bone deposits. In the absence of the faunal remains themselves, which were not retained following excavation, Monchot examines and extracts important zooarchaeological data from the available photographs.

This book is truly a treasure trove of data, most of which is indispensable for our understanding of Qumran. Each locus is discussed in great detail on the basis of de Vaux's excavation notes, photographs, and field drawings. Humbert does an admirable job of engaging with all this material, and his reconstruction of the stratigraphy—helpfully illustrated through several annotated diagrams—is noteworthy and commendable, even if at times debatable. Critically, his commentary often clarifies key elements of de Vaux's excavation. For instance, the stratigraphic profile of the loci in the triangular annexe is now clearer than ever, as is the situation in the northwest enclosure, wherein lies the largest concentration of animal bone deposits. Of great significance is the publication of a number of plans and section drawings which still include the original annotations, most importantly the elevation readings. These are gems in their own right as they allow us to do three-dimensional reconstructions of the loci in question. Furthermore, the pottery from each locus is illustrated and described briefly, including details such as pottery type, fabric, provenance, date of registration, and possible stratigraphic context. Of note is the publication of several additional sherds which were collected but not catalogued by de Vaux. It is evident that the site's ceramic corpus is much richer typologically than previously thought. There is a wide range of plates, bowls, cups,

cooking pots, casseroles, jugs, juglets, jars, and lamps, among others. Interestingly, one of the uncatalogued fragments is a base of another possible inkwell (KhQ4638, from L129 [cf. p. 440, Pl. 91:21]). Now, therefore, scholars have a host of new data with which to work. Moving forward, one cannot study Qumran without having this edition close at hand.

This notwithstanding, there are a few reservations about the volume that cannot go unexpressed. Humbert makes drastic changes to de Vaux's work, including the addition of several new loci, whose count is now at L189 (cf. p. 139, Fig. 57); the introduction of wall and installation numbers (cf. Pls I–XII), which infuses the subject with a new dose of numerical 'vocabulary'; and, most especially, the revision of the site's chronology and interpretation, which means that Humbert's Qumran looks fundamentally different from de Vaux's Qumran. This would not have been problematic except for the fact that the volume purports to publish *de Vaux's* excavations. All these changes, therefore, have robbed us of de Vaux's voice—in a report which is intended to publish his work, no less—and they add an extra layer of interpretation that is unnecessary for the expressed purpose of this volume. This is not to say that factual errors should not have been corrected, but major changes which depart so radically from de Vaux's reading of the site— irrespective of whether or not he was right—should have been reserved for an independent monograph or, at least, for a distinctly separate section in the volume. As such, the volume reads more like a critical edition *based on* de Vaux's excavations at Qumran than an actual final report on the excavations, and because of this it also suffers from an absence of boundaries between raw data and interpretation, which is the hallmark of an archaeological report proper. The fact that data and interpretation are so intricately intertwined is somewhat problematic given that the volume will inevitably be treated as an authoritative voice on the site's stratigraphy.

By way of example, I discuss briefly Humbert's conclusions regarding the destruction of the pottery stockpile in L89 (pp. 327–342). Humbert does a great job of elucidating the stratigraphy of L77 and L86/87/89, no easy task considering the gaps in de Vaux's field notes. However, rather problematically, Humbert revises the date of destruction of L89, pushing it forward to after the mid-1st century CE (de Vaux had linked the damage with the earthquake of 31 BCE). The argument is complex, but in a nutshell, it involves a detailed reading of the local stratigraphy coupled with the numismatic evidence, whose interpretation, however, seems unduly influenced by prior conceptions about Qumran. Humbert sees the site as a place where Jews from around the Dead Sea came to celebrate Passover (hence the animal bone deposits) and make first-fruit offerings in L77 and L86/87/89 (pp. 59–64, 71–75). According to Humbert, this function of the site developed in the late 1st century BCE, following the remodelling

and expansion of what was previously a Hasmonaean villa, and thus his idea only works if L89 was still up and running after 31 BCE. Early in the book, Humbert also argues that much of the earthquake damage attested at Qumran comes from seismic events that occurred after the site had been abandoned, and thus he minimizes the importance of the earthquake of 31 BCE (pp. 25–33). This argument works reasonably well in some instances, except that Humbert pushes it too far, practically denying this earthquake any impact whatsoever on the site. This gives Humbert the licence to push forward the date of destruction of L89 into the 1st century CE. Ultimately, he anchors his dating to a set of coins minted in the time of Herod Agrippa I and emperor Nero retrieved from L86 and L87.

The problem here is that the coins have no direct relationship with the pottery in L89 and, thus, no bearing on its destruction. It must be recalled that L86 was blocked off from L87 and L89, meaning that it became a separate space with its own localized stratigraphy. As for the coin of Herod Agrippa I in L87, KhQ1436, this came from the upper level of the locus (cf. p. 342, where the coin's context is listed as 'niveau supérieur', although the coin is placed incorrectly in the lower level in Humbert's reconstruction of the stratigraphy), and so it must have been registered on 16/03/1954 or 17/03/1954, placing it at a level above that of the pottery stockpile in L89.

Importantly, this means that its deposition postdated the construction of the upper partition wall between L87 and L89, which in turn postdated the destruction of the pottery stacks there.

Therefore, KhQ1436 cannot date the time when L89 went out of use, leaving us with the typology of the pottery itself as the only possible indicator. On the basis of numerous parallels in the region, the pottery can be dated to the last third of the 1st century BCE. Significantly, forms typical of the 1st century CE are attested in other loci at Qumran but not in L89. All evidence, therefore, points to the late 1st century BCE as the date when the pottery in L89 was damaged. In this specific instance, Humbert's reconstruction is unpersuasive, and it is symptomatic of the premature amalgamation of data and interpretation mentioned above.

Several others of Humbert's conclusions are open to debate. These include the interpretation of L34 as a Hellenistic bath, L64 as a lime kiln (rather than a pottery kiln), L112 as a latrine, and the long walls between Qumran and 'Ein Feshkha as *erubim*. The interpretation of the site, first, as a Hasmonaean villa and, then, as a cultic centre, a hypothesis which Humbert has proposed more than two decades ago, has not earned widespread support in the scholarly world either. But this is not the place to discuss these views, and it is beside the point—any interpretation will always be subject to debate. I only mention them because, once again, these notions lead to a somewhat distorted presentation of de Vaux's results.

I end with a note on de Vaux's work itself. The rich documentation presented in this volume stems from and is a testament to de Vaux's rigorous field methodology, and thus a vindication of his work at Qumran, which is often criticized unjustly. Surely enough, the practice then was not up to scratch with contemporary archaeological standards, but the quality of de Vaux's work was still high for the time. The annotated plans and published section drawings showcase the fact that de Vaux did not dig haphazardly and that his excavations were driven by a stratigraphic sensibility. Furthermore, thanks to the dates of registration and a relatively detailed field notebook, the stratigraphic context of artefacts can be reconstructed somewhat accurately. At the same time, the volume reveals that the stratigraphy of the site is more complex than de Vaux's synthesis lets on, something which a number of scholars have already commented upon in recent years. This volume should clarify a few debated issues, but it will not settle the chronology debate as dateable evidence from critical contexts (*e.g.*, foundation trenches or fills) remains highly elusive.

The brevity of this review does not do justice to this rich and important volume, and the above criticisms are not meant to diminish or undermine the significance of the work—quite the contrary. A work of this kind is produced expressly so that readers can engage critically with it. We should therefore be grateful to Humbert for spending what must have been years, if not decades, digesting and making sense of all these data. And while we may disagree on a few issues, there is no denying the valuable work he has done. Volume IIIb cannot come soon enough!

Dennis Mizzi
University of Malta

Honora Howell Chapman and Zuleika Rodgers (eds), *A Companion to Josephus*. Blackwell Companions to the Ancient World. Chichester, West Sussex, UK; Malden, MA: John Wiley & Sons, 2016. Pp. xvi + 482. £120. ISBN: 9781444335330.

The Greek writings of the first century Jewish-Roman historian from Jerusalem, Flavius Josephus, are essential reading for all with an interest in the Roman Hellenistic and Roman Near East. They are basic sources for history, geography, religious life and much more. In the early days of biblical archaeology, Josephus was the indispensable basis and guide, as he had been before that for countless travellers, and even before that for Crusaders and pilgrims. Still today, when the relationship between field archaeology and written sources has been transformed, and when many kinds of new questions are being asked, Josephus has a key role as

a point of reference and a generator of questions and investigations. His works will be familiar to many readers of this journal, and they will have been encountered by almost all. Whether you are a scholar with a shelf-full of Josephan studies, or an occasional browser, or a complete novice, or anything in-between, *A Companion to Josephus* is undoubtedly a volume for your attention. For those wanting to own one key work on the author, I would suggest that this is now the way to go. In an age when, for approaches to all kinds of topics and persons, *Companions* seem to have become an academic format of choice, for reasons perhaps more to do with the contemporary publishing trade than the needs of students and readers, this one stands out within the genre.

The usefulness and success of this volume has perhaps something to do with the nature of the subject. Josephus's works were produced over a period of some twenty years, and they range very widely in their character and subject matter, from a history of the Jewish revolt against Rome of 66-73/4 CE in which the author had himself participated, with a notable transition to the Roman side; to the twenty-book Jewish *Antiquities* that run from creation to nearly his own time; to a defence of his own life and career that was appended to the *Antiquities*; and finally to the *Against Apion*, a two-book defence of Judaism against hostile Greek critics still current in Rome. Moreover, Josephus has had an afterlife second to none, widely copied, read and prized through the Christian centuries because of the light he shed (or sometimes seemed to shed) on the world of Jesus and the beginnings of Christianity. His account of the destruction of the Temple as a punishment for the sins of the Jewish rebels gave him particular validity. Eventually, Josephus was rediscovered by Jews, who continued to debate the question of his treachery, but could not do without him as the illuminator of their past. This *Companion* responds in generous measure to the recent growth in scholarly interest in that long and remarkable later reception of the historian, an area in which both editors have special expertise, allocating to it the long final section ('Part IV: Transmission and Reception History'), consisting of ten chapters, and absorbing a third of the volume's four hundred and fifty odd pages.

It is most welcome that pathbreaking scholarship, often being done by younger scholars, is for the first time brought before a wider public here. It is in the *Jewish War,* the later books of the *Antiquities* and the *Life* above all, that the relationship with regional studies comes into play, and these central subjects are very well catered for among the thirty chapters. Steve Mason, the general editor of the major ongoing Brill Josephus series of translations and commentaries, and the author of a major new large scale study of the Jewish War, contributes excellent chapters on the *Jewish War* and the *Life* to the first section ('Part I: Writings'), a helpful more general chapter on Josephus as historian to the second section ('Part II: Josephus's Literary Context). Mason's special concern with the structuring of Josephus's

narrative, and for its rhetorical and literary aspects, including the distinctive use of speeches, of irony and of parallelisms, results in important insights, and also warnings, that are important for anyone engaging with Josephus for any purpose. Every statement in these ancient writings needs to be assessed in the light of its literary context; almost nothing should be taken at face value. That is of course not to say that everything should be doubted, but only that the care required in the handling of any text must here be accentuated.

It is 'Part III: Themes' that we find a chapter specifically devoted to archaeology, though regrettably the archaeology of Jerusalem, or Jerusalem and Judaea, are not covered. The Galilee (with the Golan) is in the expert hands of Zeev Weiss. In his substantial chapter, with extensive bibliography, he points out the value of the presentations in Josephus's *Life* and parts of the *War* of the political, demographic and economic geography of the areas, especially in respect of their Jewish populations. He then proceeds to a brief review of each of the main Josephan sites that have been excavated. The character of each site and the most important archaeological findings yielded by it are summarized, with a few final observations on evidence for economic activity and trade. Yodefat (Jotapata), appropriately enough the first to be considered, is viewed as one of three typical 'rural settlements', rather than as the site of the famous siege of 67 and of Josephus's notorious surrender. Gamla (Gamala) follows and then a paragraph on Magdala/Tarichaeae which will need updating in the light of recent work. The conclusion on the rural settlements stresses similarity in visual appearance, but a suggestive diversity of economic base and therefore of standard of living and cultural exposure, as well as 'various degrees of liberalism and parochialism vis-à-vis the surrounding non-Jewish society.' Even rural Galilee cannot be envisaged as a backwater of simple unchanging peasant subsistence. Some inhabitants were able to rise to wall paintings or similar decorations in their houses. A helpful discussion of Josephus's varied use of the term *polis* accompanies the studies of larger urban settlements, which are suitably illustrated, though with rather grainy black and white photographs. It is possible that, of these only Tiberias, had proper Greek-style civic institutions, though the exact status of Sepphoris (the site famously associated with Weiss himself) in the revolt period remains unclear.

The thematic subsequent sections of Weiss's study, which offer résumés of the state of our knowledge on 'material culture and behavioural patterns in city and village', will surely prove particularly useful. The focus is on items and structures specifically associated with Jewish life, and the conclusions are formulated around the definition and assertion of Jewish identity, as emerging from this selection of material evidence (there is no room for a closer definition of the prevailing non-Jewish culture). The damage done to the region by the revolt is estimated as 'limited', with life in non-participating settlements going

on unharmed. One might be inclined to question this assessment, not least through renewed critical scrutiny of the Josephan narratives. Again, while Weiss does not minimize the postwar change wrought by the presence of Roman soldiers, he perhaps overestimates the speed and smoothness of the transition to the post war 'new spirit'. It is on this note that his study ends.

David A. Kaden's much shorter chapter on the Herodian Temple in Josephus is concerned specifically with Josephus, and even more specifically with literary and technical divergences between the description in *Jewish War* 5.184-247 and *Jewish Antiquities* 15:388-245. Many hypotheses have been put forward about the discrepancies. Consideration of the literary context in the two works and of the author's changed social setting is taken by Kaden as going most of the way to explain the discrepancies, but he does not give himself the space to persuade the reader entirely. Archaeology plays virtually no part, and while, in the case of the Temple itself, this is of course inevitable, some attention might have been paid to the important discoveries in areas surrounding the Temple Mount in relation to what Josephus tells us. The Mishnaic and Talmudic accounts, which provide yet further discrepancies, are outside the scope of the piece.

Expert and up-to-date historical summaries in Part III from which many readers, including the archaeologically-minded, will benefit, are Jonathan Roth's on Josephus as a military historian, Erich Gruen on the Hasmoneans in Josephus, Jan Willem van Henten on Herod the Great in Josephus, Albert Baumgarten on the Jewish sects, and James McLaren on the priesthood. In Part II, the literary section, Helen Bond presents a helpful conspectus of the issues surrounding Josephus's connections with the New Testament. In Part IV, Daniel Schwartz gives a thought-

provoking and unique insight into the shifting perspectives of twentieth century Hebrew- language writing on Josephus, in which Masada inevitably plays a significant role. There are important potential articulations here with the equally fascinating story of the early archaeology of Eretz Israel.

This selection by no means covers all the fine contributions to the *Companion*. But the review should not conclude without informing the reader that the *Companion* has not overlooked its readers' entertainment. The splendid final chapter, contributed by editor Honora Chapman, is entitled 'Josephus Comicus' and is concern with popular culture, in the form of two films. We are reminded of one of our great debts to Josephus, who, in the *Jewish War,* expresses his passionate hatred and disgust for the factions among the rebels and vents his ire on their appalling offences and crimes. The unforgettable scene in the 1979 *Monty Python's Life of Brian (of Nazareth)*, when Reg the rebel leader of the People's Front of Judea says he detests the rival Judean People's Front more than the Romans, and then both groups turn screaming

on an unfortunate lone member of yet another party, the Popular Front, could not have existed without Josephus's Jewish parties.

The editors are to be congratulated on a timely volume, which gives a lively and interesting picture of important advances in the recent study of Josephus and which will undoubtedly make a significant difference to the way his writings are viewed and used. The *Companion* will surely have a long life. The book is generally well produced, but larger, darker print would have made for easier reading and a better appearance.

Tessa Rajak
University of Reading and
University of Oxford

Books Received

Lipschits, O. *et al.* (2017). *What Are the Stones Whispering? Ramat Rahel: 3,000 Years of Forgotten History*. (Winona Lake, Indiana).

Lipschits, O. and Maeir, A.M. (eds) (2017). *Shephelah during the Iron Age. Recent Archaeological Studies*. (Winona Lake, Indiana).

Hasel, M. G., Garfinkel, Y. and Weiss, S. (2017). *Socoh of the Judaean Shephelah: The 2010 Survey*. (Winona Lake, Indiana).

Lecture Summaries

LIGHT ON THE JEWS OF PTOLEMAIC EGYPT
JAMES AITKEN

Mosaic depiction of Hellenistic Egypt-
Image: Courtesy of James Aitken

The Ptolemaic era in Egypt (third to first centuries BCE) was a prosperous time for Jews judging by the literary productivity that can be assigned there. Yet, we know little about the Jewish community in this important period. The slim information we have from inscriptions and papyri has now been supplemented by major finds. Placing the new finds in context, the lecture showed how we might construct a renewed appreciation of the place of Jews in Egyptian society.

THE ARCHAEOLOGY OF THE DEAD SEA SCROLLS
GEORGE BROOKE

Marking the 70th anniversary of the first Dead Sea Scroll discoveries, Professor Brooke explored the Dead Sea Scrolls as archaeological artefacts, asking what can be learnt from their material culture. First he discussed some older analyses of the skin and papyrus remains, together with the more recent discoveries from multispectral imaging and other non-destructive investigations, and also recent findings about the inks used. He then looked at the varied shapes and sizes of the manuscript remains and their possible significance for evaluating compositions written on them, especially through the contrast between small and large de luxe manuscripts.

NEW LIGHT ON THE PALACE OF THE KINGS OF ISRAEL
RUPERT CHAPMAN

The biblical account tells us that in the early ninth century B.C. Omri, King of Israel, bought land on which to found a new capital for his new kingdom. While the excavations of Reisner and Kenyon made this one of the most extensively excavated sites in the region, it is still one of the least known. This talk looked at the construction of the great royal compound, which included the palace itself and an enormous parade ground,

as well as at the great platform on which the palace stood. We offered the first attempted reconstruction of the palace, and we considered both its life and its destruction.

SATELLITES OVER THE SEA: REINTERPRETING ROMAN & BYZANTINE LANDSCAPES AROUND THE SEA OF GALILEE
KEN DARK

This lecture discussed recent work by the Sea of Galilee Project. The Project builds on previous site-specific research around the lake, adopting a new perspective on the Roman-period and Byzantine archaeology of the area that is based on the methods of landscape archaeology. It seeks to understand the extent to which specialised fishing formed the mainstay of local Roman-period economic activity and to investigate the social and economic consequences of this and of Christian pilgrimage in the fourth- to seventh- centuries.

THE QUEST FOR THE HISTORICAL KING DAVID: NEW LIGHT FROM KHIRBET QEIYAFA AND KHIRBET EL RAI
YOSEF GARFINKEL

Since the early 1980s doubts have been cast on the descriptions of King David in the biblical tradition. Some scholars claim that he was purely a literary and mythological figure, others that he was just a local tribal leader. Even Jerusalem has not yielded any clear archaeological data on the King David era. This situation changed completely with the excavations at Khirbet Qeiyafa (2007-2013) and the ongoing excavations at Khirbet el Rai. The lecture concentrated on the major finds from Khirbet Qeiyafa and how they have transformed our knowledge.

IS THERE SUCH A THING AS MEDICINE IN THE BIBLE?
MARK GELLER

Was there ever such a thing as ‘medicine’ in the Bible? The identification of biblical ‘leprosy’ (Tzorat) has remained a perpetual problem for scholarship, since the ‘symptoms’ described in the Bible fit no modern patterns of illness, and certainly not leprosy or psoriasis. This lecture examined these passages from the point of view of contemporary medicine, which is well documented in cuneiform tablets, to put biblical ‘medicine’ into its proper context within ancient healing arts. Comparisons show many of the descriptions of this condition in the Bible have parallels which cast light on the passages in Leviticus, so that these passages take their proper place within the history of ancient medicine.

THE EMERGENCE OF ANCIENT ISRAEL AND ITS NEIGHBOURS: ARCHAEOLOGY, HISTORY AND BIBLE
AYELET GILBOA

The Phoenician Site of Tel Dor and the 11th century BCE Wenamun Papyrus (Image courtesy of Ayelet Gilboa)
Around 1200 BCE all economic/ political structures in the Ancient Near East dramatically collapsed and in the following so called 'dark age' several new identities were forged. This lecture followed these transformations in the Levant, especially the emergence of ancient Israel and its relation to the birth of the Kingdoms of Israel and Judah. Beyond Israel, the consolidation of its neighbours – the Philistines and Phoenicians – since, as usual, neighbouring identities rise in contradistinction to each other.

THE PEF AND ITS PHOTOGRAPHS OF JERUSALEM
DAVID JACOBSON

The Palestine Exploration Fund (PEF), founded in 1865 and the oldest society for the study of the southern Levant, holds an outstanding collection of photographs of the region going back to the 1850s. They include those taken by James McDonald for the Ordnance Survey of Jerusalem in 1864-65. Photography was conspicuous in every PEF expedition. Following a brief outline of the PEF and its founders, the lecture illustrated the Fund's holdings of early views of Jerusalem and their significance today.

FINDING THE PHILISTINES: CERAMIC EVIDENCE OF THE NORTHERN SEA PEOPLES AT TELL TAYINAT
BRIAN JANEWAY

The discovery of the Kingdom of Palastin, with its putative capital at Tell Tayinat in the Amuq Valley in Turkey, has heightened interest in the migration phenomenon of Sea Peoples during the 12th century BC. Several hieroglyphic Luwian inscriptions found in the region provide written evidence of this kingdom. This lecture presented the results of a formal stylistic analysis of a distinctive painted pottery excavated at the site, that includes forms familiar to Aegean-type assemblages found elsewhere and a repertoire of revealing painted motifs. Were these newly-arrived settlers the Philistines, infamous as invaders of Egypt and enemies of Biblical Israel?

PROF. JACOB WEINGREEN OF TRINITY COLLEGE: HIS LIFE, SCHOLARSHIP AND NEAR-EASTERN COLLECTION
ZULEIKA RODGERS

Dr Rodgers traced Jacob Weingreen's career, covering his appointment as Professor of Hebrew at Trinity College Dublin in 1937, the development of his interest in Near Eastern archaeology and his founding of a museum of biblical antiquities at Trinity. His personal background was explored, including Weingreen's outstanding post-war work at the Displaced Persons Camp at Bergen-Belsen.

ADVENTURES IN ARCHAEOLOGY: FLINDERS PETRIE AT THE 'MOUND OF THE CALVES'
RACHAEL SPARKS

The lecture explored the history and fortunes of Tell el-'Ajjul, a small site that was once home to a bustling Bronze Age port, with densely packed mudbrick houses and a thriving Canaanite community. Later eclipsed by Gaza to the north, the site went into in decline, and was relatively unknown until Flinders Petrie's five seasons of work there. This paper showed how his discoveries changed the understanding of ancient Canaan.

FAKES, FRAUDS & FANATICS: THE SEAMY SIDE OF BIBLICAL ARCHAEOLOGY
LINDSEY TAYLOR-GUTHARTZ

The stakes are so high in biblical archaeology that it's no wonder that there have been many fakes, forgeries, and questionable incidents along the way. This paper looked at some of them, from the notorious Shapira affair in the nineteenth century to modern examples, and asked whether amateurs or professionals should 'own' Biblical archaeology.

Report from Israel

JULY 2017

Advanced Imaging Technology Used to Reveal Hidden Ostracon Inscription

A multi-disciplinary team from Tel Aviv University led by Dr. Anat Mendel-Geberovich of the Department of Archaeology used advanced imaging technology to reveal a hitherto unnoticed inscription on a pottery shard. In the 1965 excavations at the First Temple Period Fortress of Tel Arad, the late professor Yohanan Aharoni found several ostraca, some of which were deciphered. The ancient site served as a military outpost on the southern border of the Kingdom of Judah. The ostracon is dated to circa 600 BCE, shortly before the Babylonians destroyed the Kingdom of Judah's in 586 BCE.

On the verso, the text on the shard mentions money transfers, but the recto was considered blank. With multispectral imaging techniques, the team was able to decipher three lines, comprising 17 words. The letter was addressed to Elyashiv, the quartermaster of the Arad Fortress, and requests wine and food from the warehouses of the fortress for a certain military unit.

Iron Age-Persian Period Reservoir Close To Rosh Ha-'Ayin

An elongated water cistern was found during an excavation directed by Gilad Itach from the Israel Antiquities Authority at a site located close to the modern city Rosh Ha-'Ayin. The cistern (20 meters long and more than 4 meters wide) was hewn below a large building that was settled during the Late Iron Age Period and until the Persian Period. On the upper plaster layer graffiti of crosses, human figures and Arabic inscriptions were found. The cistern was part of an administrative farmstead that was built after the Assyrian conquest (721-720 BCE) of the area.

A Jewish Settlement from the Roman Period at Beit Nattif

A Jewish settlement dating from the Late Second Temple Period to the Bar-Kokhba Revolt was unearthed during rescue excavations directed by Sarah Hirshberg and Shua Kisilevitz from the Israel Antiquities Authority. The site lies some 500 meters to the west of Kh. Beit Nattif. Eight ritual baths, cisterns, and underground hiding complex from the second century Bar-Kokhba Revolt, along with rock-

hewn industrial installations were found. The ancient buildings have not survived and their stones were taken to construct buildings in later periods. This site is probably the one mentioned in historical sources as a capital of one of the Second Temple Period toparchies of Judea (Josephus, Jewish War, IV, 444–446; Pliny, Natural History, V, 70).

Dietary Habits in Jerusalem from the Second Temple Period

More than 5,000 animal bones from Second Temple Period landfills from the City of David were analyzed by PhD candidate Abra Sapiciarich, under the supervision of Dr. Yuval Gadot and Dr. Lidar Sapir-Hen from Tel Aviv University's Department of Archaeology, in cooperation with the Israel Antiquities Authority. The researchers discovered that the Jewish population preferred sheep and goats to chickens and cows, indicative of the dietary habits of Jewish residents in Jerusalem during that time. According to Sapir-Hen, pigeon bones were only found in landfills near the Temple Mount, and not farther away, in landfills from the City of David. This might indicate that pigeons were only used in religious rituals.

A 7Th Century Coin Hoard near Jerusalem

A hoard of nine Byzantine Period bronze coins was uncovered during a salvage excavation close to 'Ein Hemed. The excavation, directed by Annette Landes-Nagar from the Israel Antiquities Authority, exposed a large two-storey structure and an adjacent winepress that were part of a large complex, apparently serving Christian pilgrims on their way to Jerusalem. The hoard was found near the wall of the building and was probably placed in a cloth purse that was concealed inside a hidden niche. The coins bear the images of three Byzantine emperors: Justinian (483-565 AD), Maurice (539-602 CE) and Phocas (547-610 CE). The hoard was probably hidden there before the Sassanid Persian invasion in 614 CE.

NOVEMBER 2017

Roman Theatre-Like Structure Discovered Below Wilson's Arch and Opposite the Western Wall

A sensational discovery was revealed during the Archaeological excavation conducted by Dr. Joe Uziel and Tehillah Lieberman from the Israel Antiquities Authority and Dr. Avi Solomon from the Western Wall Heritage Foundation. During the excavation, which took place exactly below Wilson's Arch, eight completely preserved stone courses from the Western Wall were unearthed under a layer of

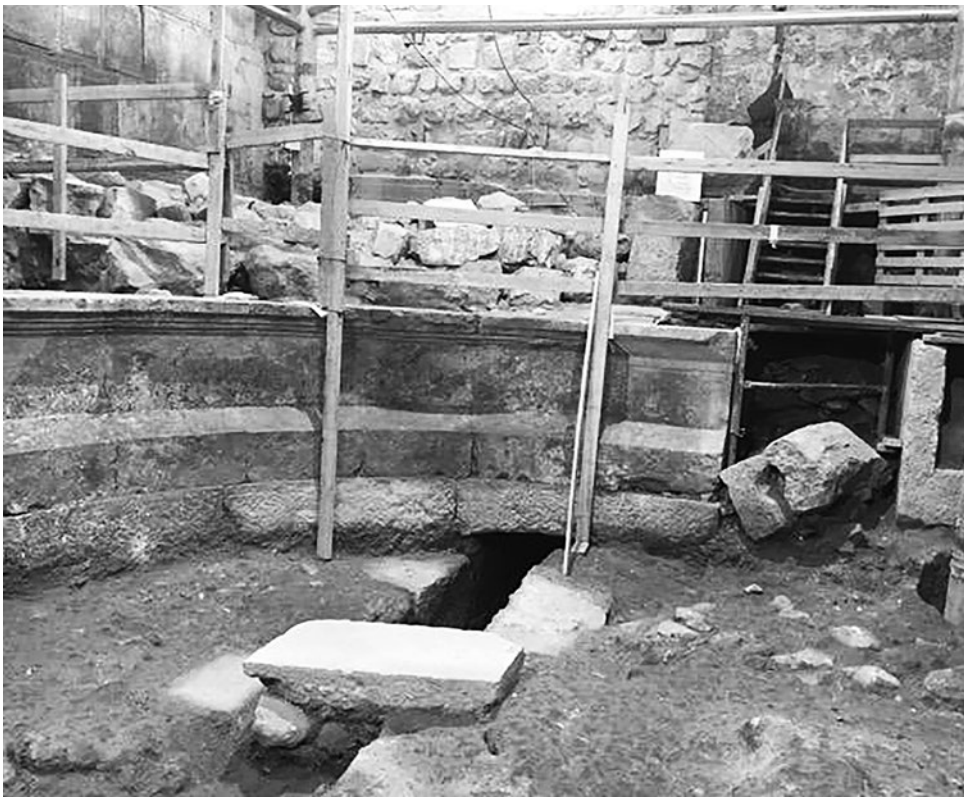

Fig. 1. Image of the ‘odeon’ (Tessa Rajak).

earth about eight meters thick. Below this layer the remains of a semicircular theater-like structure apparently dating to the second century C.E. were found. This public building contained approximately 200 seats. The fact that the structure’s measurements are relatively small, in addition to the structure’s location under a roofed space (Wilson’s Arch), led the directors of the excavation to believe that this is either an odeon— used, in most cases, for acoustic performances, or a bouleuterion—the building where a city council met, in this case presumably the council of the Roman colony of Aelia Capitolina. Several findings at the site, such as a staircase that was never completely hewn, led the excavators to note that the building was not complete in its construction. They speculate that the structure could date to the building activities that were conducted right after the foundation of Aelia Capitolina. It could be that the beginning of the Bar- Kokhba revolt forced the Romans stationed in the colony to abandon all construction activities.

More Bullae From the City of David Excavation

During the excavations of the Israel Antiquities Authority directed by Dr. Joe Uziel and Ortal Chalaf at the City of David in Jerusalem dozens of ancient seals (bullae) dating to the Iron Age period were unearthed.

The bullae are small pieces of clay which in ancient times served to seal letters. Usually they bear a stamp with the name or sign of the clerk or administrator who sent the letter. One of the seals mentions a man by the name of "Achiav ben Menachem". Other bullae mention the name "Pinchas". According to the directors of the excavation "Through these findings, we learn not only about the developed administrative systems in the city, but also about the residents and those who served in the civil service of the Kingdom of Judea".

Galilean Stone Vessel Workshop from the Roman Period Revealed

A Roman-era chalkstone quarry used to produce tableware and storage vessels was excavated by a joint expedition from the Ariel University and the Israel Antiquities Authority at Reineh, a village located close to Nazareth in the Lower Galilee. During the excavation thousands of stone cores, the ancient industrial waste from stone mugs and bowls produced on a lathe were found.

According to Dr. Yonatan Adler from the Ariel University and a director of the excavation, the ancient Jewish ritual laws state that vessels made of pottery are easily made impure and must be broken. Stone, on the other hand, was thought to be a material which can never become ritually impure.

He adds that "Until today only two other similar sites have been excavated, and both of these were in the area of Jerusalem. Our excavation is highlighting the pivotal role of ritual purity observance not only in Jerusalem but in far-off Galilee as well".

Byzantine Greek Inscription Uncovered during an Excavation at Jerusalem

A Greek inscription was found during a salvage excavation close to the Old City's Damascus Gate headed by David Gellman on behalf of the Israel Antiquities Authority. The inscription mentions the 6th-century Roman Emperor Justinian, as well as a certain Constantine—who served as abbot of a church. This is a translation of the inscription: "The most pious Roman Emperor Flavius Justinian and the most God-loving priest and abbot, Constantine, erected the building in which (this mosaic) sits during the 14th indiction". This suggests that the mosaic should be dated to the year 550/551 C.E. Researchers believe that the building of which the mosaic was once part was used as a monastery and hostel for pilgrims.

Emperor Justinian and Constantine the priest were also mentioned in the inscription that was found during Nahman Avigad's excavation at the Nea church.

These two inscriptions emphasize the large scale constriction activities that took place in Jerusalem during Justinian reign in the middle of the 6th century C.E.

A Multilayer Ancient Site Excavated Near Beit El

Archaeologists from the Civil Administration of Judea and Samaria Archaeology division revealed a multilayer ancient site underneath the marching ground of the IDF training base close to Bet El. The excavation results point out that the settlement existed during the First Temple Period.

The site was rebuilt during the Persian Period, and was inhabited by a Jewish population during the Hellenistic and Hasmonean period. The settlement remained in Jewish hands all the way up to the Roman Period and was probably abandoned after the Great Revolt against the Roman or the failure of the Bar-Kokhba Revolt. The site was inhabited again during the Byzantine Period by Christians as attested from the remains of a church and a bath-house that were found during the excavations. Eventually, the site was destroyed in the great earthquake of 748 CE and never restored again. According to Yevgeni Aharonovich, the director of the excavation on behalf of the civil administration, "the findings were amazing. Most of them were exquisitely preserved. We found keys to doors to housing units and work implements used by the Jews who lived there, attesting to the period during which the town existed".

Grant Reports

Matthew Richardson
King's College London

My first day on the dig at Lachish confronted me to the somewhat most obvious yet most over-looked aspect of an archaeological dig, i.e. that it entails a great deal of digging. Perhaps one of the main requirements for someone aspiring to become an archaeologist is for them to be an avid fan of the outdoors. In addition to this, I found that of the near fifty people involved in the dig the majority of them were either Israeli or American. Needless to say, the intellectual aspect of archaeology is paired with hours of physical toil in the field, which in Israel can often be in the scorching heat. The gruelling physical work in the heat became the most rewarding however as the results of the effort I put in could be immediately seen, the progress of which was becoming ever more evident with each passing day. Despite this, it became apparent that archaeology isn't just fun in the outdoors. After my first day of work out in the open, the scale and gravity of the project that we were undertaking began to be conveyed to me. After all, this was the 4th expedition to the site, there were people that had spent years preparing and working on what lay potentially a few feet under the surface of the Tel's soil.

In order to grasp a full understanding of the expedition, I sat down with Dr Garfinkel to ask him what was the purpose and aim of the expedition to Lachish. Prof Garfinkel explained that the main goal was to find a legitimate development of the Judean kingdom before the 7th century BCE. Then began an impassioned and detailed account of the gravity of our excavation. He affirmed that the dating of the Judean Kingdom was a very important factor in the biblical tradition, as it would allow for a type of historical narrative to go alongside with it. Then, he addressed the academic criticism he has faced, as he has been blamed for having a political agenda. He does not seek to prove or disprove details in the Bible. Rather, it could have some impact on the Israeli-Palestinian conflict as it would be utilised by either side to add substantial historical narrative to their claim to the land.

This idea changed my perception of my dig. This was not some distant academic thought experiment that was devoid of current events; it was a very real and very serious moment that played a part in a larger commentary that was as significant as the dig itself was to do who organised.

I settled into the new routine of 4AM starts and working in the hot Israeli sun. I soon found out that a positive aspect of a dig was the rapid growth of camaraderie between the other diggers and myself. In the first few days of being there, I got to know who exactly was swinging pickaxes and shovels only a few feet away from me.

My square supervisor, Noam Silverberg is a current undergrad student at HUJ, the other square supervisors include Itamar Weissbein, Igor Kreimerman, and Marina Shamir, all in the postgraduate study of Biblical Archaeology. Although it turned out that Igor had an undergraduate background in a different discipline much like myself, however, it was difficult to match mathematics with religion, philosophy, and ethics. Despite the language barrier (although all four of them spoke in almost perfect English) and cultural differences they made me feel included and a valuable member of the team.

These supervisors that could identify the time period and possible origin of the large piles of pottery that we had uncovered. My excitement at finding a single pottery shard went into overload with the cornucopia of Bronze Age shards that we uncovered. The sheer magnitude of holding an item that hadn't been seen or touched in over 3000 years was completely beyond my imagination. I didn't quite grasp the value or significance of what I was actually holding, yet, I soon learned that there are a lot of pottery shards that get uncovered and although all of them may be important to some extent we were mainly to look out for shards that resembled bases, rims, and handles—the indicative pieces that are the most use in determining chronology.

Over the coming weeks, I learnt much about the people I was with: students, volunteers, professionals, and academics. How does one become an archaeologist? One of the best answers that I heard came from my square supervisor Noam. When he was a young boy, Noam would collect a small piece of pottery or brightly coloured stones in his garden at home. Throughout the years he retained his interest in ancient history and after his years in national service decided to pursue archaeology as an academic project. Whilst Noam told me about his childhood, I too remember myself as a child sitting on the Grandes Rocques beach in Guernsey. I loved to bury my toy cars in the sand before hastily "excavating" them.

I also wondered what was there to enjoy about waking up an hour before sunrise. Marina seemed to be the most cheerful to respond to this question, as she absolutely hated the 4am alarm clock but nevertheless was eager to get outside and start digging in the outdoors.

In addition to this, for Marina, digging was not only a chance to escape the library but also the opportunity to make new exciting discoveries and to see how these finds relate to the bigger picture. The 'bigger picture' featured quite a bit at Lachish. Marina loves the interconnectedness of different archaeological points to

form one historical narrative, a love of intellectual endeavour that can be mirrored with Noam's intrigue in what he found in his garden as a child. Regardless of nationality or cultural creed it was an aspect of the dig that we all in fact shared.

One of the integral parts of my trip was to investigate the place of academic diversity in archaeology. One person that I met on my trip gave a fascinating and profound insight. Jody Bloom, a Brit much like myself, found solace in being amongst the numerous Israeli and American archaeologists, so much so that managed to understand each other's academic and personal background.

While writing this report, I unfortunately cannot recount much of what was discovered at Lachish until the initial report from the Hebrew University of Jerusalem gets published. This short essay is therefore less on the discoveries that were made in the summer of 2016 at Lachish and more of what it felt like to be in this environment—my reasons to encourage young people from diverse backgrounds to become involved. Perhaps I will apply to archaeology as a postgraduate course after all.

Benjamin Robson
Queen's University Belfast

With the generous financial support of the AIAS I participated in the 2017 season of excavation at Tell es-Safi/Gath, Israel. This was my second season working on the tell as part of a diverse, multi-national team of experienced archaeologists and students. The multi-period site of Tell es-Safi has a highly important geographical location on the border between the Shephelah and the coastal plain of Philistia. Since 1996 a long-term archaeological project has been undertaken at the site, directed by Dr Aren Maeir of the Institute of Archaeology, Bar Ilan University, Israel.

Excavations at Tell es-Safi indicate that the site was settled virtually continuously from the Chalcolithic until modern periods. In my first season of volunteering on the dig in 2016, I worked in Area E, which is a large domestic Early Bronze Age III non-elite quarter in the eastern end of the tell that has been undergoing intensive excavation since 2004. These excavations have uncovered a residential neighbourhood with architecture typical of EB houses in the region. They contain the standard repertoire of domestic artefacts, but also many non-local elite types. These suggest that the inhabitants may have been merchants involved in long distance exchange. Finds such as metal from Timna; donkey, goat and an alabaster macehead from Egypt; bitumen from the Dead Sea and basalt from the Golan Heights point to the participation of the residents in an integrated robust and sophisticated exchange system across the region.

On this, my second year of digging at Tell es-Safi, with the financial support of the AIAS grant I could volunteer for the entire 4-week dig season. This year we were excavating in seven areas in total, on the four on the upper tell and three in the 'lower city' below. I was again working on the eastern side of the tell, but this time in the extensive 50m by 30m Area A, co-ordinated by Dr Louise Hitchcock of the University of Melbourne, Australia. I was part of a small team working in this area on what was the final year of digging for Area A, the longest running area of the excavations. Area A has yielded a continuous sequence of Iron Age remains dating from the early Iron I (c. early twelfth century BCE) until the Iron IIB (late eighth century BCE). The late Iron IIA destruction level (Stratum A3) is the predominant level in this area, and serves as a stratigraphic anchor due to its excellent preservation. A series of features from the Iron Age I levels at Area A indicate it was a ritual feasting locale of the Philistines, including a pebbled hearth, pits with single animals, and refuse deposits with decorated pottery and animal bones commixed with figurines and other tokens of memory.

The objective for this dig season at Area A was to expose the earliest phases of the Iron Age. By the end of the first week of the dig, we started to uncover a large amount of Philistine (Bichrome) pottery in the Iron I. A very nice find at this early stage of the dig season at Area A was a large fragment of an Iron I female figurine and a large lamp sherd from the same period. In the second week, we were working in the Iron I and Iron IIA in our two squares respectively. In the early Iron I square, we uncovered a nice body sherd with a Philistine bird decoration. By the start of the third week, we were firmly in the Iron I in both squares, uncovering some new architecture in the western square (70C), where I was focusing most of my efforts. We dismantled an Iron IIA wall in this square to reveal an Iron I wall beneath it, which featured huge foundation stones.

It was a privilege to be part of the final dig season for Area A, with the inspiring leadership of Dr Hitchcock and camaraderie of fellow students and volunteers. Through hands-on experience I developed my skills at stratigraphic excavation and engaged with previously unpractised techniques such as section drawing, planning, artefact recovery and recording, and using a total station to record points.

I am extremely grateful to the AIAS for supporting me through the award of a travel grant, without which this invaluable trip would not have been possible.

Francesca Ruzzetta
University College London

With the help of this grant from the AIAS I was able to join the Jezreel Expedition, a team of archaeologists and Bible scholars from all over the world whose focus of research is the area around the Jezreel Tel in the Jezreel Valley, a large fertile plain and inland valley south of the Lower Galilee region in Israel. Tels used to be strategic sites in Ancient Israel given their elevated position, which made them easy to defend from enemy attacks, and the Jezreel Tel is especially interesting to investigate because it has the added quality of being the setting for the provocative accounts of Naboth, Jezebel, Ahab, and Jehu in the Hebrew Bible.

The name Jezreel encompasses two sites, an Upper and a Lower Tel, which were almost without a doubt politically linked although perhaps not physically connected (Ebeling *et al.*, 2012). The first is the so-called Upper Site which sits on a limestone hilltop that affords an exceptional view onto the Jezreel Valley and its Biblical Via Maris, the 'Way of the Sea', which in ancient times linked Egypt with the northern empires of Syria, Mesopotamia, and Anatolia. Few badly preserved architectural remains are all that is left on this hilltop after centuries of continuous occupation. This poor state of preservation is due to the continuous robbing of building material that has taken place since ancient times.

Although the Upper Tel might be the most well known site at Jezreel – and hence the one that has attracted the most attention from archaeologists in the past –, half a mile northeast we encounter another interesting site, the area that encompasses the Spring of Jezreel (1 Samuel 29:1), also known as Ein-el-Meita, which is the Arabic for 'dead spring'. This spring, although irregular in its output (hence the Arabic name), ensured the continuous human occupation of the Jezreel area, which, in some cases, goes back to the late Neolithic (c. 5000 BC). In June 2012 the co-directors Norma Franklin (University of Haifa) and Jennie Ebeling (University of Evansville) carried out an extensive survey of the area to the west, north, and east of Tel Jezreel in order to identify areas for future excavations. In the light of the data collected through this survey, they decided to put aside the investigation of the Upper Tel in order to investigate the 'Greater Jezreel', i.e. areas other than the Upper Tel that showed great archaeological potential, such as the ancient oil and grape pressing installations as well as an uncultivated area to the south of the spring, commonly referred to as the Lower Tel, the focus of the 2017 season of excavations where I took part.

The main research objective of the ongoing excavation at Jezreel is to understand the relationship between the Upper Tel and the area around the Spring of Jezreel, which, oddly enough, had been treated as different entities by previous archaeologists who conducted work in the area, such as Nehemiah Zori (Zori,

1977). The area I worked on for the two weeks of my stay at Jezreel lies on the Lower Tel, immediately east of the ancient path that leads up from the spring to the Upper Tel. This area is characterised by an intricate geometry of walls that seemed to abate one another. We are still in the process of dating these walls in order to understand the sequence of occupation, which is likely to date back to the Iron Age, although some walls might also be Bronze Age. We found some deposits from the medieval periods but they probably postdate the walls. We will need to evaluate the finds and cut a section in one or more of the walls for more information. However, the most plausible temporary interpretation of these structures is that we might be in the presence of a gateway that in ancient times regulated the access of people to a possible city in the Lower Tel, whose existence still needs to be proved; this will be the aim of the next seasons of excavation.

I am extremely grateful to the AIAS for granting me a scholarship that has helped me to take my first steps into the fieldwork part of Archaeology.

Bibliography

Ebeling, J., Franklin, N., Cipin, I. (2012). 'Jezreel Revelead in Laser Scans, A Prliminary Report of the 2012 Survey'. *Near Eastern Archaeology* 75/4: 232-239.

Zori, N. (1977). *The Land of Issachar: Archaeological Survey*. (Hebrew-Jerusalem).

Rebekah Welton
University of Exeter

I am very humbled to have received the Nicholas Slope Award in order to return to the excavations on Mount Zion, Jerusalem for my fifth season. Nick was missed by all of us at the dig this year but he was in our hearts and minds during the excitement of the excavation. While this was my fifth year with the project it was my first year as an Area Supervisor, a role I was only capable of fulfilling thanks to the experience I had gained in previous seasons which were also supported by the AIAS. I am overwhelmingly privileged to be a part of the Mount Zion project and utterly appreciative of the opportunities that have been offered to me through the support of the AIAS and the dig directors of the project, Shimon Gibson, Rafi Lewis and James Tabor.

The dig this year attracted a record number of participants which meant that at any given time I was managing circa 20-25 volunteer diggers across the so-called Lower Area of the site. Instructing them about how to use equipment, how to collect finds, how to identify pottery from tabun fragments from animal bones and how to spot coins was one of the most rewarding aspects of my role this year.

My diggers were so enthusiastic, willing to help with anything and patient when we needed to wait for elevations or photographs to be taken before digging could continue. I couldn't have asked for a better first team to supervise.

On reflection, I believe it would be much easier to be an Area Supervisor if it were possible to be in five places at any given time. This is simply because just at the moment when a coin is found another volunteer needs you to check the soil in a locus, a dig director wants to explain the excavation plan for the following day, the draftsman wants to know which wall to draw and the field recorder wants to know the description of the most recently opened locus. I was very grateful to have had an assistant area supervisor to aid me in recording data such as opening and closing elevations, special finds, and generally making sure operations ran smoothly.

We dug from 5am to midday every day and in the afternoons the staff worked on organising the daily photographs and filling in the required paperwork. After two weeks of digging there was an interim week for participants to have break and to go site-seeing across the country. Meanwhile, staff worked on dig reports, Harris matrices, and pottery sorting with Shimon Gibson. This offered a helpful opportunity to reflect on what had been achieved so far and what plans should be made for excavating in the final two weeks of the season. Writing the dig report and drawing the Harris matrices were useful exercises in thinking about how different loci related to each other and how the site was developing generally.

2017 was a good season for solidifying the dating of various structures in this multi-level site. One of the most interesting areas of the Lower Area was a large collapse of stones which we were debating over. Some of us thought it may have been from the earthquake of 363 CE, while others thought it may be from the destruction of 70 CE. As we began to remove the collapse we saw that it extended underneath an Early Byzantine wall and the pottery from the fill below the collapse dated it to the Early Roman period. It is therefore possible that the destruction is from 70 CE but we will need to wait for data from cleaned coins to know more.

Being an Area Supervisor challenged me in many ways, but what I have learnt as a result is immeasurable. The added responsibility of being a supervisor forced me to think about the excavation is much broader ways while simultaneously dealing with the smaller yet ever important problems of the daily running of the excavation. Thank you once again to the AIAS for the support I have been given on this journey over the last four years.

Rebekah Welton (2016)

University of Exeter

Returning to the Mount Zion excavations in Jerusalem for the fourth season this summer was only possible due to the very generous support of the AIAS travel grant for which I am utterly grateful. The excavation site is just outside of the old city by the Zion Gate and is a continuation of excavations that commenced in the 1970s by Magen Broshi. In previous seasons remains of a first century domestic building containing a mikveh, three ovens, a cistern and a bathtub were found. In the deepest area a large mosaic and partially constructed archway was found from the Byzantine period. The field director this season was Dr Rafi Lewis to whom I am extremely grateful for his direction and support.

This year I was responsible for excavating some wide baulks left by Magen Broshi in the west end of the site. The baulks were particularly interesting as stratigraphic layers were visible in the external sections which allowed for very careful excavation of each one. They contained particularly important information due to their proximity to a possible Crusader dry moat which we would like to date more accurately. My responsibilities were for a team of workers in this area as well as the recording of all locus descriptions, special finds and sifting operations. Some loci were fills containing artefacts including coins, fragmented metal blades, a metal bell, a murex shell, a ring and a pearl. There were also layers of mosaic in this section, the southern was clearly disturbed but in the northern area remains of the mosaic were still intact. We also came upon the top of a partially collapsed terrace wall. These collapsed stones were excavated separately and a metal cosmetic spatula was found amongst them. The dating of these features and fills will become apparent after the collected pottery artefacts have been analysed. I thoroughly enjoyed having the responsibility for this dig square and supporting a great group of participants.

I also assisted Kevin Caldwell, another area supervisor in the excavation of two other areas. One was a deep pit, also previously excavated by Magen Broshi, which had collected forty years of modern contamination and needed to be cleared before further excavation could be commenced. One further area in the south of the site appeared to be an Umayyad collapse featuring two columns. Next season we hope to uncover more of this collapse and reach the living surface, the results of which should give us a better idea of the lives of

the Jerusalemite inhabitants in the Umayyad period. The grant from the AIAS also enable me to stay for one week after digging finished in order to aid with the recording of the site, which entailed cleaning it up, removing shades, and then drawing sections and taking photographs.

I was also invited to give a lecture to the Graduate Seminar Series at the University of the Holy Land in affiliation with the Albright Institute of Archaeology. The series theme was 'Daily Life in Ancient Times'. My lecture was entitled 'Food and Alcohol Production and Consumption in Relation to Iron Age Israelite Religion.' The comments and questions I received after this lecture were truly insightful and I am overjoyed that I was given this opportunity to discuss my research with such a great audience of fellow archaeologists and students. My thanks to Dr Shimon Gibson for making this possible. I would also like to extend my sincerest thanks to Dr Nick Slope, who whilst a committee member of the AIAS was also an area supervisor on this excavation at Mount Zion and showed me the greatest amount of support and encouragement both on the dig and also for my future in this field. I am truly grateful to the AIAS for allowing me this opportunity to further my personal development in the skills and knowledge of archaeology which is something I know will continue in years to come.

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