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Hearth and Home: Life In and Around A "Kitchen" from Ancient Judah as Excavated at Tell Halif

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Hearth and home: Life in and around a “kitchen” from Ancient Judah
as excavated at Tell Halif

By

Timotheus Dominik Frank

A Thesis
Submitted to the Faculty of
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in Partial Fulfillment of the Requirements
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in the Department of Anthropology and Middle Eastern Cultures

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Hearth and home: Life in and around a “kitchen” from Ancient Judah
as excavated at Tell Halif

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A room with many well-preserved artifacts was excavated at Tell Halif in a level associated with Ancient Judah. By using analogy the use of these artifacts can be compared with that of other similar objects. Analogy is at the heart of archaeological interpretation and allows a more explicit determination of the possible uses of artifacts and their patterning. The artifacts serve as evidence for reconstructing life in and around an archaeologically excavated space. By discerning the patterns of artifact distribution we can interpret how the space might have been used. The room excavated at Tell Halif has strong evidence for food processing, closely integrated with storage. Textile production was also carried out in the room. Other artifacts point to food consumption, play, personal ornamentation and the use of symbolic images. The patterning of the artifacts indicates a busy multi-use space.

DEDICATION

To all people who conscientiously participated in archaeological excavations at
Tell Halif.

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Figures 29 and 102 are reprinted from '*Archaeological Ethnography in Western Iran*,' by Patty Jo Watson (Viking Fund Publications in Anthropology No. 57, 1979), by permission of the Wenner-Gren Foundation for Anthropological Research, Inc., New York, New York.

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CHAPTER I

INTRODUCTION

Archaeology is about people. It is the investigation of the things that are left behind from their lives, that have been preserved on and under the earth's surface. From these archaeologists seek to learn something about past lives. Usually archaeologists are concerned about lives lived in the distant past, whether hundreds or thousands of years ago. We may not be able to learn much about individuals, may not be able to trace the story of their lives, may not detect the unique mark they each left on this earth, but often we can discern the outlines of community life, of lifeways and livelihoods. Sometimes we are presented with opportunities to discern the activities of small groups, the daily tasks that only a few individuals were involved in. These are rare glimpses into the “stuff of life.”

Archaeology is not the only discipline concerned with the human past. There are others. Archaeology is often seen as one aspect of anthropology—the study of humankind. Other branches of anthropology also delve into the past, whether to explain current cultural phenomena, such as in socio-cultural anthropology, to understand patterns of language, such as in linguistic anthropology, or to trace the physical aspects of human development, such as in biological anthropology. Disciplines such as geography, philology and criminology—though usually concerned with more recent events—also seek to explain the past. The discipline most directly concerned with the human past is

history. While history often deals with the broad socio-political aspects, it may also be pursued from a particular perspective, be it economics, art, music, religion, literature or thought. While some wish to restrict history to the advent of writing and resign it just to a study of documents, that is a wrong restriction that would only lead to a skewed vision of the past.

It is my contention that archaeology is most closely connected to history as a discipline. If we want to say anything about past human behavior, it requires nothing less than explaining the course of human history in all of its bewildering diversity and specificity (Trigger 1989:367). Due to the very peculiar United States history and a monolingual bias, archaeology has become strictly separated from history in many United States universities, and more closely associated with anthropology. In part this is because North-American archaeology initially studied the remains left behind by people with little connection to the observer, rather than being involved with “our” history.

This close association with anthropology can contribute to our understanding of archaeology. Anthropology, with its emphasis on studying the “other” human, can provide a more nuanced approach; for the past is also “other”. It reminds us of the huge gap of understanding between then and now, points to limits, but also possibilities in our search for understanding the past. Unfortunately, it has also sometimes led to attempts to press the past into a mold it does not really fit. I think we have to learn to recognize the limits of rigid models. They may be useful as an aid to understand some aspects of the archaeological record, but cannot provide a full explanation. And yet, we can also approach archaeology as an involvement with the “other”, trying to understand people not only separated from us culturally, but also removed from us through time. This

approach is not only more concordant with a historical understanding, but also with the basics of anthropology.

History seeks to portray and explain the past, to draw connections and highlight differences. It traces where we came from and where the “other” came from. History does so by considering evidence and forming a narrative. History cannot be just an enumeration of facts, for the facts are disputed and multifaceted and do not speak for themselves. And history always needs to consider to whom its narrative is addressed. The audience matters. Therefore, history has to be concerned with advocacy and rhetoric. Through narrative, history does not distort what really happened. Rather, it aims to make sense of past events. Narrative explains by straying never far from the ordinary discourse (Carr 2008:21). We humans need the narrative. And if careful historians do not tell the story, others will. Some stories may become just a footnote in the triumphant story of an empire. They are practically silenced, but they are still there, subservient to the greater narrative. But in our curiosity, in our confrontation with others, history will always be there, for it also defines who we are. Therefore, someone will tell the story, even if only as an “urban myth.” As scholars we cannot leave the field of imagination to fanciful forays of entrenched interests.

The historical narrative is not only told in words. Illustrations, maps, diagrams, photographs, and—importantly—artifacts tell the story. What would a museum of transport be without a steam locomotive? Many museums have grasped their task of story-telling, relating history and artifacts. Partly, no doubt, it was the desire to get physical evidence for our stories of the past that led people to pot-hunting, to seeking the treasures of antiquity.

Archaeologists do not only supply historians with pieces of evidence, they do not just offer “the givens”—data. Archaeologists do not just provide interesting artifacts to illustrate historical narratives. Rather, archaeologists, as part of their investigation, enter the conversation and—at least partly—form the narratives. They come from a particular perspective—the study of things humans left behind in tangible form—but that does not limit them to consider only that evidence. The remains are the basis on which they enter the conversation, but they interpret them within the wider context, a context formed by landscapes, the histories of people, human life ways, and current culture. Indeed, I would contend that a valid interpretation of remains is only possible within that broader context.

Archaeology has much to offer in constructing a narrative of Ancient Israel. It can tell us about the lives of common people and the lives of leaders, the forgotten and the ones inscribed in ancient annals of history. The land, which was once encompassed by Ancient Israel, has been archaeologically investigated like few others, providing a wide set of data. And the narrative matters today. For in that land and during that time of approximately 1,500 years (ca. 1,400 BCE to 100 CE) great religions were born that impacted the course of human history and continue to touch the world today. Yes, archaeology here enters a discourse of worldviews, meaning, belonging, and even politics.

CHAPTER II

OPPORTUNITY STATEMENT

Excavations of Field V at Tell Halif, which were conducted from 2007 to 2009, yielded a wealth of material. In many parts of the field we encountered floors strewn with artifacts and covered by a layer of ash and destruction debris. The town had been abandoned and covered until thousands of years later archaeologists discovered it again. I will focus on one particular room, which was nearly fully excavated. This thesis is therefore only a preliminary study that will contribute to a fuller understanding of the houses in Field V, once further excavations have been carried out.

In this thesis I will call this room the “kitchen”. In the “kitchen” the excavators uncovered artifacts, such as an oven, which at first sight would indicate that food processing was carried out in this area. I will investigate whether any other activities were carried out in the “kitchen” together with food processing, what those activities may have been and what this may tell us about the use of space by the occupants. A reconstruction of the space will allow me to visualize the room to illustrate aspects of life in Ancient Judah. Even though my conclusions will be uniquely applicable to this particular room, it can be expected that similar patterns of the use of space might be found in other houses in Ancient Judah.

The research question first requires investigating whether the excavated remains support the *prima facie* conclusion that food processing was carried out in the “kitchen”.

Secondly, I will need to analyze the artifacts and their patterning to examine whether they indicate any other uses of the space. As part of that analysis I will take into account formation processes.

I use the term “kitchen” with some caution. It is only a preliminary description, based on an analogy of the function of a room in modern houses. Additionally, we cannot assume that all “kitchens” in Judah would have been similarly arranged or been used similarly, just as today kitchens have different functions in different homes.

I build on recent studies about household archaeology, use of domestic space, and food preparation by applying them to a particular excavated space. The carefully excavated areas at Tell Halif Field V give me an opportunity to investigate a living space from Ancient Judah. It can give us a sense of what life in and around a kitchen was like in Ancient Judah. If we know more about the details, it is more likely that we can also tell a more truthful grand narrative. Household archaeology specifically focuses on the small narratives of the past, the “unique situation” (Pluckhahn 2010:332). The study of these smaller units can contribute to a broader telling of the past, but it does not need to. There is value in closely examining a particular site, a particular household, a particular room, to tell local stories. And if that is well done, often others also find value in comparing different local situations, finding similarities across time and space.

Tell Halif is not the only site where the relationship between food processing and other household activities in Ancient Judah can be explored. There are other studies, which address similar research questions (see Baadsgaard 2008). The study of this specific room at Tell Halif provides one more local story, one more point for comparison, one more opportunity to understand past lives.

Research requires a focus. In part, a problem statement provides that focus. But a well-defined opportunity statement can also focus research. The remains at Tell Halif could also be used to address other points of interest, such as a detailed study of formation processes, a study of possible light usage in a domestic setting (based on lamps), investigation of trace elements in the pottery, or a comparison of pottery types with other sites. I have decided to look at the possible use of a particular room.

CHAPTER III
LITERATURE REVIEW—HOUSEHOLD ARCHAEOLOGY AND FOOD
PREPARATION

Household archaeology has become more prevalent in recent years (Hardin 2011). I intend to build on that, but also hope to avoid some of the pitfalls. In his investigation of households and the use of domestic space, Hardin makes observations about the use of specific areas, and also proposes that some areas in the household he studied at Tell Halif were used for food preparation, some for textile manufacture, others for wine processing (Hardin 2010:124–160). However, the linking arguments are more tacit than explicit. He does carefully note the location of artifacts to come to a reasoned conclusion of the use of space and discusses the possible sources to understand the assemblage. But some of the comparative analysis is missing. His approach of dividing the household into several activity areas, some divided by walls, others not, is helpful, as is the good description of the finds in each of these areas. A more careful explanation of how particular objects might have been used, particularly in connection with things we hardly find any traces of, could tell a more satisfying story.

Michelle Daviau uses “functional tool kits” to identify activity areas. This, she suggests, will give us a better understanding of ancient behavior and the use of space (Daviau 1990:11). Each tool kit paradigm is composed of a weighted list of artifacts. The food preparation and consumption tool kit, for example, consists of ovens (3%), cooking

pots (20%), bowls (46%), store jars (13%), jugs (13%), and other artifacts (5%) (Daviau 1990:70). She arrives at these paradigms and the weightings through comparison with ethnographic descriptions, particularly those of Dalman (1928–1942) and Watson (1979) and Kramer (1982), and with commonly found artifacts (Daviau 1990). While she praises the great study of Palestinian life by Dalman, her model building is not explicit, and only seems to take into account his study superficially. It is questionable whether Dalman's narrative account and analogous analysis can be pressed into such a model. His descriptions are those of an interested observer, not a quantitative analysis of household goods. Daviau then compares the finds statistically with the tool kit paradigm to identify the probable function of an activity area (Daviau 1990:66–73). She does recognize that areas are not necessarily mono-functional, so that they cannot be perceived as belonging to one class, but rather may have characteristics that are similar to several paradigms. This statistical approach was in part dictated by the lack of detailed recording at some of the sites she studied, as the pattern of the remains was not always clear. While this is useful, especially for a comparison across several sites, we also have to consider the particularities of the one room. The characteristics of individual artifacts and their location, not just the proportion of different artifact types, may point to functions. Daviau's success in correctly identifying room function is limited. Essentially, she found that many rooms had some similarity (based on coefficients) with the food preparation and consumption paradigm. Her study shows the limits of such a statistically-driven approach. I argue that it is often more helpful to reason by analogy from the remains, rather than trying to fit the remains into a certain paradigm. This is especially the case

when looking at one individual room. Daviau's study is a broad cross-comparison of sites, not a detailed study of a particular household or room.

Susan Kent analyzed activity areas through an ethnoarchaeological study in the Southwest of the United States (Kent 1984). She determined that the use of space was largely determined culturally. Households from different cultures varied in the extent to which the use of areas was sex-specific or monofunctional. She suggests that the use of space can indicate to what extent a culture is segmented. A culture cannot be categorized as segmented or holistic, but rather compared on a segmentation-unity continuum to other cultures (Kent 1984:198–205). Any study of activity areas has to take into account the possibility that space was used for several functions and that this may—at least partly—be determined by culture. She defines culture as a shared system of meaning and symbols (Kent 1984:12). She attempts to delimit this from behavior, but acknowledges that these are intricately linked. The extent to which activities are separated can tell us something about culture, but I do not think that the segmentation-unity continuum is a main determinant of culture. While the segmentation-unity continuum is the focus of her study, Kent agrees that “the past is far too complex and our knowledge of it too limited to let us think that we can ever really understand it by using only one approach” (1984:221).

One of the pitfalls in household archaeology is demonstrated by Brody (2009). He enumerates the finds and gives statistical tables and probabilities and simplistically concludes that houses with the most relative density of cooking pot sherds would have been used for food preparation. There is no analysis of how “cooking pots” could have been used, or how the assemblages in the rooms fit together. Nor does he consider formation processes in arriving at activity areas. Partly that approach may have been

dictated by the excavation methods: the materials were excavated in the 1930s without the detailed control and provenience information of excavations such as at Tell Halif.

Archaeological excavations in the early 20th century lacked some of the detail evident in today's excavations, but they achieved broader exposure. For example at Lachish, House 1003 was exposed to such a degree that an idea of the use of space could be formed (Tufnell 1953:106–108). Some parts of the house were eroded, but in other parts the remains were well preserved.

Excavation reports tend to describe the artifacts recovered by type, often focusing on chronological or provenience questions. Interpreters then often draw implicit and very quick conclusions about the use of an area based on implicit assumptions. In discussing the Western Quarter at Beersheba Herzog notes that a building has many storage jars and few bowls and cooking pots and therefore must have been used for storage or industry (Aharoni 1973:34). He also notes that several cultic objects were found among domestic pottery, indicating the domestic nature of the cultic objects (Aharoni 1973:36). At no point does he consider why certain objects might be considered cultic or domestic or industrial. When discussing the use of the store houses only the layout of the building and the pottery is taken into account. But the pottery is only discussed to argue that a variety of goods must have constantly left and entered the building without any linking argument as if to say that we have many different vessels, therefore many different materials must have been stored here (Aharoni 1973:23–30).

When discussing Area S at Lachish, the excavators main conclusions were that these buildings were domestic in nature and that royal Judean storage jars (LMLK-type jars)

were kept also in private dwellings (Ussishkin 2004:453). The absence of jewelry and other valuables was seen as evidence of looting.

At Shechem, Edward Campbell identifies a room as a kitchen based on what he identifies as a hearth and the presence of grinding stones and cooking pots (Campbell 2002:283). There is generally no explanation why he suggests certain functions for installations. When he describes something unexpected, he gives additional information. For example, he finds it strange that a drain begins at the base of a silo and thinks that the feature may also be a sump (Campbell 2002:284).

Izhaq Beit-Arieh hardly mentions any possible function of the excavated areas in his reports on Tel 'Ira. Finds are usually only considered for their use in building chronology. However, the labels given to rooms indicate what purpose the excavators thought they may have served. For example, a room packed full with large pithoi is described as a storehouse (Beit Arieh 1999:87).

Food preparation and diet in Ancient Israel have mostly been discussed in books and articles dealing with daily life of those times (Borowski 2003; King and Stager 2001) or particular implements (Ebeling and Rowan 2004). Scholars have also studied the biblical text for clues on diet in Ancient Israel (MacDonald 2008a, 2008b). Generally, the question is: what have they been eating? The question what role a specific space would have played in food preparation is not directly addressed. Some spaces are discussed in excavation reports and reference is made to ovens and food processing equipment (Ussishkin 2004). Discussions on food technology mention the tools used in food processing and set these in a wider historical context, but they can be very inaccurate and

overly general, such as collapsing many time periods in the Ancient Near East into one, rather than acknowledging changes over time (Curtis 2001).

Detailed studies on weaving and textile technology are general in nature and compare the use of technology across time and cultures (Barber 1991). Taken together with data from the Bible and excavations, the role of weaving in Ancient Israel was studied as part of descriptions of daily life (Borowski 2003:31–32; King and Stager 2001) and to gain a better understanding of women's lives (Ebeling 2010, Meyers 2003a). Cassuto (2004) studied evidence of weaving, particularly loom weights, within their context as uncovered in recent excavations in Israel to arrive at an understanding of the social context of weaving in Ancient Israel.

Cooking and weaving are seen as activities normally carried out by women (Ebeling 2010, Meyers 1988, 2003a, 2003b, 2007). The extent to which different activities were carried out in close proximity can indicate use of space and cultural attitudes towards ordering of social life (see Bunimovitz and Faust 2002 and 2003)

Many of these studies presume that it is possible to deduce certain activities from the archaeological remains, that we know what happened here because the data tell us. The distribution of certain objects can give us an indication of the activities performed at a certain location (Schiffer 1987). Household archaeology assumes that it is possible to study activity areas because the distribution of archaeological remains is patterned (Hardin 2010:21). Household archaeology places emphasis on ethnoarchaeological studies to be able to understand the patterns. The patterns are not self-evident. Interpretation of data requires comparison with other ordered patterns.

In contrast, a post-processual archaeology approach compares the reading of material culture to reading a text (Hodder and Hutson 2003:166–170). Reading a text is not simple understanding, but always interaction between reader and text, in which the reader manipulates the text and the text impacts the reader so that it sometimes even breaks through prior conceptions. As Yoffee and Sherratt (1993) point out, much of the post-processual view of culture is borrowed from post-modernist trends in literature. Hodder and Hutson draw back from a strict parallelism between reading a text and reading material culture (2003:168–169). Text is only a metaphor, not an analogy, for material culture.

In their valid critique of some functional approaches, post-processual archaeologists may have overemphasized some of the uncertainty. Yes, our understanding is influenced by our world views, our situation in life (*Sitz im Leben*). It matters what the archaeologist had for breakfast, not just what the people who left behind these remains had for breakfast. But, that breakfast thousands of years ago, if it is detectable in the archaeological record, matters more, because it is a more stable constant, something whose traces have—fortuitously—been preserved through time, and because it is the object of our study, not—like the archaeologist’s breakfast—an indicator of perspective.

I think that we have to be aware of our own perspectives, that we cannot ever presume that the data speak for themselves. But rather than making that perspective the main point of uncertainty, we can see it as a source of valuable information. As archaeologists, we do not just work with data, we interpret it. And as interpreters we have to be as experienced and prepared as possible. Our reading, our research, our excavation experience is not simple application of some notions to a problem, but something that

molds us as a person, who is then better able to see data in a new way. Only with that experience, that life knowledge, that local information, can we hope to see some of the clues in the archaeological record. It is the task of the archaeologist to prepare herself as best she can for the task of interpretation and honest research.

CHAPTER IV

RECOGNIZING THINGS: EPISTEMOLOGY AND ARCHAEOLOGY

Epistemology is the study of how we know things, of how we perceive phenomena and make sense of them. It is not the study of brain activity, not a medical or biological explanation of human knowing. Rather, it is an exploration of the world of meaning, of symbolism and the associations humans make to understand the world. It accepts, and builds on, the idea of humans as complex characters. I want to raise it to understand more clearly how we might interpret archaeological phenomena.

In archaeology we often excavate things that we do not normally use in our daily lives today, at least not in the same form as the past. Generally things we use have a certain association, a purpose. We have learned that a book is to read, a glass to drink from. Some things convey meaning: the gold watch, the flag on a pole, the cross affixed to a collar. We do not have those immediate associations for many ancient things.

Knowledge of objects comes from analogy, from making comparisons between the known and the phenomena to be explained. When we find a “bowl” in the archaeological context, we may draw a connection with the bowl we had our breakfast cereal in. It is not a simple connection, for we always need to be open to the possibility that a “bowl” might have been used differently by the people whose traces we study.

But with all the difference, we have to recognize that humans are still involved in basic activities that have not radically changed from the past. We can draw analogies

between our present lives and those of people in the past. We can draw analogies between the things we use and the material culture we uncover. We need to be aware of the vast gulf that exists between then and now. We need to be aware of the differences between past and modern lives, at the same time evaluating similarities. We cannot escape analogy in our effort to know things. We can only understand the unknown in terms of the known. Even theoretical concepts of relationships that we cannot immediately know, such as theories in physics about atoms and black holes, rely on the use of models to conceptualize in known terms what we can otherwise not describe (Hesse 1966:7–56).

It is easy to disregard the differences between past and present life ways if we only interpret artifacts through the use of categories that span time. A pot used for experimental archaeology is not the same as one used thousands of years ago. Use-wear we observe today is not identical with past use-wear. There are similarities and differences. Analogy can take into account these similarities and differences. The use of classes may assist in an initial ordering of objects. Many studies of objects contribute to archaeology by exploring the distribution of classes of objects across time and space. But if we want to go beyond a science of artifacts and approach the artifacts to learn more about people who used them, we are more explicitly reliant on analogy, which is always fluid and continuous, never sharply delineated. Analogies are always dependent on the situation of the observer as much as on the material to be observed. If archaeology is really about people, then the data of archaeology have to be interpreted with recourse to analogies (Trigger 1989:366). We require a “persistent coordination of observations on the archaeological record with those made actualistically” (Watson 1986:451). This requires us to go back and forth between what we see in the archaeological record and

any comparisons we make, whether they be with current usage of objects or those reported in other publications. Through our experience and interaction with the archaeological record, we get an idea about the question we have to ask, both of our contemporary world and other reconstructions of the past.

Analogy consists of the selective transposition of information from the source to the subject of the analogy on the basis of a comparison that, fully developed, specifies how the terms compared are similar, different or of unknown likeness (Wylie 2002:147). Analogy is a cognitive process of transferring information or meaning from one particular subject to another particular subject. It is an inference or argument from one particular to another particular. At its simplest, the comparison supporting analogical inference is a purely formal, point-for-point assessment of similarities or differences in properties of the source and subject. Analogical inference is used along a continuum from the formal determination of absence or presence of discrete properties to a more case-by-case weighing of relevance. Wylie suggests greater weight can be given to relevance by testing the source and subject side of analogy (Wylie 2002:151). For example, when ethnographic analogies are used, a detailed study of the use of the artifact is required. Equally, on the subject side, different hypotheses are to be constructed and tested to determine whether an artifact could indeed have been used in a certain way. Strengthening such analogies will always be difficult in the case of ideological comparison.

There are many sources for comparison: current experience; experiments; documentation of the use of objects in the past; and ethnographic analogy. The use of ethnographic comparison gives us the ability to recognize the use of objects in societies

other than our own, societies that may use objects in a similar way as they have been used in the past. We can see similarities with the archaeological record. But we have to remember that it is analogy, not a simple translation. We cannot directly project current life ways into the past.

Simplistic ethnographic analogy was often a characteristic of a progressive evolutionary approach to archaeology. With a more rigorous examination of assumptions, the use of such analogy, where societies at similar evolutionary stages were equated, has been discarded (Ascher 1961:318). However, ethnographic analogy is just one part of analogous reasoning. In his seminal article Robert Ascher only hints at the wider use of analogy apart from ethnography (Ascher 1961:322). He acknowledges the difficulties with analogy, but affirms that it is the main tool for archaeological interpretation, though one that has to be exercised with caution (Ascher 1961:317).

Apart from changes in culture, we also need to be aware of the change in physical properties when we try to recognize things from the past. Walls collapse, iron rusts, pots get moved. Often we can see such processes happening. And we can see what a mud brick wall would look like after it has been exposed for decades. Archaeological remains often have been subjected to these processes for a far longer time, but our observations may allow us to draw adequate analogies to recognize the artifacts. We must study formation processes as part of our effort to recognize and interpret objects.

While analogy is not limited to archaeology, it has a proper place in archaeology. It is a response to the question “What is this?”, an attempt to recognize things that are both foreign and familiar. Analogy was used from the beginning of archaeology, when excavators tried to make sense of the objects they found, and when they drew

comparisons between objects. It is the main way to identify artifacts in the field. Our initial conclusions are then weighed against other analogs, so that we can arrive at a refined, strengthened interpretation of artifacts. Most archaeologists do that intuitively. However, often the analogical process is not methodically applied and our process of identification is not made explicit. By making analogical reasoning explicit, we are not only likely to come to a better interpretation of artifacts, but also be more honest in our research.

Another method to analyze artifacts is classification. Classification allows us to bring order into a wide array of artifacts, so that we can consider them in more detail.

Classification is the arbitrary setting of criteria to determine what is inside or outside a certain class. To make use of classification in addressing questions, these criteria are set to specifically analyze that question. They have to be consistent with the field. In other words, classification should be problem-related. There are two forms of classification: taxonomic and paradigmatic. Taxonomic classification is determined by splitting objects into classes at a higher level and then dividing the higher classes independent of each other. Non-dimensional features are used to define classes (Dunnell 1971:79).

Paradigmatic classification is determined by criteria that are valid across all classes, so that classes are determined by the intersection of these criteria. All of the class definitions are drawn from the same set of dimensions of features (Dunnell 1971:71). This often results in a lot of redundant classes, as many criteria are required to distinguish objects; but many classes are formed to which no objects are assigned. For example, the same criteria that apply to ceramic vessels found in the “kitchen” would also apply to stone tools, unless the fields were separated and thereby the researcher would revert to a form

of taxonomic classification. Analogy plays a subsidiary role in classification. The assignment of objects to paradigmatic classes requires the identification of attributes analogous to the distinctive features employed in the definition (Dunnell 1971:84). The assignment of objects to taxonomic classes requires an evaluation of the different attributes to each other.

Traditionally, objects in Syrio-Palestinian archaeology have been classified by taxonomic classification. Due to the abundance of ceramics found on archaeological sites and their usefulness in chronology building, ceramics were treated differently from other objects, even so much that artifacts were often split at the highest level into “ceramics”, “objects”, “installations”, and “samples”. The classification of ceramics then proceeded totally separately from that of other objects. Within the field of ceramics the classes were also not formed by the same dimensions. Classification of bowls proceeded quite different from that of jars. Such a classification allowed quick reference to certain similar objects and also established the chronology of sites as subtle changes in some forms could be traced, while other forms may have remained the same.

Paradigmatic classification is more parsimonious and has less ambiguity as value judgments are limited, when assigning objects to classes. It does, however, often require a more comprehensive set of dimensions, which have to take into account a wide array of attributes. The use of paradigmatic classification allows us to consider the importance of certain attributes and their persistence, appearance, or disappearance over time. For example, bowl “E” might be identified as a round ceramic vessel with a greater width than height, where the height is not more than 20 cm, the opening is wider than the foot, and the opening wider than 80% of the largest diameter at any other place of the vessel.

We can then ask why bowl “E” has persisted across time and space for thousands of years, though recently it has been replaced in part by bowl “P”. Bowl “P” has the same dimensions as bowl “E” except that it is plastic, not ceramic. We can postulate that the form is the basic explanation of this persistence, and that the use of bowl “P” in recent years is the result of the availability of a new material. The partial continued use of bowl “E”, despite the new material, may be linked to social norms about the use of plastic vessels and to the use of dish-washers. This is an approach that will yield interesting results and may give us some understanding about the attributes of objects, which humans use. We can determine whether some attributes are more essential than others and whether some are more likely to be form or function. Of course, attributes are normally not only due to form or function, but an interaction of the two.

The problem with this approach is that it makes it difficult to recognize the subtle differences between forms across time and also the similarities which transcend the boundaries between classes. For any meaningful exploration of differences between similar artifacts, especially across time and space, thousands of dimensions have to be created, which make it a very cumbersome approach. For anything unexpected, new dimensions and classes have to be created or it cannot be adequately explained. Often this is tempered by a pragmatic approach, which is based on life experience, even though it does not accord with the avowed objectivity of classification. For example, unless we had already some experience of bowls, our classification is unlikely to arrive at a definition of bowls. The classification is often designed to adjust to our intuitive knowledge, which is partly based on analogy. Classification does not occur in a vacuum. The use of classification also cannot suggest a function without additional evidence. Use-wear

analysis may be seen as such evidence. But it requires us to make analogical arguments. For the situation that produced similar use-wear in experiments is not the same as that, which produced use-wear in artifacts. The two are not identical, but similar. On the basis of analogy we can assume that similar use would have resulted in similar use-wear, while also noting the differences. While classification has been part of the human endeavor to organize and make sense of the world around us for a long time, it is also most closely linked to a time period in human explanation, centered particularly on the 19th century. But it is not the most basic, most human way to organize and recognize things around us and make sense of them. That is analogy.

Let me show the difference between analogy and classification in archaeology through an analogy. In computer science, artificial intelligence for many years was developed along the lines of rules-based reasoning. This is similar to classification. If something fitted into a certain box, it was put in that box. Certain actions followed as a result. However, over time it became apparent that this approach required too many rules for a more complex analysis. It also was unable to deal with new situations. Therefore, artificial intelligence developed along the lines of analogy (Holyoak et al. 2001:8). The computer compares similar situations or objects it has encountered before or that are stored in its memory and associates those. It recognizes the similarities and differences and draws inferences from these, which can lead to certain actions, which are more tailored. The inferences are contingent on the situations and objects it has encountered before. They are therefore less certain, but more dynamic. They can also lead to more innovative solutions. This reasoning is closer to human intelligence than the rule-based reasoning.

In archaeology objects can be similarly put into boxes. Or they can be explained through analogy. When they are explained through analogy, they are more directly linked to the experiences of the researcher. That means they are more subjective, but they are also more dynamic, can be better used in argument and are open to new evidence. It also allows the researcher to get a better link to these objects which are similar and yet different. For the researcher proceeds from the known and then takes into account different analogies through time and space so that he or she is able to form a nuanced view of life in the past. The very real differences between then and now are more explicit.

In part the difference of method—classification or analogy—depends on the fundamental approach we take to archaeology. If we do archaeology mainly to understand more of the past lived experience, analogy is a more consistent approach. If we do archaeology mainly to examine empirical patterns of stability and change in the material record associated with humans, then classification is a more consistent approach (see Gardner and Cochrane 2011:17). What I am concerned about is that the interpretation of artifacts in a more interpretive approach is sometimes not sufficiently explicit. Analogy makes the interpretation of these artifacts explicit and allows us to say something about the past lived experience by comparing the things used by humans to those used in other times and spaces.

My focus on analogy came out of my own field experience. At the time I was thinking about the classification of artifacts that we were excavating, but I found it an unhelpful approach in the field. People told me what mudbricks should look like. They gave me the dimensions of the class “mudbrick”. It was still difficult to recognize. Then I saw crumbling mudbricks at a more modern structure. There were differences, but there

were also similarities to the phenomena we found in the field. Using analogical reasoning allowed me to recognize these mudbricks. We found sherds, figurine fragments, sculptures and always the questions came up: “What is it? What was it used for?” And I found myself going to analogy again and again. Analogy was particularly useful when only parts of artifacts were found. I could identify things as the lower body of a figurine, as the rim of a bowl, because I was able to compare it to something which I had seen completely. I realized that this analogy was continually used by archaeologists around me. They often recognized things because they had seen something similar somewhere else. In particular, archaeologists who had been in the field for a long time were able to draw analogies. In other parts of the world archaeologists also frequently use archaeology. Some argue that this is just part of field speculation, but that it has no proper place in the professional analysis of the archaeological record. I regard this as an artificial split between personal and professional reasoning and a refusal to acknowledge one’s own subjectivity. Analogy is part of human reasoning and is continually employed in archaeology. Without it, little could be known. However, it has often not been made explicit. This thesis is an attempt to make analogy more explicit. I have made a conscious choice to use this dynamic approach consistently. The interpolation of classes as the main means of analysis would be inconsistent with this approach. To a certain extent, classification and consistent analogy have the same aim: making our reasoning more explicit, so that it can be explained, discussed and altered. Classification constructs an external frame of reference, trying to override our own subjectivity. Analogy relies on our experience of the world, trying to make our own interpretations stronger. I think it is

an honest approach that takes our own subjectivity into account, though it is more uncertain.

CHAPTER V

CRITIQUES OF ETHNOGRAPHIC ANALOGY

Ethnographic analogy, in particular, has been severely criticized over time. This is partly due to its abuse early in archaeological interpretation, particularly that associated with progressive evolutionary approaches. Contemporary “primitives” were presumed to be comparable to the pre-historic forms of savagery (Wylie 2002:137). Similar approaches were already popular during the Enlightenment, as evidenced by the writings of Jean-Jacques Rousseau (Rousseau 1754). While Rousseau had a somewhat negative view of civilization, many people saw culture progressing from the primitive to the civilized. In Great Britain it was often thought that “savagery” was the evolutionary starting point, which culminated in the great civilizations of Western Europe.

These early uses of analogy did often gloss over the differences and did not take account of historical change. That is, just because stone tools are found in the archaeological record, this does not mean that the people who used them behaved exactly like other people using stone tools. This was not a sufficiently careful and explicit application of analogy so that cultures could be fitted it in a speculative hierarchical classification with value judgments. However, we also need to see that the contact with people who used these different objects allowed Europeans to imagine a past that was different from the present. It enabled them to somehow relate to the past, even if it was largely built on speculation, not careful analogy. Modern archaeologists have to take note

of this lesson. The analogies they draw need to be strong; they need to be explicit and not largely based on speculation; they also need to be independent of hierarchical classification and free of value judgments. However, this experience should not make us shrink in horror from any attempt to learn from different cultures, to draw analogies or to interpret archaeological material.

Freeman argues that the use of analogy has demanded that pre-historians force their data into frames arrived at by the study of modern populations (Freeman 1968:262). He sees it as unscientific because if we use models that are only elucidated by parallels with modern groups, we cannot discover socio-cultural structures unique to pre-historic time periods. He says that the use of analogy in archaeology has in part been due to the desire to construct levels of economic organization or social complexity (Freeman 1968:263). He argues that progressive evolutionary schemes, as that put forward by Sahlins and Service, are essentially taxonomies, not “evolution”. Different categories are hierarchically ordered. This is based on the hypothesis that like environmental stimuli produce like cultural responses. Freeman argues that this cannot hold up. Modern populations of higher animals and their distributions are the result of a complex historical process (Freeman 1968:264). New ways of living have occurred. Therefore we cannot presume that past cultures were the same as those in similar environments today. He suggests that pre-historians must consider the material aspects of culture to draw inferences about human behavior. This is done by the isolation of regular types of associations of materials, and their formal equation with activity types.

I agree with Freeman that the wholesale equation of past cultures with modern cultures based on their environment will create false assumptions about these past

cultures. Historical processes are at work and change people's ideas, and their use of objects and of the environment. I also agree that the progressive evolutionary levels, which these equations inform, are a form of hierarchical classification. However, I would argue that the equation of all aspects of a culture because of the similarity of the environment is a crude and irresponsible use of analogy. That is, Freeman attacked either the weakest form of analogy or he misunderstood analogical reasoning. Analogy takes into account differences and similarities. It also does not mean that if some aspects between two subjects are similar, everything else must be the same. Rather, analogy takes into account the strength of the similarity, as well as the very real differences, and suggests other similarities—not sameness. Analogy can suggest inferences about unique aspects of past culture, aspects which are not the same in modern cultures.

The views of Lewis Binford on ethnographic analogy in archaeology are hard to pin down. However, he addressed analogy specifically in one article (Binford 1967). Binford first notes several characteristics of analogy: it is not strictly a demonstration of formal similarities between entities; rather it is an inferential argument based on implied relationships between demonstrably similar entities; if the initial resemblances are such that the inferred property would be more likely to account for the resemblances then the conclusion is more likely to be true; the more comprehensive the positive analogy and the less comprehensive the inferred properties, the more likely the conclusion is true. Binford then discusses Robert Ascher's article (Ascher 1961) and concludes that analogy needs to go beyond analogies in similar environments or those occurring among historically linked cultures. He then provides an example of an argument by analogy. He describes "smudge pits" and the various conjectures on their use. Looking at historical and ethnographic

reports, he finds several accounts of similar pits being used by Native Americans to smoke hides. The correspondence in form of smudge pits as known in archaeology and of hide-smoking smudge pits as described ethnographically is essentially perfect (Binford 1967:7). Binford therefore proposes that the archaeologically excavated smudge pits were used to smoke hides. This proposition can be strengthened or weakened by looking at the context. But Binford insists that archaeologists have to go further. They need to develop a testable hypothesis in a deductive framework. What other archaeological evidence would be expected, if these smudge pits were really used to smoke hides? This procedure is appropriate in the context of a positivistic philosophy of archaeology and philosophy (Binford 1967:10). Without a testable hypothesis we would be in the role of a historical critic who seeks to translate data of the past into contemporary experience. Binford sees analogy as a way to provoke certain questions, which can then be tested (Binford 1967:10).

I think that Binford's description of analogy is essentially sound. However, he does not discuss the use of comparing differences and how they might inform inferences. I also agree that historical continuity or similar environments are not necessary for analogical arguments. But they do strengthen the argument by analogy. Binford recognizes this when he discusses context. I also agree that from a positivistic philosophy of archaeology, deductive testing of a hypothesis is required. I do not agree that archaeology is or should be a positivistic discipline and that it is more akin to that of a historian or investigator trying to make sense of the past from the view of the present. Therefore, analogy should not be just used to suggest hypotheses, but rather to interpret the archaeological record. The sort of hypotheses that Binford suggests are also not

independent tests, but rather a strengthening of the analogy. It essentially boils down to noticing other similarities beyond the first obvious similarity. A point-by-point comparison may allow us to reach stronger inferences.

Hill criticizes the reliance on ethnographic analogy in archaeological approaches to gender (Hill 1998). She has two main concerns: uniformitarian assumptions and analogical context (Hill 1998:106–111). When using uniformitarian assumptions researchers imply that no historical processes are at work, denying a change through time. It contributes to a tendency to view women and their roles as stable across time. Hill also maintains that ethnographic descriptions have limited validity, because they are inherently biased. We have to take into account the analogical context. It seems that Hill particularly ascribes such biases to any ethnographic or historic descriptions written before the modern era. Ethnographic analogy places several layers of interpretation between the researcher and the data. Hill suggests that a multivariate approach should be used instead (Hill 1998:117–121). This approach uses two or more mutually exclusive lines of evidence to create a hypothesis and then test it. Researchers can gain a more complete perspective by employing more than one line of evidence (Hill 1998:118). To study gender, Hill suggests that evidence from representational art, from individual mortuary contexts, from micro-level analysis, and from social theory needs to be added to ethnographic evidence.

Hill advances some important points that need to be taken into account when using ethnographic analogy. We need to be aware of the vast time differences and of historical change. The use of ethnographic analogy should always be exercised with caution. However, at the same time we also need to be aware of the time depth of many practices.

One problem that Hill does not spell out, but implies, is the tendency to create general laws that are held to apply across all societies. We need to be aware of the variety in cultural expressions and the very real differences across time and space. We also cannot translate a whole system into the past. For example, it is unlikely that people in Ancient Judah lived nearly exactly like people in Palestine did. But it is likely that there were many similarities. A point by point comparison can take into account those similarities and differences. We certainly need to be aware of the biases of ethnographic sources, including those intentionally conducted for use in archaeology. Both modern and earlier ethnographic descriptions have biases. Humans cannot avoid observing from their own perspective. Perplexingly, it is often more difficult to pinpoint the biases of our contemporaries. But that does not mean that we should discount those ethnographic sources. They have valuable information that can assist in interpreting artifacts. I certainly agree that ethnographic analogy should not be the only evidence used to study archaeological remains. Nor should we just limit ourselves to one ethnographic account. Any nuanced interpretation based on analogy requires the use of several analogs. Many of the lines mentioned by Hill, such as representational art, require analogical arguments to interpret artifacts.

O'Brien and Lyman critique ethnographic analogy as part of their wider critique of reconstruction in archaeology (O'Brien and Lyman 2000:345–350). They see behavioral archaeology, as mainly advanced by Michael Schiffer, to share a basic assumption with ethnographic analogy, namely that within certain parameters, examination of contemporary material remains and behavior can guide and inform reconstructions of past behavior (O'Brien and Lyman 2000:348). They note with approval the experiments

by behavioral archaeologists, which will allow researchers to have a firmer foundation for inferring specific behaviors at certain times and places. This will then allow us to begin writing historical narratives, a task that O'Brien and Lyman imply is the proper aim of archaeology (O'Brien and Lyman 2000:346,349). O'Brien and Lyman acknowledge that analogs exist between modern behavioral outputs and the archaeological record, but they distance themselves from ethnographic analogy and behavioral archaeology by stating that they do not look for cultural universals (O'Brien and Lyman 2000:349-350). Indeed, they view this as impossible. Reconstruction is description and interpretation, not explanation. They argue that there is a better way to examine the archaeological record than holding it up against an ethnological analog. This better way begins with piecing together a myriad of artifact lineages (O'Brien and Lyman 2000:350).

I agree with O'Brien and Lyman that ethnographic analogy assumes that examination of contemporary material can guide and inform reconstructions of past behavior. Of course, a fuller view of analogy does not rely solely on contemporary materials, but also uses similarity with past material and behavior. And I think that it is possible, at least partly, to reconstruct past behaviors, not just to examine them. I also agree that analogy cannot be used to construct universal laws of behavior. I strongly agree that the proper aim of archaeology is to write historical narratives, and that we have to be guided by inferences that are based on a strong grounding. If O'Brien and Lyman imply that only experimental archaeology gives strength to inferences, I have to disagree. That would mean that a potter, who has thrown thousands of pots, can draw no strong inferences when comparing ancient and modern pots, while an archaeologist, who may have no idea about how pots are made, can draw strong inferences based on one experiment. I would

argue that archaeology's aim of writing historical narratives can only be achieved through making strong inferences, many of them based on analogy, including ethnographic analogy. It certainly requires interpretation, not just explanation within the bounds of one theory. Overall, O'Brien and Lyman argue that ethnographic analogy is not appropriate because there is a better way of explaining the archaeological record. However, that is a value judgment that depends on sharing the meta-narrative of O'Brien and Lyman. If we do not share that meta-narrative, the "better way" of O'Brien and Lyman may make no sense to us.

CHAPTER VI

METHODS

This thesis is an exercise in applying an explicitly analogical approach to the recognition of artifacts and to the identification of the possible use of space. Analogical comparison applies both to the individual objects as well as their patterned distribution. It proceeds from the most apparent similarities and dissimilarities to those requiring closer analysis. This explicit comparison, therefore, is an iterative process. Part of that comparison is a consideration of function, that a certain characteristic in objects served a certain purpose and was therefore used similarly across time and space. Not only do we point out certain similarities or dissimilarities, but ask why these occur to strengthen the analogy. For example, a certain temper might be used in cooking pots across time to resist thermal shock; vessels for liquids might have a narrower opening to facilitate pouring; the location of artifacts might be due to the complementarity of activities.

Analogy can apply to many aspects of objects. Due to traditional analytical methods and the characteristics of objects, I have chosen form, material, location, content, and use wear as basis for comparison. For ease of description I have used several classes, which reflect how these objects have traditionally been described on archaeological excavations (see Table 1). Objects includes all moveable artifacts that are not pottery or samples. These classes are not functional, but only reflect different analytical methods. Through analogy of the patterned remains I will then suggest the use of areas and the room as a

whole. The patterned remains are the evidence which direct all research, though they have to be seen in context. Just like a crime scene has to be seen as part of a wider context and leads us to new questions, so the patterned remains determine any conclusion we may arrive at.

Table 1 Artifacts and Analysis

	Form	Material	Location	Content	Use wear	
Pottery	X	X	X		X	
Objects	X	X	X		X	
Installations	X	X	X	X	X	

I made comparisons with ancient and modern artifacts or descriptions of artifacts. I generally proceed from the modern analogies, as they are our most immediate experience. Conclusions from these analogies are then altered and refined by considering those from other times and places, both ethnographic analogies from the Near East and analogies available in the historic record. Interpretations of similar artifacts found at other archaeological sites are also considered. The analogies are based on my reading and experience. This does include specific searches to find some comparable artifact in relevant contexts. I have then discussed several likely analogies. As a summary of my comparison I have used a scale to assess the similarity of an artifact to its referent (Table 2). The scale is subjective and should not be seen as an empirical analysis. Rather it is an overview of the comparison, a quick table that summarizes the discussion. The main emphasis has to remain on the comparison through text and illustrations. This makes

clear the very real differences in the life ways and artifact uses at Tell Halif from those encountered elsewhere and at different times.

Table 2 Similarity scale

no similarity
little similarity
some similarity
good similarity
close similarity
very close similarity (nearly identical)

Pottery includes all ceramic vessels, but not any other ceramic artifacts. Many of the vessels were broken and have been at least partially restored. This gives an indication of the form of vessels, better indication of use wear, as well as the number of vessels found in a certain space. The form of a vessel can give many clues about its intended use (Hardin 2010:60). For example, cooking pots are often short and squat with thick walls, dry-storage vessels tend to be tall with rolled or everted rims and large mouths, liquid-storage vessels are taller than dry-storage vessels and have narrower mouths and rounded bottoms (Hardin 2010:60–61). Form is an essential part of comparison. The material from which vessels are made also indicates use. I will also examine the vessels for use wear patterns, which may indicate a particular repeated use. I will limit myself to the identification of use-wear visible to the naked eye. For example, abrasions on pottery can assist in inferring past human behavior (Schiffer and Skibo 1989; Skibo 1992). The inner surface of some vessels may also indicate materials stored in these.

“Objects” are all those moveable artifacts that have probably been made, altered or used by humans and are not included in the other categories. This includes lithic remains

and jewelry made from faunal materials. Again, form, material and use wear can be used for comparison and indicate function. For the purposes of this thesis I did not personally re-examine the objects, but relied on field observations and the analysis of experts. In contrast with the pottery, much of the initial analysis of the objects had already occurred before I started this thesis.

Installations are those artifacts that are not directly moveable—fixtures in modern legal language. Again, form and material can indicate use. Samples were taken from the areas enclosed by the installations, which can add to our understanding of their use. Because the installations were not sufficiently complete, use wear analysis was not practical.

Clearly, the location and patterning of artifacts is important. A line of loom weights may indicate the presence of a strung loom, while a cache may indicate storage. Not all artifacts may reflect regular use of the space. For example, sling stones and arrowheads may be more related to the destruction of the household than to daily activities. Also, if military action was the reason for destruction, the use of space may have been different in this siege situation from that during peaceful times.

To provide a context for my comparison and reconstruction, I will also take into account results from soil samples taken from floors, destruction debris and the contents of vessels and installations. The analysis of faunal remains across Field V, completed by Sapir-Hen (2011), can give an indication of diet and animal use. Unfortunately, no detailed spatial information is available from his report. Radiocarbon tests of organic materials helps with dating the occupation and provide further context.

To compare the different activities I use abstractions. For example, baking can be classified as food processing. I did not create an exhaustive list of possible functions. Rather, I drew on some commonly used designation of the activities and was guided by my interpretations about the artifacts. If activities were sufficiently similar, they were included in that category. For example, baking bread is clearly part of food processing; storing grain is part of storage. But the short-term storage of water for consumption and use in food processing falls less clearly in any of the categories. I had to again consider the similarities with other activities and decide whether this activity could be categorized with others. I decided that short-term water storage was more closely related to storage than food processing. If any of the categories did not adequately cover an activity, a new one had to be added. The broad, abstract categories also allowed me to cover a wider range of possible functions for a given artifact. It addresses the uncertainty involved in archaeological interpretation.

To prepare myself for the task of interpretation, to make valid analogies I draw mainly on the following sources:

- Life experience
- Archaeological excavations and parallels
- Ancient Literature
- Ethnographic descriptions
- Experimental archaeology

The experience of the world around us allows us to extend our thoughts into the more abstract and the more distant. “We project ourselves into the past in the same way that we find our way growing up in our own culture” (Hodder and Hutson 2003:169). At times

our experience can help us to understand life in Ancient Israel, especially if we take into account the differences. For example, we can assume that children back then would still have responded to sweets—just not candy as we know it. Some recent insights can also be applied to life in Ancient Judah.

Methodical archaeological excavations in the Levant started in the late 19th century. Since then, few tells in the Levant have remained untouched by the archaeologist's trowel. The data from those excavations are overwhelming. They have provided a detailed chronology of pottery (Amiran 1969), have given us a more detailed picture of life in Ancient Israel (Borowski 2003; King and Stager 2001), and provide a reference for comparison. A long tradition of identification of certain artifacts developed. The context of finds was analyzed. From the early days, when archaeologists still saw the daily use of tools in the Arab villages that were similar to what they dug up, to modern days, when detailed analysis of trace remains and provenience is possible, the conclusions of archaeological data are also relevant to understanding the remains we find now.

Of particular interest are excavations that relate to a similar time period and place. This includes previous analysis of excavations at Tell Halif (Hardin 2010), at Tell 'Ira (Beit Arieh 1999), at Lachish (Ussishkin 2004), at Tell Beit Mirsim (Albright and Kelso 1943), and at Tel Beer Sheba (Aharoni 1973). I also made comparisons with the excavations at Shechem (Campbell 2002).

The Bible is clearly the most relevant ancient text that can tell us about life in Ancient Judah, including diet and customs. There has long been constant interaction between biblical studies and archaeology. This has resulted in more critical examination of both sources, but in some instances may have also led to a tacit acceptance of preliminary

conclusions. Perplexingly, the interaction of disciplines may lead to both an increase and a relaxation of scholarly rigor.

There are few other texts from Ancient Judah. But those from nearby cultures, such as Egypt, Assyria, and Cyprus, can add to our understanding of those times. This also includes art work from these cultures, for example models, paintings and monuments.

The most useful ethnographic descriptions are those of Dalman (1928–1942). He observed life in Palestine over several decades from the late 19th to the middle of the 20th century, with a particular view to understanding the past. He became involved in the life of the local small-farmers. There are probably few men who would have sat over a Palestinian bread oven trying to slap the dough against the walls. That was women's work—certainly not something for a respected European scholar. Not that he was always accepted.

Finnish anthropologist Hilma Granqvist documented the lives of people in the village of Artas near Bethlehem in the first half of the twentieth century (Granqvist 1947, 1981). Her description sheds particular light on the lives of women. Canaan provides a description of the Palestinian house in the early part of the twentieth century (Canaan 1932, 1933). In this thesis I refer to the traditional societies of the southern Levant as Palestine. It is a description that is both time and location specific. Watson (1979) and Kramer (1982) provide good evidence on household life in Iran. Even though households in Iran are spatially and temporally removed from the ancient town that once stood on Tell Halif, the time depth and spatial distribution of traditional culture in the Near East is quite wide and consistent. Some comparisons can validly be drawn, especially as some of the basic subsistence patterns are quite similar.

Through experimental archaeology we can try to recreate parts of ancient life, usually only small aspects, to understand some connections better or to test some questions. At times it is the formation processes that are more clearly defined through a test. How would a pot break? How do potsherds move in soil? In this study I constructed and used an oven for comparison with the oven uncovered in the “kitchen”. I also made small ceramic jars and stored different liquids in them to see how this may affect the clay body. I also use the results of experiments by others.

Formation processes at Tell Halif were studied by Hardin (2010). Similar processes would also have affected the room considered in this thesis. It is likely that this room was also abandoned in the same event as the remains studied by Hardin, namely an apparent military siege associated with the Assyrians (Hardin 2010:106).

To arrive at a visual reconstruction of the room, I used Google Sketchup, a three dimensional modeling tool. It allowed me to place three-dimensional representations of artifacts in a virtual space, together with objects that have left fewer traces in the archaeological record. This gives a good visual indication of patterning and assists with assessing differing functions in the “kitchen”.

CHAPTER VII

THE LAHAV RESEARCH PROJECT AND TELL HALIF

Tell Halif is a tell site in southern Israel, adjacent to the modern Kibbutz Lahav. A consortium of American institutions and scholars established the Lahav Research Project and began an integrated study of Tell Halif and its environs in 1976 (Hardin 2010:88–89). The Lahav Research Project includes regional survey, excavations, and ethnographic study. Over several phases excavations were carried out on Tell Halif. Phase IV excavations, carried out from 2007 – 2009, focused on Field V.

Excavations at the tell have provided a wealth of information about Tell Halif and the people who lived there. The earliest strata at Tell Halif belong to the late Chalcolithic time (Hardin 2010:89). Strata pertaining to the Early Bronze Age, the Late Bronze Age, Iron Age I, Iron Age II, Persian, Hellenistic, Roman Byzantine, Early Crusader, and Modern Arab periods were also found. In 2009 walls probably constructed during the Early Roman period were excavated. Tell Halif is best identified with biblical Rimmon (Borowski 1988). This town is mentioned in the territorial list of Judges 15 together with other towns at the northern fringes of the Negev. It is later mentioned in Nehemiah 11:29 in association with the resettlement of towns by Jews after the exile in Babylon.

Tell Halif has substantial remains from the Iron Age II, particularly Stratum VIB, which represents a substantial town first developed in the 9th century BCE. This stratum was violently destroyed in the late 8th century with a large destruction layer covering

house floors rich with artifacts. It is therefore relatively well preserved. The town was re-occupied shortly after the destruction. The inhabitants of the town represented by Stratum VIA partly re-used structures from the earlier level, but in many places destruction debris was not removed. This occupation lasted only a short time until the town was again abandoned in the early 7th century BCE (Seger 1997:326).

The fortifications include an outlying glacis with a paved flagstone facing, casemate walls that combined to form the traditional Israelite pillared house, and towers (Seger 1993:558). Large assemblages of domestic artifacts were found. The presence of the many loom weights, both in caches and on floors, is particularly notable.

Hardin studied formation processes of the archaeological record on Tell Halif with particular emphasis on the house he was considering (Hardin 2010:98-123). He noted cultural formation processes that would disturb the archaeological record such as salvaging of field stones from walls, the construction of pits and cisterns in later periods, plowing and trampling by people and animals. The robbing of stones is one of the most noticeable phenomena, as it leaves a negative imprint of the wall. They can be detected by the interruption of floors. Instead of a wall line, excavators found later fill. I would also add later building activity as a factor disturbing the archaeological record. This could be ancient or as recent as the 20th century, when the tell was used as a defensive point in military activities and was trenched and fortified. As the tell is close to a settlement and a picnic site some wanton disturbance has occurred.

Hardin also lists the natural agents which would have influenced the archaeological record. Wind and rain affect the area, particularly since the tell has a steep slope, resulting in slope wash at the edges of the town. Floral turbation is mainly due to saltbush

and Jerusalem pine which was planted on the tell in recent decades. Roots disturb archaeological remains. Small mammals and insects burrow in the soil and disturb the archaeological record. Wild animals, such as gazelles and jackals, roam the tell. Domesticated animals graze on it. They trample the soil, but also control vegetation, therefore influencing other natural processes. Similar formation processes can be expected across the site, especially in Field V, which is similarly situated as Field IV, the area studied by Hardin.

CHAPTER VIII

ANCIENT JUDAH

There are many accounts of Ancient Judah. I provide here a short summary of the more traditional view, still largely supported by archaeological discoveries, and highlight some aspects, which I have come across in my research. Ancient Judah was a kingdom in the Southern Levant, which was created after the division of the kingdom of Israel in the late 10th century BCE. The division between the northern kingdom of Israel and the southern kingdom of Judah occurred largely along tribal lines, which had existed before the emergence of the united kingdom of Israel. The tribes of Judah and Benjamin remained loyal to the dynasty of the kings of the united kingdom. Jerusalem remained the capital for Judah. As a result, its capital was at the northern extreme of its territory, which broadly covered the area west of the Dead Sea up to the coastal plains. This includes the geographical zones of the Judean Desert, the Judean Mountains, the Shephelah, parts of the Negev, and parts of the Coastal Plain. The territory changed through its history, but Jerusalem and the Judean Mountains remained the center of Judah.

In the 9th and 8th centuries BCE, neither Egypt nor a Mesopotamian kingdom had control over the Levant, allowing small local kingdoms to flourish. In the north Israel bordered on Judah, in the west the Philistine cities, in the east Moab, in the southeast Edom, and in the south the Amalekites of the Negev desert. Wars among these kingdoms and with the Arameans in the north continued throughout this time. Major disruption

came to the area in the middle of the 8th century with the expansion of the Assyrian Empire. In the campaigns of Tiglath-Pileser from 734–732 BCE, Israel was swept away, its capital Samaria finally falling to Assyria in 723 BCE. Judah continued to exist as a vassal of Assyria. Nevertheless, after the death of Sargon in 705 BCE, king Hezekiah of Judah rebelled against Assyria together with several coastal cities. The Assyrian king Sennacherib marched through the Levant in 701 BCE and destroyed and subjugated many of the rebellious cities. It seems that the Assyrians only invaded the western parts of Judah, most importantly the Shephelah, an economically significant part of Judah. Judah again became a vassal of Assyria. It seems that for a short time the Shephelah was not controlled by Judah. However, in the seventh century Judah expanded more intensified settlement into the desert areas near the Dead Sea and the Negev. It seems that in these desert areas dry-land agriculture was started. But the settlements had close economic ties with the center of Judah and also served a trading function (see Stager 1975).

With the waning of Assyrian power and influence, Judah was once again able to extend later in the 7th century. It may have even extended to the coast. But the period of political independence did not last long. The Neo-Babylonian Empire took over from Assyria and expanded towards the west. Judah and Jerusalem were conquered in 597 BCE and became a Babylonian vassal state. After Judah rebelled again, Jerusalem was finally destroyed in 586 BCE and many of the inhabitants of Judah carried into exile. With the fall of Jerusalem and its temple came the end of Ancient Judah. The kingdom of Judah lasted a little over 300 years.

Ancient Judah was an agrarian society in the southern Levant. It was in the general cultural sphere of the Western Mediterranean and influenced by the important political and cultural centers of Mesopotamia and Egypt. Therefore, life way parallels can be expected to be found in these nearby societies. The day-to-day life described in the Bible is also relevant for Judah, even if the narrative recounts scenes in other locations, such as tribal Israel or the northern kingdom. Scholars argue that much of the Bible was compiled and edited during the time of Ancient Judah. It is likely that the language and life patterns of Judah are reflected in the texts.

CHAPTER IX

FOOD IN ANCIENT JUDAH

According to Deuteronomy 8:8, Israel was a land with wheat and barley, vines and fig trees, pomegranates, olive oil and honey. Its trade commodities are described as wheat and confections, honey, oil and balm (Ezekiel 27:17). It was largely a rural economy with an emphasis on producing agricultural products for subsistence and trade. The “Mediterranean triad” of bread, oil and wine dominated food production. They are also frequently mentioned in the Bible as the quintessential crop of the land (Deuteronomy 7:13; 11:14; Jeremiah 31:12) together with increasing flock numbers. But the details of the diet in Israel and Judah are more disputed. Borowski draws a more pleasant picture (Borowski 2003; 2004), probably influenced by his experience of kibbutz agriculture in modern Israel, while MacDonald describes very bleak circumstances (MacDonald 2008a), maybe due to a more somber Scottish approach. I suspect the actual diet in Ancient Judah would have been something between the varying descriptions. Both draw on archaeological investigations, as well as the Bible. MacDonald considers Rabbinic writings in more detail and also uses anthropological models.

Bread was the staple of life in Ancient Judah, as it was in much of the Mediterranean world. Generally wheat was preferred over barley (see for example 2. Kings 7:1; Dalman 1933:292). Wheat was often baked into bread or on special occasions into sweet cakes, but cereals could also be eaten as groats and cooked in stews and porridge.

Olive oil was used in food, for example in cakes (Dalman 1935:258–259), for frying, for lighting and for ointment. Pickled olives were probably not known in Israel until Hellenistic or Roman times (MacDonald 2008a:23).

Wine was probably not just a drink for festive occasions, but the main drink in Ancient Judah. It may have been mixed with water for daily consumption. Other alcoholic drink, like beer, was probably less frequently consumed (Borowski 2003:70:71; contra Homan 2004).

Animal husbandry played an important role in Ancient Judah. Sheep and goats were kept for their milk, meat, and wool or hair. While milk was also consumed fresh, the main dairy products were butter, milk, and yoghurt (Borowski 2003:66). Meat was highly valued. It was probably mostly eaten boiled in stews. Recipes from Mesopotamia describe meat cooked with onion, garlic and leeks, and seasoned with herbs and spices (MacDonald 2008a:32–33).

Pigeons are mentioned in the Old Testament as sacrificial animals (Leviticus 5:7,11; Leviticus 14:22,30). From Hellenistic times pigeons were kept in columbaria, probably for meat and dung. It is likely that during the Iron Age, pigeons were caught for meat. Fish bones were discovered at archaeological sites throughout Israel (Borowski 2003:69), including at Tell Halif (Hardin 2010:158). These were transported most likely from the Mediterranean and the Nile. Other animals could supplement the menu (MacDonald 2008a:34).

Fruit is mentioned often in the Bible, particularly figs, dates, pomegranates, and grapes. Dalman suggests that melons were also consumed (Dalman 1928:518), which from a culinary perspective are fruit. From later rabbinic literature and the frequent

reference to figs in the Bible, it can be concluded that the fig was an important part of the diet, not just an occasional snack (MacDonald 2008a:29). Figs and dates were often dried so that they could be stored for longer periods of time. A storage jar excavated at Tel Mique contained hundreds of carbonized figs (King and Stager 2001:105).

The Bible talks somewhat discouragingly about vegetables (Proverbs 15:17). Meat certainly was considered a richer meal. The extent to which vegetables played a role in the diet of Judah is unknown (MacDonald 2008a:25–26). Wild vegetables obtained through foraging would have also added to the menu, especially in times of crisis.

Legumes were certainly known in Ancient Judah, but it is not clear to what extent they contributed to the diet (MacDonald 2008:26–27). Dalman thinks that chickpeas, sesame and millet (Hirse a cereal crop) were grown in Ancient Israel, mainly due to their presence in Ancient Egypt and references in rabbinic literature (Dalman 1928:405). Chickpeas were probably domesticated in the Neolithic Period in the Near East (Abbo et al 2003). Millet probably became common in the Near East during the Bronze Age (Marinova 2004:54). While honey is frequently mentioned as an important product of Ancient Judah, it is unclear whether this refers to bee honey or to date syrup.

This description of food stuffs gives us an indication what food was most likely processed in the “kitchen”. While we have to be prepared to encounter the unexpected, the artifacts need to be primarily interpreted within that dietary context. In other words, any conclusion that potatoes were processed in the “kitchen” is highly suspect.

The description of food stuffs does not tell us about the diet in Ancient Judah. It does not tell us how much most individuals ate, whether the eating habits were healthy, and how the food was prepared. MacDonald considers issues such as famine and drought,

differential access to food, and nutritive deficiencies (MacDonald 2008a:42–93). He concludes that there were likely vitamin and iron deficiencies, that times of crisis affected the population, especially the poor and among them mainly women and children, that there were differences according to geographic location, social status, gender, and season (MacDonald 2008a:91–93). Overall, he confirms the centrality of cereals, which is found in societies throughout the Near East (cf. Kramer 1982).

CHAPTER X

THE “KITCHEN” AS EXCAVATED—MAIN LINES OF EVIDENCE

Field V at Tell Halif was excavated from 2007 to 2009. I participated in the excavations as volunteer in 2007 and as supervisor in 2008 and 2009. In the northern section of Field V we uncovered a floor particularly rich in artifacts (see Figure 1). Due to the many loom weights, we initially associated the area with textile manufacture. That may be correct. Further excavation in 2008 allowed us to uncover the floor of that one room. In this thesis I call this the “loom weight room” (see Figure 2 and Figure 3).

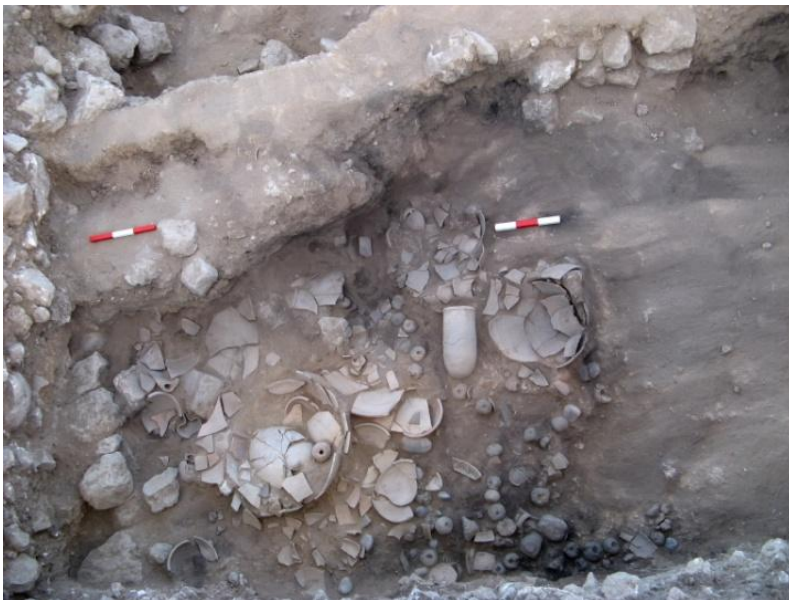


Figure 1 Objects on the floor of the "loom weight room" as uncovered in 2007 — photo by Oded Borowski, LRP



Figure 2 Aerial view of northern part of Field V with "kitchen" and "loom weight room" — photo by Sky View, LRP

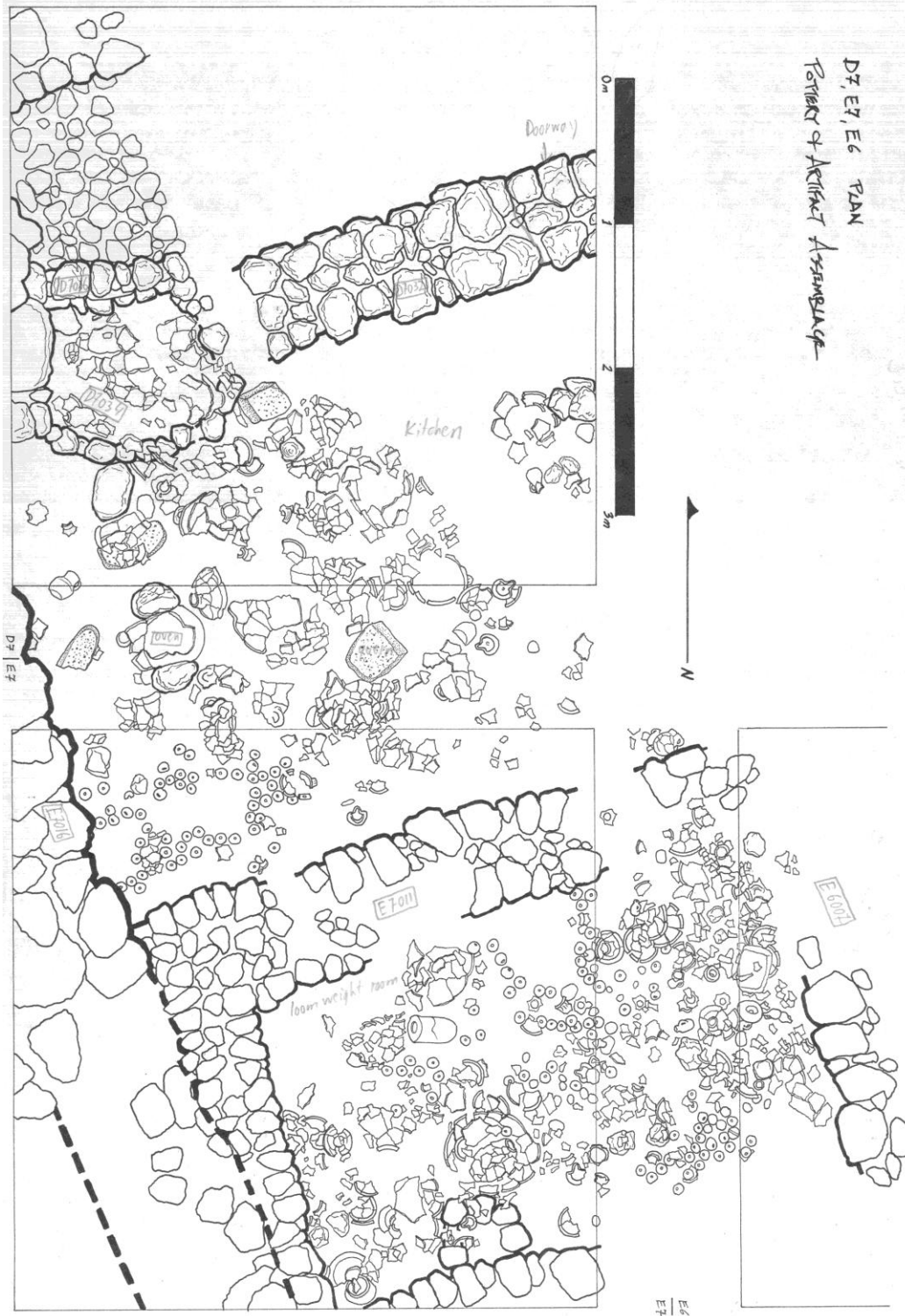


Figure 3 Plan of “kitchen” and Loom weight Room in Areas E6, E7, and D7 — drawing by Dylan Karges, LRP

In 2008, traces of a wall were exposed, which clarified that the area to the north of the floor initially discovered would have been part of another room. Because many loom weights were found in that part of the room, we expected that similar artifacts would also be found in the remainder of the room. However, during the 2009 season further excavation did not reveal any further loom weights. An oven, several jars, grinding stones and pots were found (see Figure 4). This is the room I refer to as “kitchen” in this thesis (see Figure 2 and Figure 3). Its southern and northern limits have been established, and also parts of the western limit, but it has not yet been fully excavated to the east (see Figure 2 and Figure 3). Also, the exact connection to neighboring rooms has not yet been established. The parts of the “kitchen” excavated so far are in Areas E6, E7, and D7 of Field V (Borowski 2009 and 2011; see Figure 2 and Figure 3). A later wall, probably constructed during Roman times, was built just above the material deposited on the “kitchen” floor. It seems during the Roman period builders excavated a foundation trench through soil, which was deposited after the destruction of the Stratum VIB city, right down to the top level of material lying on the “kitchen” floor. Through this construction activity some later material could have been introduced into the assemblage, as well as materials removed from the “kitchen” space.



Figure 4 Part of the "kitchen" with "oven" — photo by Tim Frank

The location of artifacts on floors was carefully recorded, especially during the 2008 and 2009 seasons. Many artifacts were individually recorded and their location determined. Material that was identified as lying directly on a floor was collected through the use of a grid with squares of 25 cm x 25 cm or 50 cm x 50 cm, so that an exact location in space could be determined (see Figure 5). Unfortunately, in the north-east part of the room we excavated below floor level initially as we did not immediately notice the slope of the floor. As a result the pottery in this area was not removed as part of a grid. All loom weights were individually numbered and identified on drawings and photographs. They were measured while still *in situ*, and more closely analyzed once they were sent to the field laboratory. Soil samples, seed samples and charcoal samples were regularly collected.

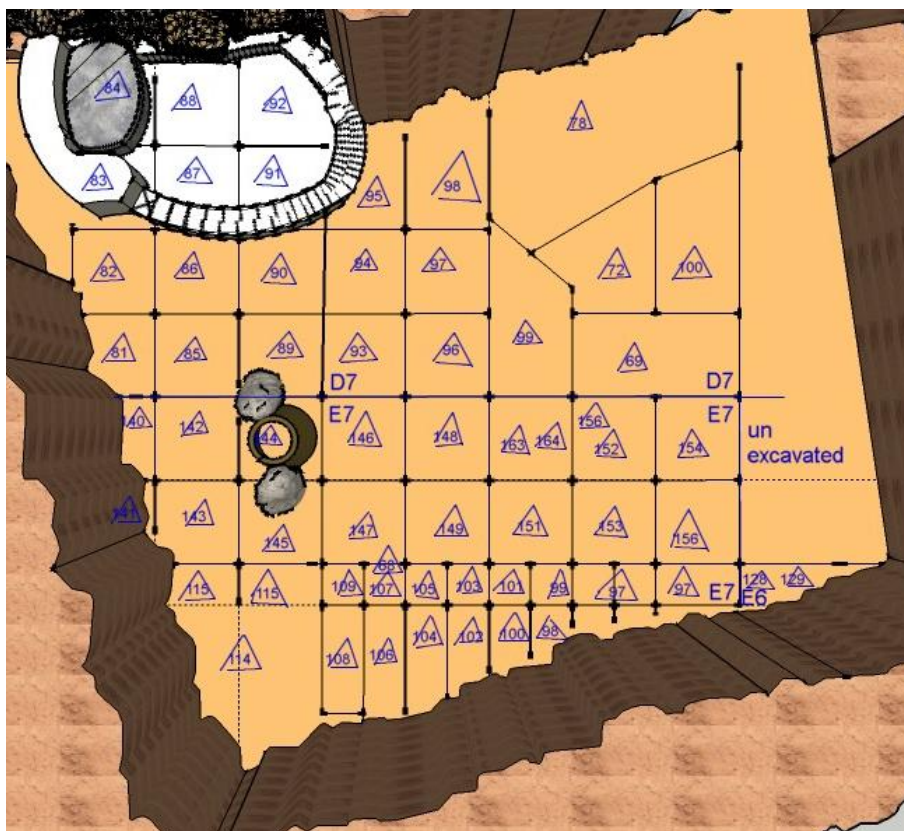


Figure 5 Basket map for objects collected from floor D7026 / E7014 — illustration by Tim Frank

Through comparison with other pottery assemblages in Judah, the directors of the excavation ascertained that the pottery forms found on the floors were most probably made and used during the late 8th century BCE and represent mainly Judahite forms (Amiran 1969, Borowski 2009, Borowski 2011). The pottery forms are similar to those found at Lachish Level III (Tufnell 1953; Ussishkin 2004) Tell Beit Mirsim Stratum A (Albright and Kelso 1943, Blakely and Hardin 2002), and Tell Beer Sheba (Aharoni 1973). Excavators can say with some certainty that these cities were destroyed violently at the end of the 8th century BCE.

The “kitchen” is a mainly rectangular room about 4.60m long east to west, and 3.30m wide north to south (see Figure 2 and Figure 3). However, the eastern wall has not yet been fully established. At the northern end there is a niche with an oval installation, making the room slightly wider at this point. As excavated, the room slopes slightly from North to South, with an elevation of 481.22m at the northern side and 481.06m at the southern side.

A brief overview description of the “kitchen” is best given from south to north, approximately the direction in which it was excavated. The “kitchen” is separated from the loom weight room by Wall E7011, a wall made out of field stones. It was preserved up to four courses high near its intersection with the western wall, Wall E7016. Further east it was just preserved one course high and totally missing in part. Therefore, I cannot ascertain whether a doorway existed that connected the kitchen with the loom weight room. The wall on the western side is made out of large field stones and probably separates the kitchen from the broad room, which was incorporated into the casemate wall of the city. The eastern wall could not be found in excavations so far, but it is likely to continue in line with wall E6007, the eastern wall of the loom weight room.

In the southwestern corner of the kitchen an assemblage of 64 loom weights was found. Directly east of the loom weights relatively little pottery was found, apart from a whole oil lamp. However, at the eastern end of the kitchen, the pottery density was higher again, notably a cooking pot and a juglet. Just to the north of the loom weight assemblage is the most noticeable feature, a bread oven. It was flanked by two large field stones set into the floor. To the north and east of the oven, there was a substantial amount of pottery, including a large bowl. Parts of grinding stones were also found not far from the

oven. Further east, the assemblage of pottery continues, though it mainly consists of storage jars and noticeably several oil lamps. In the northwestern corner of the kitchen was an oval installation, which is recessed into Wall D7032. It was made out of stones one course high. To the north of the installation was a curtain wall, which separates it from a cobble floor at a higher level. I regard the cobble floor to belong to another room and do not discuss it in this thesis. To the west was a large, smooth stone, which, could be regarded as a pillar base and was in line with Wall D7032. To the east was wall D7032. Wall D7032 ended the kitchen to the north. The wall had a likely doorway about 2 m north of the installation.

CHAPTER XI

STRATIGRAPHY

The stratification of the excavated area and its interpretation is necessary to make sense of what artifacts belong together and how the context might have been disturbed. The top layer of the area above the “kitchen” was disturbed topsoil and backfill. Many sherds from the Roman-Byzantine period were found in this level. In the north, this disturbed layer was thicker, mainly because the surface of the area sloped from the north to the south. But in the south it reached a further depth and was closer to the Iron Age remains. The disturbed area above the “loom weight room” was even thicker and the stones to the south of the loomweight room had been removed, probably in antiquity, as there were many Roman-Byzantine sherds in the fill, where the walls had been. However, the disturbed topsoil and possible Roman-Byzantine stone mining seems not to have affected the “kitchen”. A little below the surface two intersecting walls were uncovered in the north of the area. One of the walls, Wall D7004, is well north of the kitchen, but stone Wall D7004 was conserved up to one meter high and in parts was only about 25 cm above the level of the “kitchen” floor. It ran above the area of the kitchen from north to south. In the north, the wall was conserved up to six courses high, in the south, just one course high and further south not visible at all. Between the stones was pottery from the Iron Age II, the Hellenistic Period and the Roman period, but not from the Roman-Byzantine period. As Roman-Byzantine sherds were found across the tell in disturbed

areas, we concluded that the absence of any Roman-Byzantine sherds indicated that the wall was built during the Roman period.

To the east of Wall D7003 two surfaces associated with the wall were found. The upper floor was partly formed by cobbles. An installation was built on top of this floor and against Wall D7003. No pottery that could be clearly associated with its use was found on this floor. However, in the layer below it, we found several Roman sherds, including a complete Roman vessel. A beaten earth floor, also associated with the wall, was found below the cobble floor and underlying fill. Along with Early Bronze Age, Iron Age and Persian Period potsherds, Roman potsherds were also found in this underlying fill. The beaten earth floor was therefore likely to have been constructed in the Roman Period, as was Wall D7003. Below this fill was a destruction stratum with about 45% ash and several pieces of charcoal (see Figure 6). We removed it in two layers so that we would not inadvertently associate intrusive elements with material below. In the upper layer some Hellenistic and Roman sherds were found. In the lower layer only Iron Age potsherds were found. This lowest level was associated with the “kitchen”.



Figure 6 Area of kitchen with Roman wall D7003 — photo by Tim Frank

To the west of Wall D7003, the stratification was slightly different. We did not find any surfaces associated with Wall D7003. Instead, only Iron Age sherds were found below the upper disturbed layer. About 20 cm above the “kitchen” floor, we struck a compacted layer. Above and below it were Iron Age sherds. We interpreted this compacted layer as possible evidence of later occupation after the initial destruction. But the compacted layer may not have been a floor of a living space, but rather evidence of a top storey or just a natural surface created after the destruction of the stratum associated with the “kitchen”. The destruction debris associated with the kitchen was 10 cm to 25 cm thick. It was thinnest below Wall D7003, which later builders must have built directly on top of the destruction debris of the “kitchen”. We excavated the area directly below the wall separately (D7029—see Figure 7). None of the pottery found was restorable with any pottery associated with that of the “kitchen” surface. The drawing of the south balk of square D7 does not show the floors associated with the Roman wall, as they were not

traceable at this southern end of the square (Figure 7). The lowest course of Wall D7003 was still present. The compacted surface to the west of the Wall D7003 was also less discernible towards the south of the room.

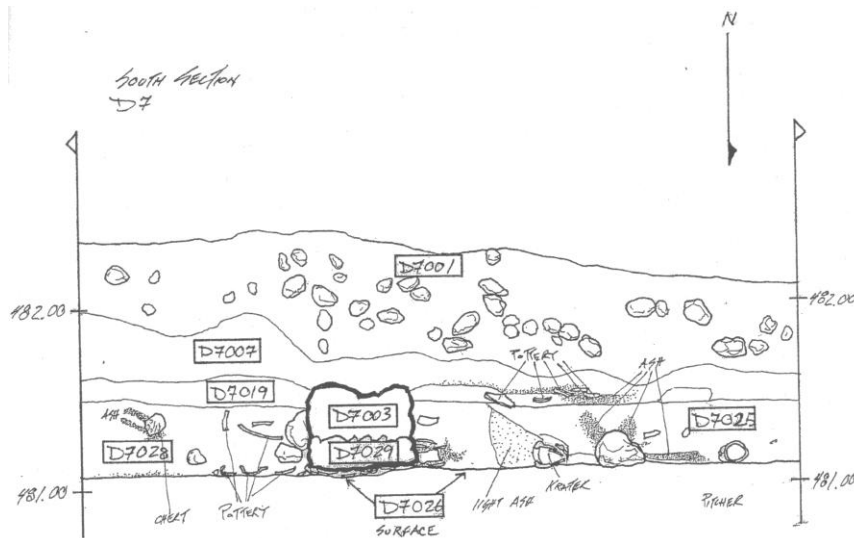


Figure 7 South Section of square D7 — illustration by Dylan Karges

In the very south of the “kitchen”, which was excavated as part of area E7, no trace of the Roman wall or floors was uncovered. Also, the supervisors of the 2007 excavation did not realize that to the north of the “loom weight room” was another floor, separated by a wall. Therefore, we excavated to a level just slightly higher than the surface of the “loom weight room” and probably did not uncover much of the destruction debris covering the “kitchen”. In 2008, we excavated a further 15 cm to reach the floor of the “kitchen”. No pottery removed in the 2007 excavation season could be fitted with pottery recovered directly from the floor in the 2008 excavation season.

Overall, the floor and associated artifacts were found well separated from other strata. I could not detect any clear separation that would indicate that within this stratum artifacts might have come from an upper storey or might have stood higher than others. The only exception is that the potsherds from the upper bodies of jars were found lying on top of bowls, indicating that the taller jars could have stood at a similar level as the bowls.

Due to the similarity of the pottery and the destruction layer, the director of Phase V excavations, Oded Borowski, associated the “kitchen” with Stratum VIB, the most widely exposed occupation on Tell Halif. Based on a comparison of pottery, this was dated to the end of the 8th century BCE. Above the western part of the “kitchen” another late Iron Age level was uncovered, possibly an upper storey, later occupation associated with Stratum VIA, or a weathered surface after the destruction.

CHAPTER XII

FORMATION PROCESSES

The study of formation processes is important in interpretation of artifacts and their patterns. It may help us identify what might be missing, what might have been introduced in the archaeological context and how spatial patterns might have shifted.

Across Tell Halif remains that have been identified to belong to Stratum VIB have been relatively well preserved. Not only are there large quantities of artifacts, the artifacts also are often nearly whole with many of its parts present. This indicates that the town represented by Stratum VIB was destroyed or abandoned rapidly (Hardin 2010:103). Hardin mentions possible causes for such rapid destruction or abandonment as earthquakes, floods, and warfare. Due to the natural setting of Tell Halif, flooding is very unlikely. While earthquakes occur in Southern Israel, no signs of earthquake damage has been noted for Stratum VIB at Tell Halif. Even though warfare does not always leave signs, especially if the occupants abandon a town to flee before armies, signs of warfare were found at Tell Halif. Many arrowheads and sling stones were found among remains associated with Stratum VIB (Figure 8). No arrowheads or sling stones were found in remains of the “kitchen”.



Figure 8 Arrowheads and scale armor found in Field V — photo by Seung Ho Bang, LRP

Due to the large amounts of ash covering the remains of Stratum VIB as well as the presence of charred wood remains, it is thought that Stratum VIB was destroyed by fire, probably in association with military action (Hardin 2010:101). In contrast to Stratum VIB, remains from the later Stratum VIA are not as well preserved. The remains were also not covered by any debris including large amounts of ash. However, the pottery indicates that there was no large time difference between the occupations associated with the two strata. Structures from Stratum VIA also often re-used parts of Stratum VIB. This is well illustrated in area F7 of Field V, just south of the “loom weight room” and possibly part of the same house. The cobble floor associated with Stratum VIB was covered with a layer of ash approximately 20 cm thick. Directly on top of this ashy layer a later wall had been built which abutted the town wall. The earthen floor associated with

that upper wall was not well compacted. The upper wall and floor were associated with Stratum VIA. The contrast points to the sudden destruction of Stratum VIB, while the town of Stratum VIA was probably abandoned less suddenly. The current suggestion is that after Stratum VIB was destroyed by an army, survivors came back and briefly lived in the town again, erecting the structures associated with Stratum VIA, before abandoning the site. No unequivocal evidence of two strata was found in the area associated with the “kitchen”. However, the remains were very similar to Stratum VIB found in other parts of the tell, particularly the large amount of ash found in the debris covering floors with large assemblages of artifacts.



Figure 9 Wall built on ash layer in Area F7, Field V — photo by Tim Frank

One of the possibilities for learning about formation processes is to map the distribution of fragments of objects. It may tell us something about the event that resulted

in the objects being buried, as well as later movements. As all sherds from the areas associated with the kitchen were labeled and weighed, I am able to evaluate how vessels that belonged to the same vessel were distributed. After evaluating the distribution of smaller vessels, such as bowls, cooking pots, cooking jugs, juglets and oil lamps I decided not to map their distribution. All of the pieces of the vessels came from the same or adjacent baskets. That is, sherds of smaller vessels were generally found together. For example, all 52 pieces of small jar D7.85.40 (Page 114) were found in basket D7.85. Only a few smaller vessels were different.

Pieces from cooking jug D7.99.3 (Page 133) were spread over three baskets, which were adjacent. The distribution map shows that of the 32 potsherds refitted, yielding a total of 691 g, 389 g were found in basket D7.99, 240 g in basket D7.72, and 62 g in basket E7.164 (Figure 10). I gave preference to weight of sherds as a better indicator than count of sherds, even though they are generally roughly proportionate. The sizes of the baskets are not always equal and since the boundaries are those of a superimposed grid, they are also somewhat arbitrary. However, the distribution maps give a general idea of the distribution. The basket numbers are shown in blue, in triangles. The mass of the potsherds for each basket is shown in yellowish-red numbers. The rim pieces came from baskets D7.99 and E7.164B, while pieces from the lower body of the cooking jug came predominately from D7.72, but were also found among the other baskets. The cooking pot may have fallen from an elevated position, or its pieces may have scattered under the impact of something smashing the cooking jug. It is also possible that later movement may have transported some sherds southwards.

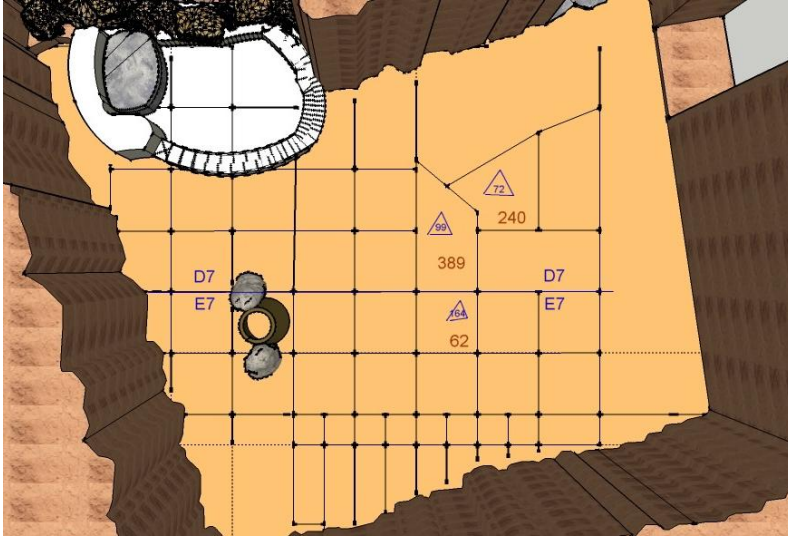


Figure 10 Distribution map for cooking jug D7.99.3 — illustration by Tim Frank

Potsherds from jug D7.90A.100 (Page 122, Figure 30) also had a wider distribution. The 15 pieces weighing 200 g were mainly found among basket 89, though the largest base sherd, D7.90A.100, was found slightly further north (Figure 11). As a result of the slightly different depositional context, the color of the jug varied (see Page 99). The jug clearly shattered, whether by falling from some height or when it was hit by something.

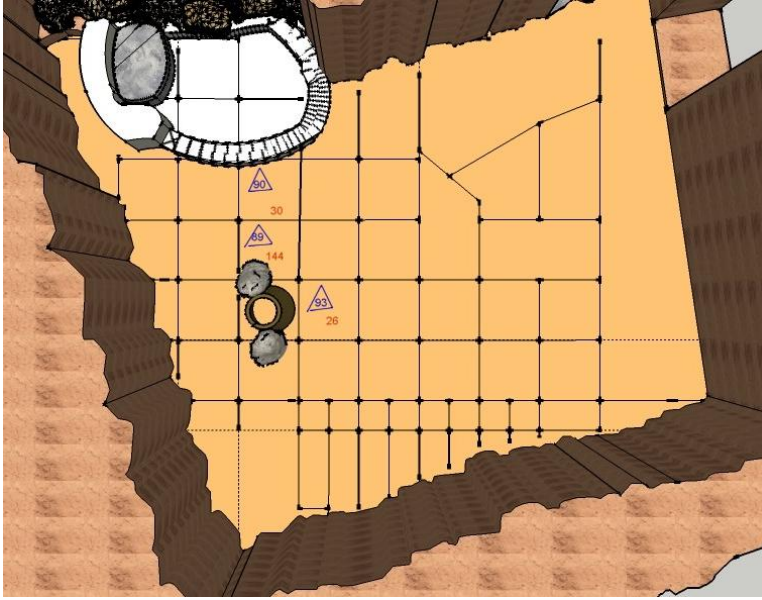


Figure 11 Distribution map for jug D7.90A.100 — illustration by Tim Frank

The potsherds of large jug D7.89.20 (Page 120) at first sight may also appear spread out, as they were found in four different baskets (Figure 12). But basket 51 was just above baskets 89 and 90 and a small rim piece, weighing 4 g was collected as part of that basket. Another small rim piece, weighing 14 g, was collected as part of basket 82, about 50 cm to the west. The one single piece, which was found apart, should not be surprising. Any small impact could have dislodged it. The other pieces were all found among adjacent baskets 89 and 90 with no particular pattern indicated, indicating that the border between the two baskets was put right where the large jug sat. The total weight of refitted pieces of the large jug was 2,009 g.

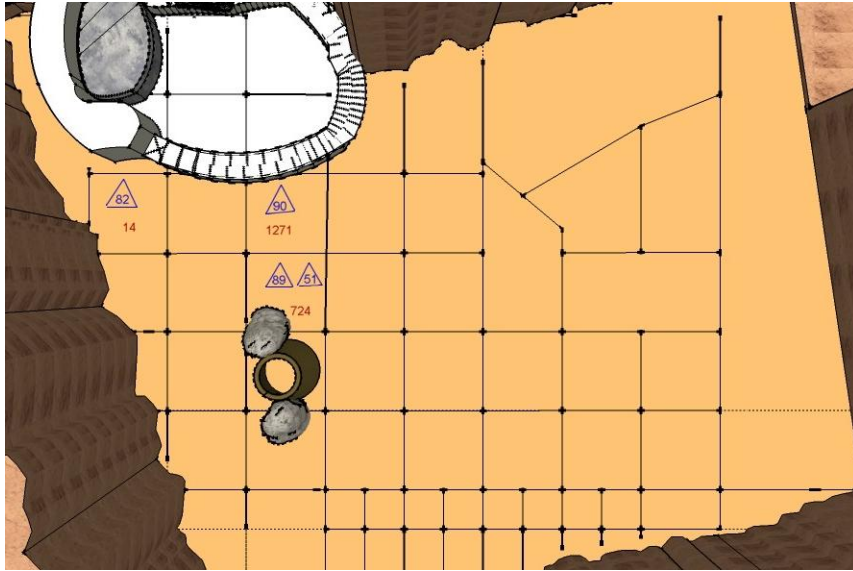


Figure 12 Distribution for large jug D7.89.20 — illustration by Tim Frank

A wider distribution of pieces is clearly noticeable for large jars. I only mapped three jars. D7.94.10 is the hole mouth jar (Page 113). Its base and many of its pieces were found just southwest of the oval installation. Its rim has not been found. As is shown in a photo, it seems very likely that the jar sat on the ground in the area of basket 94 (Figure 13). But many pieces were found to the south of basket 94, as is indicated in the distribution map, particularly among basket 96 (Figure 14). That a few pieces were found considerably further south in baskets E7.99 and E7.153 is unusual, especially as there is a gap where no pieces of the jar were found. Some pieces of the jar may have been removed by the intruding Roman Wall D7003. Nevertheless, potsherds from jar D7.99.110 were found up to 30 cm above the floor in the area of basket D7.99, which stands right between where the majority of the pieces of jar D7.94.10 were found and the distant pieces to the south. The potsherds must have somehow moved around or above the pieces of that jar. I think it is more likely that the jar somehow shattered during the

destruction, with pieces flying across the room, rather than later movement, when other potsherds in the vicinity stayed in place.



Figure 13 Potsherds on the "kitchen" floor — photo by Tim Frank

Base and sherds of jar D7.94.10 at center right of picture

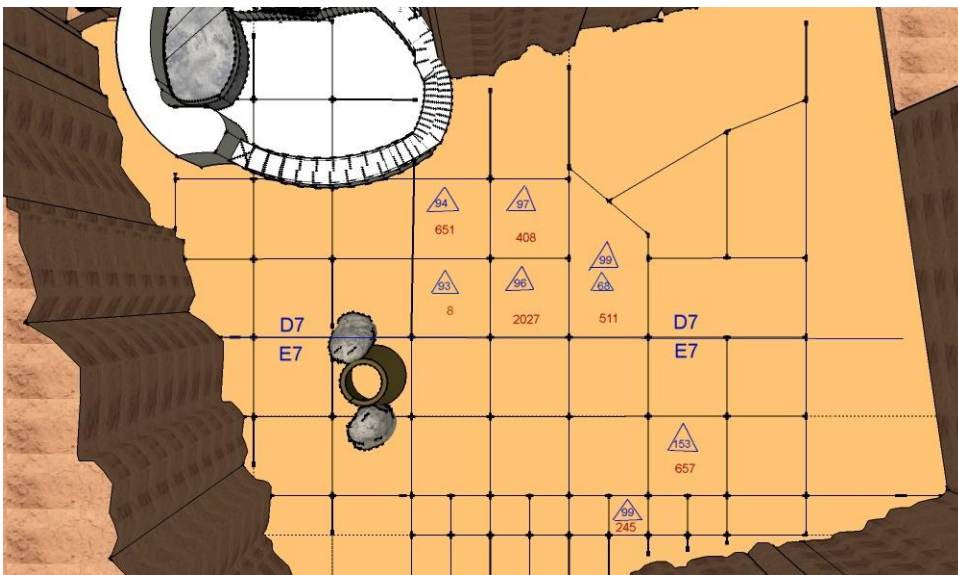


Figure 14 Distribution map for jar D7.94.10 — illustration by Tim Frank

The pieces of jar D7.99.110 (Page 106) were only found on the floor in the area of basket D7.99. But many potsherds were found above floor level in baskets that were immediately above basket D7.99 or slightly to its east. I therefore decided not to draw a distribution map, but rather a diagram showing the different levels from which sherds were collected (Figure 15). The numbers on the sides indicate the upper and lower levels of the baskets in meters above sea level. The base pieces and pieces of the lower body were found among basket D7.99. Pieces of the upper body and the shoulder were found among the higher baskets. All rim pieces came from basket D7.50. It is likely that the jar remained upright, though it was compressed to a height of about 30 cm, rather than its original height of 64 cm. There were 210 sherds weighing 9,062 g, which could be associated with jar D7.99.110. Their distribution shows that some potsherds moved very little over time, that the jar probably sat on the floor and remained upright when the house collapsed.

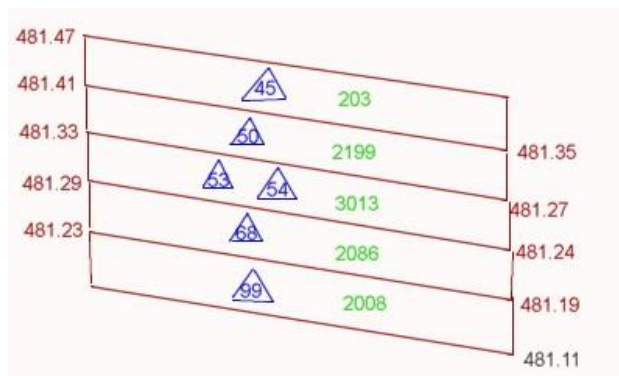


Figure 15 Distribution diagram for jar D7.99.110 — illustration by Tim Frank

The pieces of jar E7.68.41 (Page 107) were also quite spread out (Figure 16). Its base was found among basket E7.68. That basket was excavated early in the 2008 season,

because there had been some disturbance between seasons. The sherds of basket E7.68 were from around this disturbed area, but were all found on the floor. Sherds that were collected out of context were not collected as part of any pottery basket, but were kept. Six of those sherds were refitted with jar E7.68.41. Of the 103 potsherds that were refitted, weighing 6,957 g, many were located among basket E7.149, which is just north-east of the basket E7.68. As a picture of baskets E7.114 and E7.115 indicates, the potsherds of jar E7.68.41 seem to have spread out from the center, where its base was located (Figure 17). However, the potsherds did not fall uniformly around the base, but spread somewhat erratically and over a large area. All potsherds were found near the floor and not in baskets that came a few centimeters from above the floor. Unlike jar D7.99.110, jar E7.68.41 did not remain standing, but must have shattered before it was buried. Interestingly, no potsherds were found among in basket E7.145. When I looked at the exact identity of the potsherds, I also came to the conclusion that the jar must have split and the sherds fallen to the side. The sherds from the mid-section of the jar are farthest away, particularly among baskets E7.149 and E7.143. These are from opposite sides of the jar. The potsherds from the upper (including the rim) and lower bodies are closer, particularly among baskets E7.115 and E7.147. The sherds from the base and lower section are centered around basket E7.68. Such a breakage pattern is most likely to occur if the jar was hit from above and shattered.

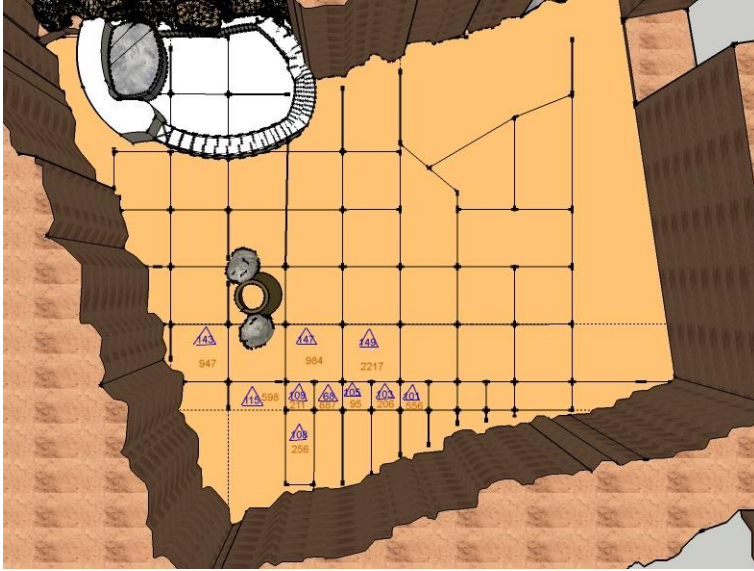


Figure 16 Distribution for jar E7.68.41 — illustration by Tim Frank



Figure 17 Pottery baskets E7.114 and E7.115 — photo by Tim Frank

It seems that apart from two small vessels, only the pieces of some large jars were distributed over a wider area. Some jars, however, remained standing. I suggest that the sherds of jars were more distributed not because the jars were standing higher above the

floor, or because jar pieces are more likely to migrate after deposition, but because jars are larger and on impact their pieces travel further from the base. Jar sherds are also more likely to lie on top of other sherds, for example parts of bowls (see Figure 13). This is likely to have occurred because jars are taller than bowls. It indicates that the vessels were standing at a similar height, probably on the floor. The investigation of the distribution of the potsherds also confirms that it is generally correct to assume that the location of the base is where the vessel would have stood. Another observation is that the potsherds of vessels tend to scatter towards the inside of the room. This may be particular to the “kitchen” and the exact circumstances in which the pottery was destroyed.

Some of the stone tools were also fractured and distributed throughout the room. Basalt grinding stones (Page 155) were found throughout the room, some broken in pieces. On the distribution map I indicated the different grinding stones in different colors and give the approximate provenance of their parts (Figure 18). The quern was found in one piece. Grinding stone 3630 was found in two pieces in different baskets, but because we recognized in the field that the parts belonged together, they were given the same number. Grinding stone 3583 was found largely intact beside the oven. Parts 3606 and 6320 sat directly beside the quern and seem to belong to the same grinding stone. In the southeast corner of the room was another grinding stone. Parts 3351 were found in basket 114 and 115, but given the same number. Part 3328 was found at a higher level. This refitting depends on notes in the field notebook and photographs. As the stones from this room have not yet been analyzed, no other associations have been made. While the different pieces of the grinding stones were found relatively close together, the fact that

they did break may indicate some force during the formation of the archaeological record, most likely during the destruction of the building.

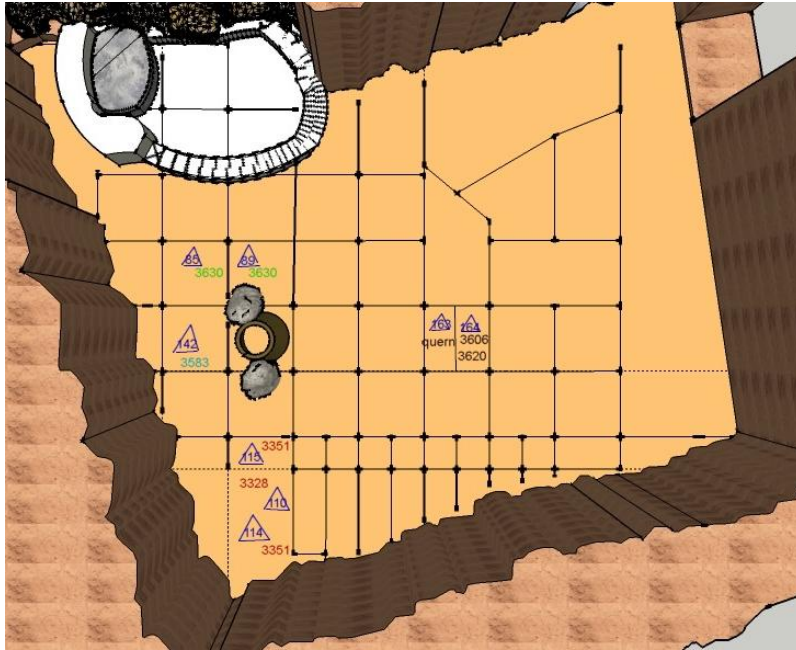


Figure 18 Distribution map for basalt stones — illustration by Tim Frank

The smooth stone (Page 164) was also found in several pieces. Most of its pieces were found in the area of baskets E7.141 and E7.143, just southwest of the “oven”. More pieces were found against the western wall in the area of basket E7.115. They were all directly on the floor. The pieces could be refitted as one big smooth stone. The distribution map shows the find location of the stone pieces (Figure 19). The stone was quite friable when excavated and was further fractured when it was forcefully hit by an archaeological tool. I am not sure whether it was similarly friable in antiquity. Its properties may have been affected by heat, for example. The location of the pieces in two clusters indicates that the stone would have split in antiquity. It could have fallen onto the

floor or the stone beside the “oven” or might have been cracked by something falling on it.

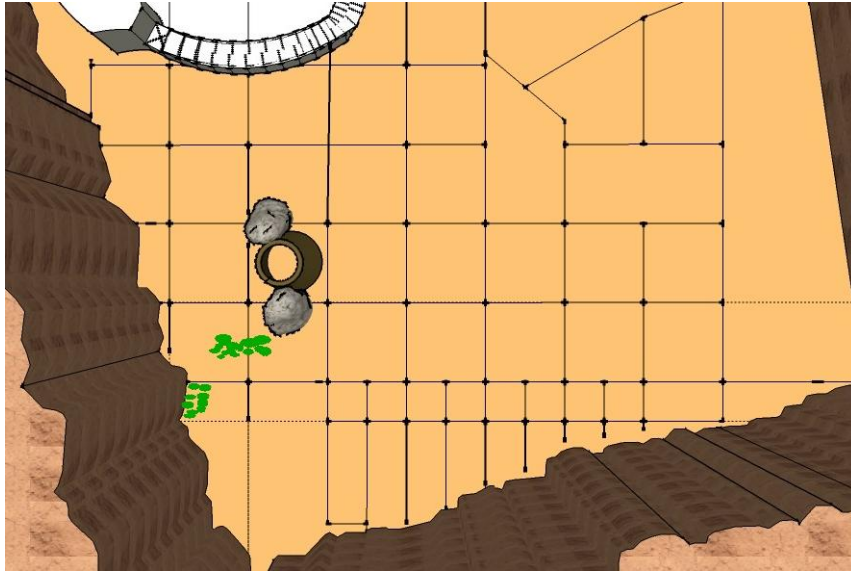


Figure 19 Distribution map of pieces of smooth stone — illustration by Tim Frank

Just as the distribution of potsherds, the distribution of stone pieces also indicates that before or during the deposition of the artifacts strong forces affected the artifacts, breaking them. The collapse of the building or the fall of the objects from some height could be the cause. Many of the pieces were still found fairly closely together. The forces did not spread the potsherds and stone pieces too far across the room. We can still be relatively confident that they would have probably been in the vicinity of the find location at the time of deposition. That would not always necessarily have been the point at which they were mostly used. Any interpretation of the patterned remains will always have to be aware that these patterns represent one moment in time and not necessarily a pattern of the use of space that endured over many years.

CHAPTER XIII
THE INSTALLATIONS

The oven

I want to start my analysis and interpretation of the archaeological remains with the “oven”. It is the most distinctive feature of the room. It is a fired-clay installation with a round base set directly on the floor (E7014) of the room (see Figure 4). The fired-clay walls are between 3 and 5 cm thick. They curve inwards slightly towards the top. They were only preserved to a height of about 24 cm. It is not clear how high the walls would have been when in use. At the base the installation has a diameter of about 42 cm. The inner sides of the “oven” were charred (see Figure 20). Ash was found inside the “oven”. To the north and south are a large field stone each. They are set into the floor directly adjacent to the oven and stand upright, as if to support the walls. They are 30 cm wide, 18 cm thick and stand about 30 cm above the floor level. The flatter, wide side is turned towards the bread oven.



Figure 20 "Oven" on the kitchen floor — photo by Tim Frank

Archaeologists have traditionally identified these installations as bread ovens, or more specifically as *tabunim*, the bread ovens they saw the local Palestinian villagers using. There are indeed similarities. They are made out of thick clay walls, often with organic temper, that are fired *in situ*. As a result, they are often not fired to a high temperature and the clay walls do not vitrify, but remain brittle. They are circular, fixed installations that are between 20 and 30 cm high. They do not have a firing hole at the bottom of the oven.

In 19th century Palestine, the *tabun* was the most common bread oven (Dalman 1935:74–87). Due to the smoke, the *tabunim* were usually not located in houses, but in huts at the edge of the village. Usually a few families would use a *tabun* together, each family providing the firing material. A *tabun* was usually about 80 cm wide at the bottom, 20-30 cm high and at the top had an opening with a diameter of 20-30 cm (see Figure 21). A lid, also made from clay, with a diameter of 30-40 cm would sit on this

opening. It had a wooden handle. At the bottom of the *tabun* were usually pebbles, on which the bread was baked.

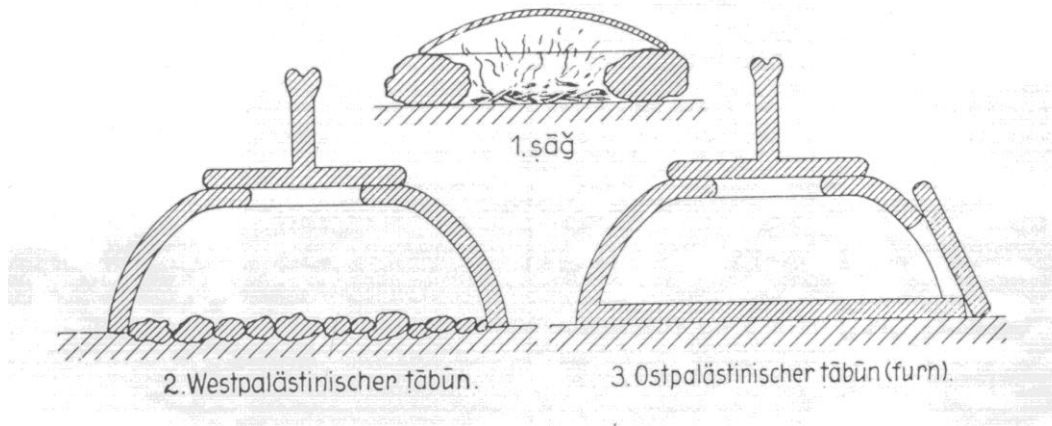


Figure 21 Tabunim and saj as found in Palestine — illustration from Dalman 1935:Fig. 12

The *tabun* was usually only heated from the outside. Dung and straw were heaped around and above the *tabun* and the fire was started. Often the fire was kept going throughout the day and new firing material was added. To bake bread, the woman would sweep away the ash near the lid, lift the lid and place (or throw) several flat breads on the pebbles at the bottom of the *tabun*. She would then put the lid back on the *tabun* and sweep ash over it. After 10 to 25 minutes the bread was taken out of the *tabun* with a thin stick or an iron hook. Usually, the woman would bake a few loads to supply the daily bread requirements. There were also *tabunim* with a side opening that allowed for some internal heating (Dalman 1935:74–87).

In 2009 we built a *tabun* similar to the dimensions described by Dalman, though with a different construction technique. I found that it was impossible to heat it from the inside

and that a fire on the outside of the oven generated sufficient heat inside to bake flat bread. Bread could only be placed at the bottom of the oven; it would not stick to the curving sides.

Differences between the excavated installation and a *tabun* are nevertheless notable. Ash was mainly found inside the installation, not around it. The stones erected beside it would have made it difficult to heat the oven externally. The sides of the installation are more horizontal than those of a *tabun*. They do not curve inwards like those of a *tabun*. Therefore, the oven probably did not have a small opening on which a lid would have fitted. It is unlikely that the “oven” found in the room was used like a *tabun*.

Sharing some similarities with a *tabun* is the *tannur* bread oven. *Tannurim* were built into the ground or sat on the floor (Dalman 1935:88–126). Like the *tabun*, the *tannur* was built from thick clay mixed with straw and animal hair. It was also usually round and had a bottom diameter of 49-60 cm, often somewhat smaller than a *tabun*. Its walls were much more vertical and it usually was significantly higher—70–100 cm high (see Figure 22). It often had a large opening at the top, little narrower than the diameter at the base. A *tannur* was fired from within. Often, but not always, there was a hole near the bottom of the *tannur* to allow the fire within the oven to be easily fed.

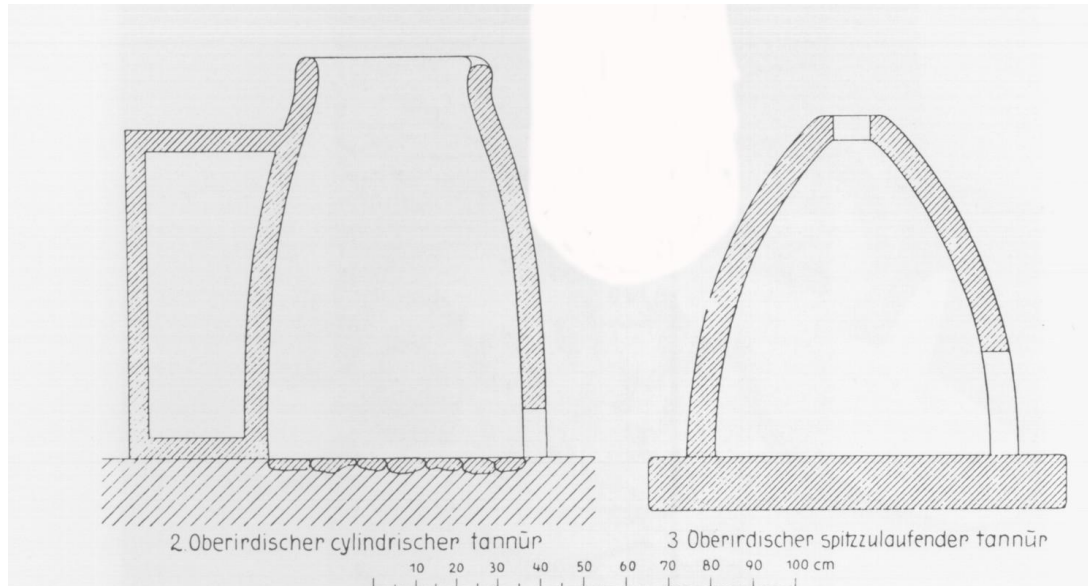


Figure 22 *Tannurim* as observed in Palestine — illustration from Dalman 1935:Fig. 17

The fire inside a *tannur* was usually fired with wood, straw and olive pressings. Once the fire had burned down to the embers, the bread could be baked. A woman slapped flat bread against the inside walls of the oven, where it stuck. After a few minutes, she quickly pulled the bread off the oven wall with her hands. The process required considerable skill and experience. Usually a *tannur* was situated in special huts at the village periphery. The fire in a *tannur* would create a lot of smoke. Therefore, it was seldom seen in the house or courtyard itself. *Tannurim* were in use in the Buqeah, the northern Galilee, and the Lebanon (Dalman 1935:88–126).

Parker discusses the use of *tandir* ovens in southeastern Turkey (Parker 2011). He notes that the word *tandir* comes from the Akkadian term *tinuru*, which is related to the Hebrew and Arabic term *tannur*. The description is very similar to that provided by Dalman. They are large beehive-shaped hollow domes made out of clay mixed with straw and goat hair with a large opening at the top and a small hole at the base. They measure

between 60–80 cm at the base, are about 80 cm high and have an opening of about 40 cm at the top. In southeastern Turkey the oven “cores” are built separately out of clay and temper and then set at an angle in a bench made out of mud or mud brick. These ovens are located either in private courtyards or in public streets near houses, usually under a protective roof. The cores are only fired once they are in place. The fire inside them is usually made of dung, lit with dry branches, sticks and dried cotton plants. This contrasts with Dalman’s observation that dung is usually not used in a *tannur* fire as it creates too much smoke (Dalman 1935:88). Ash is removed through the hole at the base of the *tandir*. Just as in the *tannur*, the bread is baked in a *tandir* by slapping flat dough cakes against the walls of the oven (Parker 2011:607–611).

In the Iranian village studied by Kramer (Kramer 1982), the ovens were very similar to the underground *tannur* described by Dalman. They were a clay feature sunk into the floor in the middle of the room, with air being funneled through a tunnel, which terminated in a hole in the courtyard (Kramer 1982:99). In contrast, in the Iranian village described by Watson no bread oven was used. Bread was cooked on the convex iron plate (*saj*) common throughout the Near East (Watson 1979:161–162; see Figure 21). In the southern Levant the *saj* is mainly associated with the Bedouin.

Representations of *tannur* ovens are also known from 6th century Cyprus. These ovens appear to be larger than the ones found at Tell Halif. They have a hole near the bottom, similar to the other *tannur* ovens found in Palestine and southeastern Turkey. The way of baking bread is clearly demonstrated in this model. A woman leans over the oven and slaps the flat dough on the sides of the oven.



Figure 23 Cypriot model of woman baking in *tannur* oven, 6th century BCE — photo from collection of Metropolitan Museum of Art

The “oven” found at Tell Halif has similarities with a *tannur* or *tandir*. They all are medium-sized low-fired clay structures with a round base and relatively vertical walls that curve inwards. They contain ash and have charred inside walls, rather than outside walls. However, there are obvious differences. The Tell Halif “oven” is considerably smaller. The original height is not known, but the base diameter is considerably less than for modern *tannur* or *tandir* ovens. The Tell Halif “oven” also does not have a hole at the base. The similarities nevertheless lead me initially to conclude that the “oven” at Tell Halif was used like a *tannur* oven.

To test the use of such a smaller oven without a hole at the base, I built an oven similar to the one excavated at Tell Halif (see Figure 24). It had a base diameter of about 38 cm, a top opening with a diameter of 27 cm and was 23 cm high. I constructed it in accordance with descriptions of oven construction from Palestine (Granqvist 1981:122–

124) and southern Turkey (Parker 2011:609–610). Instead of straw and goat hair, I added locally available pine needles to the clay. The most difficult task was making a fire. That might have been partly due to my inexperience in making a fire in such an oven, as over time it did get somewhat easier. But it did create plenty of smoke. A hole at the base would have certainly helped when lighting the fire and to provide draft to the fire. After I found the right consistency for the dough, slapping it against the walls and baking bread was easy (see Figure 24). The dough was a simple mixture of wheat flour, salt, water and yeast. Because of the smaller size of the oven, the flat breads had to be smaller than those baked in modern *tannur* and *tandir* ovens.



Figure 24 Experimental bread oven — photo by Tim Frank

Similar installations described as ovens by excavators have been found throughout the Levant at archaeological sites. Their sizes vary, but generally Iron Age ovens are smaller than the modern *tannurim*. For example, in Megiddo, ovens had a base diameter from 53–83 cm, opening diameter of 50–70 cm, and a height of 40–60 cm (Dalman 1935:102). An oven found at Khirbet Summeily during the 2012 excavation season had a

base diameter of approximately 75 cm. None of the excavation reports provide a detailed description of the ovens, but it seems that they generally do not have a hole at the base. Dalman already made this observation when visiting archaeological sites throughout Palestine (see Figure 25). In an article on Middle Bronze Age Shechem Seger suggests that ovens in antiquity could have been used both above and below ground (Seger 1972:34). The same *tannur* was first built on a lower floor. Later, when the floor was raised by 75 cm, the oven remained in use, so that it eventually was below the adjacent level of occupation (Seger 1972:34) Since such a hole would make firing the oven easier, it may have been an innovation that was used after the Iron Age and continued into modern times. Baadsgaard had access to detailed excavation documentation of several sites and concludes that in the Iron Age *tannurim* rather than *tabunim* were used in Ancient Israel and Judah (Baadsgaard 2008).

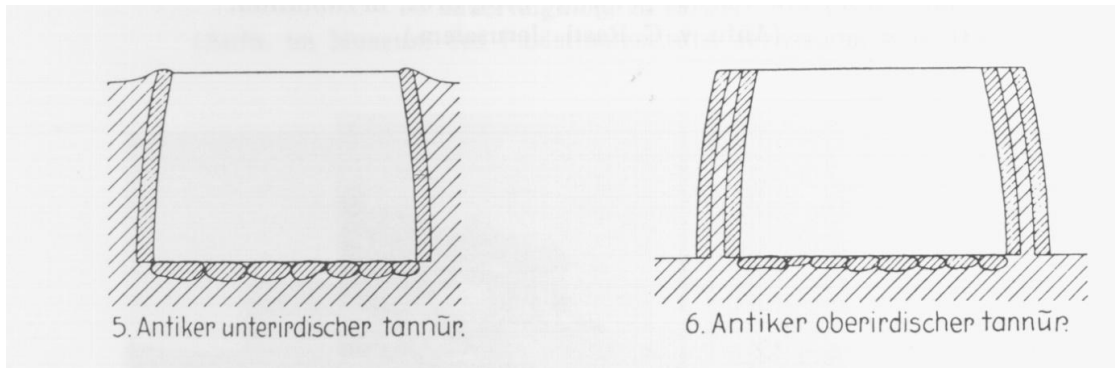


Figure 25 Ancient tannurim — illustration from Dalman 1935 Fig. 18

In the Old Testament the only name occurring to describe a bread oven is *tannur* (Dalman 1935:96). Of course, the name could have stayed and the form of the oven changed. Also, it would be dangerous to assume that because Tell Halif Stratum VI was

inhabited during the time of the Old Testament, anything looking like a bread oven must be a *tannur*. However, it is one consideration in concluding that during the time of the Old Testament an oven was in use that might have been similar to the modern *tannur*.

Continued use of the *tannur* can be deduced from the Rabbinic literature (Dalman 1935:97–102). This oven was normally above ground and had a hole (called the “eye”) at the base. It was fired from the inside and normally used to bake bread. But according to Rabbinic literature it must have also been frequently used for grilling during the first millennium CE (Dalman 1935:98).

Parker emphasizes that in southern Turkey the *tandir* is only used for baking bread (Parker 2011:620). Dalman describes grilling of meat over the *tannur* opening (Dalman 1935:110–111). He also mentions that sometimes cooking pots are placed over a *tabun* to boil water or cook (Dalman 1935:83). In Field III at Tell Halif remains of a cooking pot were found inside an “oven”, indicating that this “oven” was possibly used for baking and cooking (Borowski 1977:302). I was able to bring water to a boil on the bread oven I constructed by suspending a ceramic pot over the opening (Figure 26). Granqvist describes the construction of a hearth (*qanun*) (Granqvist 1981:122–125). In its form it is very similar to a low *tannur*. It had an opening at the base for ventilation and inserting fuel. A fire was made inside this brazier with twigs and dung mixed with straw. Ceramic or metal cooking pots were then placed on the hearth and used for cooking (Granqvist 1981:124). The hearths mentioned by Dalman are different, either being only closed on three sides, or designed for use with coals (Dalman 1942:196–198). But they were generally made out of clay. The two stones either side of the “oven” in the “kitchen”, about 36 cm apart at the top, may have allowed pots to be placed above the opening.

Reinforcing bricks found with *tannurim* have been interpreted to have been used for that purpose (Curtis 2001:207).



Figure 26 Water being heated on experimental oven — photo by Tim Frank

Another possibility is that the “oven” was in fact a storage bin. Dalman writes that nearly every house in Palestine had one or several grain storage bins or trunks in the main living room (Dalman 1933:188–197). These clay bins were nearly rectangular and stood on feet about 20 cm above the floor. They were somewhat narrower toward the bottom than the top. Usually they were about 50–80 cm wide and deep, and 50–170 cm tall. At the top they had an opening, which was 30–50 cm, through which the grain was poured in. At the bottom they had a small hole, which was plugged with cloth. From this hole the grain was removed for daily grinding. The trunks are made out of reeds and clay and dried in the sun (Dalman 1933:188–197). Kramer and Watson describe very similar storage trunks for Iranian villages (Watson 1979:162,167; Kramer 1982:101). Such storage trunks were also found in the Cave Complex at Tell Halif (Seger and Borowski 1977:164–165). Built out of mud and straw, the trunks were generally placed on feet to

keep them off the cave floors. The caves were settled in the late 19th and early 20th century by Bedouins.

The only similarity between the “oven” and the grain storage trunks, is that the “oven” is also made from clay and may have been enclosing a protected area. It was also found in what appears to be a domestic context. However, the form is quite different. The “oven” could only have stored a small amount of grain. The charred inside walls and the ash in the “oven” also do not suggest a storage bin.

Overall, the “oven” was most likely used similarly to a *tannur*, an internally fired bread oven. It may have also been used occasionally for grilling and cooking. It is one piece of evidence that food processing was carried out in the “kitchen” (Table 3). The ethnographic examples, the artwork from the ancient world (Figure 23), and Biblical references (Leviticus 26:26) all portray women using bread ovens. Dalman only reports men baking bread in large commercial bakeries. It is likely that the bread oven in the “kitchen” was also used by women.

Table 3 Function of oven

	<i>Oven</i>	<i>Tabun</i>	<i>Tannur</i>	Hearth	Storage bin
Food Processing	Form	some similarity	good similarity	some similarity	some similarity
	Material	close similarity	close similarity	close similarity	good similarity
	Contents	little similarity	very close similarity	close similarity	no similarity
	Location	little similarity	some similarity	good similarity	good similarity
	Use-wear	little similarity	very close similarity	good similarity	no similarity

The oval installation

At the north-western corner of the room was Installation D7034, which was set in a niche of Wall D7032 (see Figure 3 and Figure 27). It was at the same level and a continuation of the kitchen floor. It consisted of an oval ring of stones one level high with an empty space at its center. At the northern end it incorporated Curtain Wall D7016, a small wall that separated the kitchen from the room to its north. This wall had been preserved to a height of three courses (40 cm). At the installation's western end was a high, large, and relatively smooth stone. Initially, this stone was interpreted as a pillar base. Next to the high stone, the installation continued into the balk in the west, but two courses high. The installation was about 121 cm long (from high stone eastwards) and 102 cm wide (from Wall D7016 southwards). The one course of stones was 9–13 cm high.



Figure 27 Oval installation — photo by Dylan Karges

The installation has some similarities with stone-lined pits found in archaeological excavations, for example at Tel Burna (author present). Pits are normally sunk into the ground, dome-shaped and several courses high, if they are constructed from stones. From pottery that seems to have fallen across the stones of the installation, it is clear that it was only one course high on most sides. It was also not underground. The flat, open area of the installation would make it unsuitable for long-term storage of food-stuffs.

Other artifacts in or near the installation need to be taken into account. Most of the potsherds found inside the installation were from storage jar D7.86.8 (see below for an analysis of this jar). This jar could have stood in the installation. The installation could be a space in the room sectioned off for storage. Dalman describes a storage bench for water jars near the entrance of a Palestinian house. But there are no indications that the installation in the “kitchen” was a bench. The inside area is lower than the course of stones encircling it, indicating that the stones were placed to contain something.

The installation is similar to grinding basins, as they were described at Tel Rehov (Fries 2004) and Tel Dor (Zorn 2009). According to Fries, they are frequently found at sites throughout Israel, but often not described (Fries 2004:17). Few attempts to interpret them have been made by excavators. At Tel Rehov the grinding basins were all semi-circular and constructed out of mud brick and stone. This base construction was then covered over with mud-plaster to give it a bowl-shaped appearance. One end was higher—about 45 cm above the floor—while the other was lower—about 25 cm above the floor. Fries argues that the person grinding grain would have stood or knelt at the higher end, resting a quern (lower grinding stone) on the installation, so that the flour would have gathered in the lower portion of the basin. A quern still in position points

toward such a use. Fries also used analogy with Egyptian and other Middle Eastern depictions of daily life to interpret the installations uncovered at Tel Rehov (Fries 2004). In the Iron Age Stratum VIII at Shechem a saddle quern sat enclosed in a curved wall one stone high (Campbell 2002:284). No mud lining is visible. Nevertheless, the location of the quern inside this low curved wall suggests that it was used as a grinding basin. A grinding installation with a saddle quern sitting inside it was also found at Tell Halif, Field III in a stratum dated to the Iron Age (Seger and Borowski 1977:163; Borowski 1977:301). The semicircular installation was 90 cm long, 40cm wide and 15cm high. It was situated in a corner so that the walls of the room formed two walls of the installation.

Egyptian models do not show a grinding basin, but they occasionally show a grinding stone being used in a standing position (see Figure 28). The quern would then have rested on some support installation with the flour falling away from the person grinding flour.



Figure 28 Sesenu grinding grain, Dynasty XVIII — photo from the collection of Brooklyn Museum

Dalman describes how in Palestine a cloth was used to collect the flour when operating a rotary mill (Dalman 1933:223). However, some households had collection basins, made out of dried clay. The lower grinding stone was set into a clay tray with a 6 cm high rim. On one side was a collection basin, which was lower than the tray by about 20 cm. This collection basin was about 30 cm wide and 25 cm long. Its rim was 13 to 18 cm high. Sometimes these collection basins were part of the floor of the house, at other times they were separate, moveable objects (Dalman 1933:223). In Western Iran only few people had rotary mills in the 1960s (Watson 1979:169). But when they were used, the bottom stone was embedded in mud and surrounded by a low mud wall to catch the flour. From this basin around the stone flour is scooped out when desired (Watson 1979:169).

No mud-plastering was detected over the installation in the “kitchen”. However, the pottery that had fallen across the stones was separated by several centimeters of soil from the stones. This could be due to mud lining of the installation, which was not detected during excavation due to the deterioration of the mud plastering. The installation also does not have an elevated end. However, the high stone at the western end, initially interpreted to be a pillar base, stood about 30 cm higher than the installation. It could have been used to support the quern, with the person kneeling or standing behind it. Unfortunately, the space to the west of the high stone has not yet been excavated. To the southeast of the installation is also a high stone on which a grinding stone could have rested. Comparison with other installations suggests that a quern would have more likely rested on the western high stones.

The oval installation was similar in shape and size to the grinding basins uncovered at Shechem and at Tell Halif, Field III. But no quern or grinding stone has been found in the

installation. However top grinding stones have been found on the floor of the “kitchen”, one about 50 cm south of the installation, with fragments about 10cm further east, and another about 1.20m south of it. A quern was found in the room about 2.00m to the southeast of the installation, with parts of a grinding stone right next to it. Other parts of a grinding stone were found in the south-western corner among the loom weights. It is hard to tell whether these grinding stones had been used in their find locations for a long time or had moved there at the time of the destruction. The intrusive Roman period wall runs just east of the installation, so that a grinding stone could have been removed. Further excavation to the west is also required.

Another suggestion for a separated space is a hearth, a place for an open fire used for cooking and grilling food. Hearths are mentioned in excavations throughout the Levant, but usually very little is mentioned about how the excavator arrived at this interpretation. Generally, a hearth has a rim of stones and often also a stone or packed earth floor. A hearth at Shechem, for example, is an oval space in the middle of the room, surrounded by rim stones with stones covering the floor of the hearth (Campbell 2002:281) In his identification of a hearth, Hardin mentions ash, bones and carbonized remains (Hardin 2010:153). Remains of burnt materials were also found in the microartifacts.

In the Western Iranian village of Hasanabad each living room, which also served for food preparation, was equipped with a hearth (Watson 1979:123–124). They were of stone and roughly rectangular. The drawing indicates that they were roughly 50 cm long and 40 cm wide (Figure 29). They were usually set into the middle of the room. The usual fuel was dung and pieces of wood and brush. Ash was cleaned out of the hearths once a day and thrown into pits, usually outside the village, but sometimes in the

courtyard (Watson 1979:37). Small amounts of ash should therefore be present in the hearth.

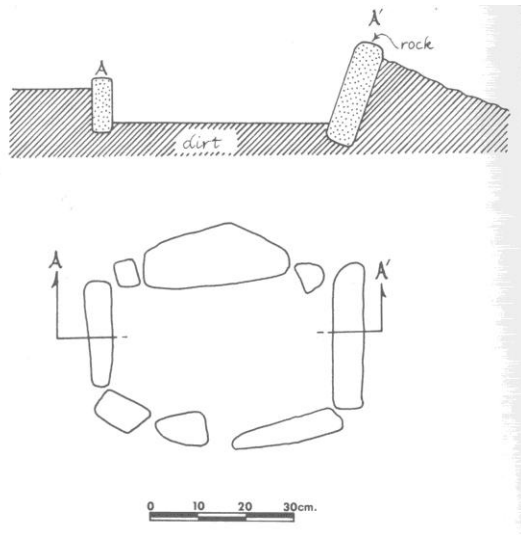


Figure 29 Hasanabad. Hearth plan and section — illustration from Watson 1979:Fig.5.2, copyright Wenner-Gren Foundation

In Palestine, hearths were moveable and made out of clay (Dalman 1942:196–198). They often were enclosed on three sides and were open on the fourth, from which the fire was fed. The hearths were curved or rectangular and usually about 20–25 cm high and 30 cm wide. The cooking pot would rest directly on the clay walls. A simpler form, especially used in the summer outside, consisted simply of two stones with a fire between them on which the cooking pot was placed. (Dalman 1942:196–198).

In the “kitchen” there was not much ash near the installation, apart from the ash that covered it uniformly several centimeters above. But this ash was not limited to the installation and the quantities were such that the ash very likely was due to burning of the house, rather than any traces of the use of the installation. Little bone was recovered from

the installation. While the stones were arranged somewhat similarly as those of hearths at Hasanabad, they were not set into the floor. The installation is a lot larger than the hearths at Hasanabad. The stones were certainly too far apart to place a cooking pot or baking tray on them. Overall, there are too few similarities to conclude that the installation could have been used as a hearth.

I think that the installation can best be compared to the grinding basins as they are known from other archaeological sites, and not unlike those used later in Palestine. It is likely that it was used in the processing of grain and contributed to the household task of providing food for the household members. I suggest that the oval installation found in the “kitchen” was used for food processing (Table 4).

Table 4 Function of oval installation

	<i>Oval Installation</i>	Storage pit	Storage bench	Grinding basin	Hearth
Food Processing	Form	little similarity	some similarity	good similarity	little similarity
	Material	good similarity	good similarity	good similarity	good similarity
	Contents	little similarity	good similarity	some similarity	little similarity
	Location	some similarity	good similarity	good similarity	some similarity
	Use-wear	na	na	na	na

CHAPTER XIV

THE POTTERY

In this section I look at the pottery recovered from the “kitchen”. The pottery is grouped into some of the traditional types. While different vessel forms within these types may not have had the same function, they are still best discussed together, as vessels that fit a type are normally fairly similar in shape, size and material. Therefore, any comparison involves similar analogies and any subtle differences within the main types are easier to point out.

I also assess obvious use-wear. To distinguish marks that were made as a result of throwing from those made later I mainly used my experience as a potter. Ancient use-wear is also distinguishable from marks that were made due to later breakage or as a result of excavation and handling. However, it is important to take into account that their depositional environment can significantly alter the appearance of potsherds. In particular, evidence of sooting should be taken with great caution. Figure 30 shows potsherds from the same vessel. One piece is nearly black and sooted, while the other is a yellowish red. The distinction between the two colors is so sharp that it could not have occurred while the two sherds were still part of the same vessel. The change could only have occurred after the vessel was broken and its pieces scattered. When restoring pottery I have seen such differences in the same vessel quite often. Different potsherds from the

same vessel have quite different colors. Therefore, any reference to color always has to be taken with some caution.



Figure 30 Color contrast between sherds from the same vessel recovered from "kitchen"
— photo by Tim Frank

Large jars

Large ceramic jars have long been termed storage jars by archaeologists. The ones found in Iron Age context in the Levant are usually at least 30 cm high and have a diameter of 20 cm or more. Their width is usually smaller at the base and the opening, with the largest diameter somewhere closer to the center. For different jar types the largest diameter can be fairly high or low on the jar. They are round, wheel-thrown vessels, usually with two or four handles.

In today's household long-term bulk storage of foodstuffs is not required. Goods are bought at shops as needed and often come pre-packaged. Commercially, large quantities of foodstuffs are often stored in large tanks or silos. This is different in subsistence economies and societies where pre-packaged goods are not common. These require

containers to store goods in the household, but also vessels in which small quantities of foodstuffs can be moved. Moveable vessels are still sometimes used for food storage. Today the main moveable commercial storage vessels are plastic drums. They are also used for household storage in less developed countries. Plastic drums are cylindrical vessels with an opening at the top. They can often be stacked. Those with a lid that exposes just about the whole of the vessel when removed are designed for the storage of solids, including granular goods, but I have also witnessed storage of packaged food, clothing and general household goods. Those with a small opening, or these days usually two for better venting, are designed for the storage of liquid goods. The goods can be poured out of these smaller holes.



Figure 31 Plastic drums — photo by Global Industries

I suggest that the jars found in archaeological excavations, and particularly in this room, were similarly used. Those with small openings are likely to have been intended

for the storage of liquids. Those with large openings are likely to have been used for the storage of solid or granular goods.

For Palestine, Dalman describes large storage jars in connection with oil, wine, and water (Dalman 1935:251–252, 365–367). Oil was most commonly stored in a large storage jar without handles. They were about 75 cm high, 40 cm wide, an opening of 22 cm diameter, and a flat base of 11 cm (Figure 32e). Another possible jar for the storage of oil had a wide lower body, and was about 42 cm high, 50 cm wide, an opening of 27 cm diameter, and a flat base of 11 cm (Figure 32e). Another possible jar for the storage of oil had a wide lower body, and was about 42 cm high, 50 cm wide, an opening of 27 cm diameter, and a flat base of 26 cm. This jar had four handles. Generally, oil jars would have a capacity of 22 to 36 liters. For daily use, oil was also often stored in smaller jars (Dalman 1935:251–252). To preserve the quality of olive oil it has to be shielded from sunlight. In Palestine it was therefore often kept in storage jars with a narrow mouth and stored in dark rooms (Dalman 1935:252).



Figure 32 Palestinian jars and jugs — illustration from Dalman 1942:Fig. 118

d) drinking jar; e) storage jar for water or oil; f) travel flask; g) drinking jug with spout ('brik); h) jug; i) cup; j) gobblet

Dalman does not mention the exact dimensions for wine storage jars, but from an illustration they appear to be between 50–80 cm tall, about 30 cm wide, having a slightly narrowed rim and two handles (Dalman 1935:Ill. 97). Wine was usually fermented in pottery jars. For the fermentation process the jars were filled to the rim and left open. The resulting foam would spill over the rim. After several days, the wine would be poured into a different jar, the lid closed with a cloth and the jar often placed in ash to protect it from moisture (Dalman 1935:365–367).

Water was stored in large jars. Dalman gives the dimensions of one large jar as 103 cm high, 55 cm wide, with an opening of 14 cm width and a flat base of 14 cm (Dalman 1935:251). He also saw smaller jars being used for storing water, such as one 59 cm high, 40 cm wide and with a mouth of 22 cm diameter (Dalman 1942:238, Fig 116). Water was carried from the cistern, well or spring in small jars. An example was 42 cm high, 26 cm wide and had an opening of 9 cm (Dalman 1942:238 see Figure 33a). But Dalman also observed water jars about 59 cm high, 35 cm wide, and with an opening of 10 cm width (Dalman 1935:251–252; 1942:238; see Figure 33b). These jars had a rounded base. All the water jars had two handles. There was considerable variety in the shape and size of jars used for different purposes in Palestine. Dalman mentions that storage jars with a rounded base, in particular water storage jars, were often placed on rings of straw or more permanently constructed out of mud and bricks (Dalman 1942:123,139).

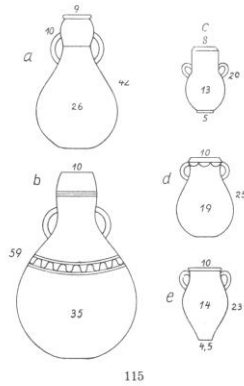


Figure 33 Palestinian water jars — illustration from Dalman 1942:Fig.115

a) water carrying jar; b) water carrying jar; c) water drawing jar; d) water carrying jar; e) water carrying jug or milking jug

The most common reference for jars in the Bible is *(nebel)*. The term is used for vessels that store wine in large quantities (1. Samuel 1:24; 1. Samuel 10:3; 1. Samuel 25:18; 2. Samuel 16:1; Jeremiah 13:12–14), and pour out water (Job 38:37) and often generally describes pottery that shatters into many pieces (Isaiah 22:24; Isaiah 30:14; Jeremiah 48:12; Lamentations 4:2). Because of the emphasis on the shattering of these jars, I think it is inaccurate to translate *(nebel)* as wine skin, when the term clearly is mentioned in connection with wine, as the New International Version translation does for example. However, the Biblical text clearly implies that the wine containers were carried. It would have required donkeys to carry jars like we find in excavations. That jars were carried on donkeys in the Ancient Near East is shown by a figurine from Cyprus, here even with a rider (Figure 34).



Figure 34 Man riding on a donkey carrying large jars, Cyprus, 6th century BCE — photo from the collection of the Metropolitan Museum of Art

Seven storage jars with narrow openings were found in the kitchen (Table 5). Four of those are similar to what are generally referred to as LMLK-type jars. This refers to a stamp found on the handle of many of these distinctive jars, which includes a winged design, the Hebrew letters LMLK—meaning “belonging to the king”—and the name of one of four Judahite cities. While a minority of the jars have handles that are stamped, most are not. The jars are ubiquitous at sites from Ancient Judah (and maybe beyond). They were first defined by Tufnell during excavations at Lachish as jar type 484 (Tufnell 1953). The possible reason for the relatively uniform manufacture of these storage jars in great quantities and the significance of the stamp have not yet been determined. Many possible explanations have been advanced. Possible reasons include preparation for the Assyrian invasion, requirement of fulfilling Assyrian tax duties, centralization of worship and associated reforms, and more products from new royal vineyards (Grena 2002). I do not want to wade into the debate, but rather focus on how the jars may have been used in this particular household.

Table 5 Jars found in the kitchen

Jar number	opening	traditional type	Height	Maximum Diameter	Mouth width
D7.86.8	narrow	LMLK	61 cm	42 cm	9 cm
D7.92.7	narrow	LMLK	61 cm	42 cm	10 cm
D7.99.110	narrow	LMLK	64 cm	47 cm	8.5 cm
E7.68.41	narrow	LMLK	62 cm	41 cm	9 cm
E7.115.82	narrow	ovoid-shaped	49 cm preserved 59 cm estimated	37cm	9cm
D7.100.7	narrow	carinated	36 cm preserved 50 cm estimated	35 cm	9 cm
E7.137.4	narrow	carinated	unknown	unknown	8.5 cm
D7.94.10	wide	holemouth	54 cm preserved 60 cm estimated	44 cm	unknown (ca. 20 cm)

All four LMLK-type jars from the kitchen have dark red ware with frequent limestone inclusions (see Figure 35). Generally, the outside of the jar has a brighter red color than the inside. They all have four handles, very wide shoulders and curve to a narrow neck. The base is rounded, but slightly angled. The inside surfaces are rough with frequent small pores (0.2 to 1.5mm), like needle pricks. Such an inside surface is found in many LMLK-type jars. Jar D7.68.8 has a rim that is slightly more vertical than is characteristic of LMLK-type jars. Its inside surface is very rough. The inside surface of jar D7.92.7 is not very rough, with fewer pores. Some abrasion is visible on top of the rim. Near the base of jar D7.99.110 the wall is quite thin and something pushed into the clay from the outside while the clay was still wet so that the jar bulges inwards. From just below the shoulder to the base of the rim, the outside of the jar looks corroded, as if an outer layer had been removed. Its inside surface is very rough. The inside rim is slightly

abraded. The inside walls of jar E7.68.41 are smooth in comparison to the other LMLK-type jars in the kitchen, but still have a few pores. The top of the rim is slightly abraded.



Figure 35 LMLK-type jar D7.68.8 — photo by Tim Frank

Hardin had three LMLK-type jars, as well as a strainer and funnel, from a neighboring house tested by various chemical analysis techniques. All vessels tested positive for tartaric acid, a substance that in nature is almost exclusive to wine (Hardin 2001:244–245). The LMLK-type jars from that house look very similar to those in the “kitchen” and also have the rough inside walls. The characteristic inside walls are found in few other vessels of the time. While they could be related to the manufacturing process, they could also be due to use. I could not find any experimental conclusions about this phenomenon. One suggestion is that the rough inside walls with pores are due

to the fermentation process. Wine may have been stored in the jars. Among the Ethiopian tribe of the Gamo, jars that were used to process beer showed severe pitting or the complete erosion of the interior ceramic wall (Arthur 2003:524). From the textual evidence, wine seems to have been more frequently produced and consumed in Ancient Judah than beer. Experiments could provide further evidence of the effect of wine fermentation on the ceramic body. While it appears that a thin slip was applied to the outside of the jars, the different color may also be a result of the jar's contents. In an experiment I filled three small jars with different liquids, namely wine, vinegar and water. Over weeks the contents slowly seeped through the ceramic body and stained the outside walls (see Figure 36). The inside walls were hardly affected. Wine or vinegar may also have stained the outside of these jars. Further experiments could indicate whether these colors endure in the soil of the southern Shephelah. The corroded shoulder of jar D7.99.110 may also indicate that wine was fermented in the jar. As Dalman describes, the fermenting foam would flow over the rim and spill across the vessel. I suggest that the LMLK-type jars were mainly used for fermenting and keeping wine. However, it is likely that jars were not just kept for one use. They may also have served as water storage jars. The use-wear on some jars indicates that an abraded rim came in frequent contact with the rim. This may have occurred when taking liquids out of the jar with a juglet. The jars were likely to have been used for storage (Table 6).



Figure 36 Test jars — photo by Tim Frank

left picture after 2 weeks: left vinegar, middle water, right wine; right picture after 10 weeks: left wine, middle water, right vinegar.

Table 6 Function of LMLK-type jars

	<i>LMLK-type jars</i>	wine jars	Oil jars	water-carrying jars
Storage	Form	close similarity	close similarity	some similarity
	Material	close similarity	good similarity	close similarity
	Use-wear	close similarity	some similarity	some similarity
	Location	good similarity	good similarity	good similarity

Jar E7.115.82 is very similar in shape to the LMLK-type jars (Figure 37). It also has four handles, a similar rim and an overall similar shape. The shoulder is accentuated by a ridge where the handle is attached (see Zimhoni 2004:1795–1796). The four handles are slightly smaller. The ware is different from that of the LMLK-type jars. It is a light red to yellowish color. It also has frequent limestone inclusions, some very large. The foot of the jar is missing, but is likely to have been rounded. The inside walls are similarly rough as LMLK-type jars and have the same small pores. On one side of the jar, it is corroded above the shoulder, with the top ceramic layer eaten away. In part, the jar is encrusted with a lime covering, both inside and outside. I suggest that the jar was used very

similarly to the LMLK-type jars, probably also for wine fermentation. The lime encrustation is probably due to the depositional environment of some of the sherds. Even though this jar, as well as the LMLK-type jars, is only slightly bigger than the water-carrying jars used in Palestine, their shape may have not made them quite as suitable for the task. If filled, they would have been quite top-heavy. Water-carrying jars also usually had a slightly flattened base. Therefore, I suggest that jar E7.115.82 was also used for storage (Table 7).



Figure 37 Ovoid jar E7.115.2 — photo by Tim Frank

Table 7 Function of ovoid-shaped jar

Storage	<i>Ovoid-shaped jar</i>	wine jars	Oil jars	water-carrying jars
	Form		close similarity	close similarity
Material		close similarity	good similarity	close similarity
Use-wear		close similarity	some similarity	some similarity
Location		good similarity	good similarity	good similarity

Two carinated jars were found in the “kitchen” (Figure 38). They were both not fully complete, with the base missing. They have sharply carinated shoulders and narrow mouths. The rim sits directly on the top part, with no appreciable neck. Two handles are attached to the body at the point of carination. Their widest point was not at the shoulders but rather in the lower third of the vessel. Through comparison with other jars found at Tell Halif it is probable that they had a rounded base (Figure 39). They have light red ware with few inclusions. Throwing lines are clearly visible on the insides of the vessels. Otherwise, the inside walls are quite smooth. They do not have the visible pores of the LMLK-type jars. The top and inside of the rim of both jars show some abrasion. It is likely that the jars were used for liquids. A seventh-century BCE room at Lachish Level II contained several carinated jars together with rosette-stamped jars and jars similar to LMLK-type jars. This room was very probably used for wine storage and processing. Therefore, some carinated jars are likely to also have been used for the storage of wine. But it probably is more an indication that jars were flexibly used. Due to the absence of the surface characteristic of the LMLK-type jars, I suggest that these carinated jars were used to keep oil or water. Dalman often describes jars as being used for both water and oil. Such a practice could also have occurred in Ancient Judah. They may even have been used as water-carrying jars. The jars are smaller and not as top-heavy as LMLK-type jars. Since we have not found the base of the jars, I cannot assess whether they show external abrasion at the base, as could be expected if they were moved often. Overall, the jars are most likely to have been used for storage (Table 8).



Figure 38 Carinated jar D7.100.7 — photo by Tim Frank

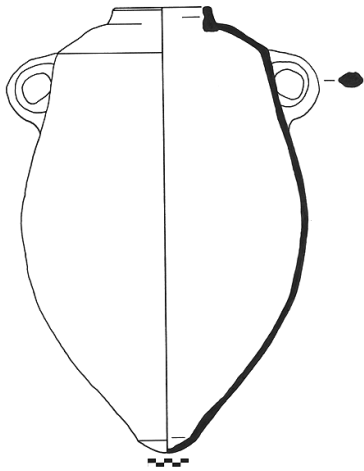


Figure 39 Carinated jar as found on Tell Halif — drawing by Dylan Karges, LRP

Table 8 Function of carinated jars

Storage	<i>Carinated jars</i>	wine jars	oil jars	water-carrying jars
	Form	close similarity	close similarity	good similarity
	Material	good similarity	close similarity	close similarity
	Use-wear	some similarity	close similarity	some similarity
	Location	good similarity	good similarity	good similarity

Hole mouth jar D7.94.10 has a reddish yellow ware with few small limestone inclusions (Figure 37). Its sides are quite smooth, both inside and outside. It has a trimmed foot. Its largest width is just below the midpoint of the vessel. We did not find the rim of the vessel, but through comparison with other jars found at Tell Halif it is probable that the jar had a wide opening. I could not detect any obvious use-wear. Wide storage jars are most likely used for solid or granular goods. While storage silos have been discovered in Iron Age Judah, none have been found in the houses of Field IV or V at Tell Halif. The ancient Greek writer Hesiod says that in 8th-century BCE Greece grain was stored inside the house in storage jars (Hesiod 1914:lines597–608). The hole mouth jar was found just southeast of the grinding basin. It is likely that grain or other granular goods were stored in this jar (Table 9).



Figure 40 Hole mouth jar D7.94.10 — photo by Tim Frank

Table 9 Function of hole mouth jar

Storage	<i>Hole mouth jar</i>	Granular goods container	Oil jar
	Form	good similarity	some similarity
	Material	good similarity	close similarity
	Use-wear	some similarity	some similarity
	Location	good similarity	good similarity

Small jar

One small jar—D7.85.40—was found in the “kitchen”. It is 28 cm high, 20 cm wide (at the rim) and has a mouth of 12 cm diameter. Its rim is 4 cm thick. This form is also considered a hole mouth jar, because the shoulder does not curve in to a narrow mouth. The jar has straight sides and a rounded base. It is made out of very coarse, low-fired, but very thick ware with limestone and other inclusions. It is reddish to brownish yellow. The jar is wheel-thrown, but has been roughly made. The inside of the rim is slightly abraded.

The bottom—both externally and internally—is slightly darker than the rest of the jar. The ware is too porous to store liquids. The wide mouth also indicates that solids were stored in the jar.



Figure 41 Small jar D7.85.40 — photo by Tim Frank

Watson depicts small adobe storage chests for flour in her book on Hasanabad, Western Iran, about 40 cm tall (Watson 1979:166). It is not clear whether these were used differently from the large storage chests. Noticeable is that the large storage chests have a hole at the bottom, while the small chests have a lid on top. Dalman mentions that while grain was stored in large storage chests in Palestine, flour was sometimes stored in small dried clay chests (Dalman 1935:305). A cloth bag was the most common storage implement for flour or wheat grits, as these were sometimes ground daily. Only occasionally were jugs used to store flour (Dalman 1933:304-306).

The Bible mentions a jug (—*kad*) being used to store flour (1. Kings 17:7–16). As discussed below, the term is more often used for vessels that store liquids. But maybe it could also have been used for small storage jars for dry goods.

Small storage jars are still used in kitchens today (see Figure 42). They mainly store dry goods in small quantities that are ready to eat or about to be used in cooking or baking. Sugar, tea and coffee jars are also still in frequent use.



Figure 42 Modern small storage jars used to store dry goods — photo by Bryn Mooth

The small hole mouth jar could have been used similarly to the small storage chests, which were present across the Middle East in later times, and may have some similarity to small kitchen jars. I suggest that the small jar probably held processed food, which was temporarily stored before further processing (Table 10). Flour, wheat or barley grits, sesame, or lentils may have been stored in it. I regard this as part of food processing rather than storage. Of course, it is possible that the jar did not contain foodstuffs, but was used to store other materials.

Table 10 Function of small jar

Food Processing	<i>Small hole mouth jar</i>	small flour chest	small kitchen jar
	Form	some similarity	good similarity
	Material	good similarity	good similarity
	Use-wear	some similarity	some similarity
	Location	good similarity	good similarity

Jugs

Several jugs have been found in the “kitchen”. They have a variety of forms and sizes. In comparison, the juglets, which I consider separately, are very uniform. Jugs usually have a wide body, a slightly constricted neck, one handle and may have a spout for pouring. The size of jugs varies considerably. We found jugs from 11.4 cm to 33 cm height in the kitchen.

Jugs are still being used today, normally for holding liquids ready for consumption, whether this is water, juice, lemonade, beer, milk or other drinks (see Figure 43). They are also used for short-term storage. In many parts of Western culture jugs have been replaced by bottles and other drink containers. I experienced the importance of jugs in some cultures when my parents went frantically searching for a well-sized, nice-looking jug after they moved from Germany to New Zealand. Maybe they should have visited a traditional potter, among which the jug is still a favorite form.



Figure 43 Modern jug — photo by Tim Frank

Dalman describes the use of drinking jugs at a meal in Palestine (Dalman 1942:216–218). Jugs in Palestine had a long narrow neck and rounded, globular body (see Figure 32 d, f, g). For drinking water a jug with drinking spout about $\frac{1}{4}$ down the vessel was common (‘*brīk*). For milk, jugs without such a drinking spout would normally be used. Jugs could have two, one or no handles. Often the liquid was drunk directly from the jug, though for sweet drinks such as lemonade, small bowls were sometimes used (Dalman 1942:217). Small jugs were also used to milk animals (Dalman 1939:290; 1942:Fig.115; see Figure 33e). Sometimes bowls or wooden pots were used for milking. A small jug, about 20 cm high and 13 cm wide was used for drawing water from a well or cistern (Dalman 1942:238; see Figure 33c). While jugs sometimes were used to carry the water to the house, small jars were generally used (see above). Some of the Palestinian jars used for carrying water were relatively small, such as a jar 25 cm high and 19 cm wide (see Figure 33d).

At Beth-Shemesh pinched-mouth jugs from the 7th or 6th century have been found in large quantities in the underground water reservoir (Bunimovitz et al. 2009:133). A large number of the lower parts of these jugs were found embedded in the silt of the reservoir. One whole jug was also found. Bunimovitz et al. had several exact replicas made and showed that these jugs could be used to draw water and that the breakage pattern of the jugs found in the reservoir is consistent with full jugs being struck against the lower mouth of a cistern shaft. The ridge just below the rim of the jug was probably used to tie a rope to the jugs so that they could be lowered and raised easily. Bunimovitz et al. therefore conclude that the pinched-mouth jugs were used for drawing water (Bunimovitz et al. 2009:133–135). Other vessels found in the reservoir were cooking jugs, a hole

mouth jar and jugs with a narrow neck. Two jars about 40 cm high were found at the stairs, indicating that these might actually have been the vessels in which water was carried (Bunimovitz et al. 2009:140).

Jugs very similar to those found at Tell Halif were also found at Beer-Sheba Locus 75, which is part of the Stratum II Western Quarter. (Aharoni 1973:32–34, Plate 64). Due to the large amount of pottery, the excavators concluded that the building was either used for storage or industry. At Lachish, several jugs were found in Locus 4066 from Stratum III (Ussishkin 2004:674, 1834). It's noticeable that the room contained a very varied assemblage of pottery and other artifacts, including bowls, storage jars, loom weights, and grinding stones. Vessels that could be directly associated with wine always had the characteristic decanter form, rather than that of a jug (Ussishkin 2004:2119–2120; 2124–2125).

In the Bible reference is made several times to a pottery vessel used to draw water—the *(kad)*. According to Qohelet 12:6, the *(kad)* may break when taking water at the spring. Although it refers to a Bronze Age narrative, Rebecca drew water for Abraham's servant with a *(kad)* at the well and also gave water to his camels (Genesis 24:12–20). She had carried it to the well on her shoulder. This vessel is also used—during the early Iron Age—by the fighters of Gideon, when they hide their torches during their attack on the Midianites (Judges 7:16–22). All these descriptions would fit well with a large jug with a handle. The term is also used for the vessel in which the widow of Zarephath kept her oil (1. Kings 17:7–16) and for the vessels used to pour water over the LORD's altar on Mount Carmel (1. Kings 18:33–34). The term may not have been used consistently to describe one vessel form. However, it clearly is a vessel that is often used to draw, carry

and store water, and apparently also sometimes oil. King and Stager identify the (*kad*) with a mid-sized storage jar (King and Stager 2001:142–144). They prefer the word (*gabia*) to refer to a pitcher, even though this vessel is clearly used as a drinking cup or bowl or to describe the cups of a lamp stand (Genesis 44:1–17; Exodus 25:31–40; Exodus 37:17-23; Jeremiah 35:5).

The largest jug was jug D7.89.20 (Figure 44). It is 33 cm high, 21 cm wide and has a pinched mouth, which is 6 cm wide and 7.5 cm long. The rim has a trefoil design. The upper narrow mouth is about 7 cm high. The only visible use-wear is on the trimmed foot, which has several chips and abrasions. It is likely that the jug was frequently placed on a hard surface.

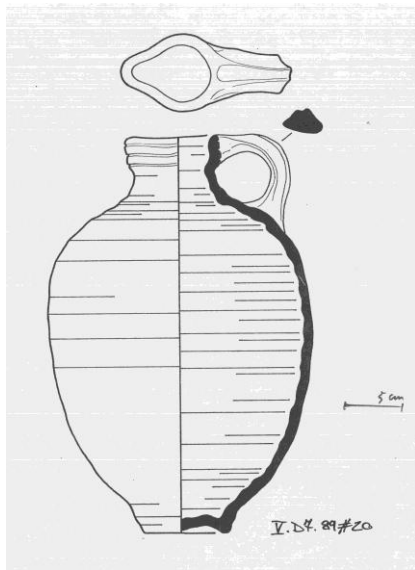


Figure 44 Jug D7.89.20 — drawing by Dylan Karges, LRP

Jug D7.81.1 is 16.8 cm high and 12.7 cm wide (Figure 45). Its rim is 7.8 cm wide. It does not have a spout. It does not have a trimmed foot, but rather a rounded bottom. No obvious use-wear traces were found. It is made out of red ware with few inclusions.



Figure 45 Jug D7.81.1 — photo by Seung Ho Bang, LRP

Jug D7.102.1 is 11.4 cm high and 9.5 cm wide (Figure 46). I was unable to measure the diameter of its mouth, but its neck is quite wide, hardly narrowing toward the top. It is made out of light red ware with few inclusions.



Figure 46 Jug D7.102.1 — photo by Seung Ho Bang, LRP

Jug D7.90A.100 is 15 cm high, about 10 cm wide. Its rim is about 6.5 cm wide. Its light red ware shows few inclusions. The trimmed foot shows some abrasion and chipping, indicating that the vessel was repeatedly placed on a hard surface. This was the vessel, parts of which were distinctly darkened by ash, others not (see Figure 30). The color differences were due to the place of deposition rather than any wear while the vessel was in use.

The jugs from the Iron Age are more similar to modern jugs than to jugs used in Palestine. Nevertheless, they are all mainly used for serving and keeping liquids intended for immediate consumption. They may have also been used to draw and carry water. However, none of the jugs found in the kitchen had a ridge under the rim, useful for hauling water. A jug from the adjacent loom weight room had such a ridge. Vessels similar to those found at Beth-Shemesh were therefore also used at Tell Halif. All of the jugs found in the “kitchen” were substantially different from the jugs used to draw water. However, the use-wear on jug D7.89.20 indicates that it was set down often, and might possibly have been used to carry water, even though the mouth is very narrow and would not make it easy to fill it quickly. Vessels such as these may have been referred to as (*kad*) as mentioned in the Bible. Even though carrying water would not involve long-term storage in the vessel, I decided that it is more closely related to storage—even short-term—than food processing. Even though the large jug could well have been used for other purposes, I tentatively suggest that it was used for storage (Table 11). The smaller jugs are more similar to the milking jugs and comparable to serving jugs used today. They could have been used for milking, or to serve and keep milk, oil or water. I suggest that such jugs were used just before or after the food was processed. I therefore do not

regard them as evidence for storage, but rather for food processing and serving (Table 12).

Table 11 Function of large jug

Storage	<i>Large jug (D7.89.20)</i>	Serving jug	Water jug	Milking jug
	Form	good similarity	good similarity	little similarity
	Material	close similarity	close similarity	good similarity
	Use-wear	good similarity	close similarity	some similarity
	Location	good similarity	some similarity	some similarity

Table 12 Function of small jugs

Food Processing	<i>Small jugs</i>	Serving jug	Water jug	Milking jug
	Form	good similarity	little similarity	good similarity
	Material	close similarity	good similarity	close similarity
	Use-wear	some similarity	some similarity	some similarity
	Location	good similarity	some similarity	some similarity

Juglets

Several juglets were found in the “kitchen”. These juglets are narrower than the jugs, have a round base with considerable clay in it and a narrow neck (see Figure 47). A rounded handle connects the rim with the base of the neck. They have pronounced internal throwing lines and were probably thrown with the help of a throwing stick. The possible use of juglets is suggested by spouted jars that have been found throughout the Levant. The spout ends in a large cup, into which juglets could have been laid. Juglets laid in these spouts were likely used to dip into the larger vessel and take out small amounts of liquids. Juglets, in general, may have been used to take liquids out of larger storage jars. This would also be consistent with the use-wear I have noticed on some jars: about midway on the body opposite the handle they are smoothed. This would be

consistent with the juglets frequently touching the rim of a larger storage jar as they were put into the jar or taken out of it. When I tried to reach into large storage jars with the juglets, this was the area where the juglet most frequently hit the jar.



Figure 47 Juglet E6.128.1 — photo by Seung Ho Bang, LRP

In Palestine dipper cups were used to take liquids out of storage jars (Dalman 1942:239). These were 7 to 16 cm high and 4.5 to 10 cm wide. They were totally open at the top. Taking liquids out of storage jars with smaller vessels was a daily occurrence. A Palestinian saying for anything happening frequently is “as often as the juglet strikes the jar.” Interestingly the Arab word used is “juglet” or “jug”, not cup. The same word is also used for small drinking or milking jugs (Dalman 1942: 239, Fig.116, Fig.118). At some time juglets may have been also used in Palestine to take liquids out of storage jars. In Palestine drinking jugs had a narrow neck, similar to Iron Age juglets, even though they were considerably taller and wider.

Today’s drinking bottles are of a roughly similar shape and size (Figure 48). The diameter of the mouth is about 2.5 cm. They are normally used for carrying and consuming drinks while travelling (even short distances) and for specially prepared

drinks. Even though many bottles are disposable, others are specifically made to be continually re-used. In medieval times drinking jugs were sometimes used. Figure 49 shows a 15 cm high drinking jug from the 13th century. The body is less globular than those of the Iron Age juglets and the mouth slightly wider. The vessel has a foot so that it could be easily set down.



Figure 48 Modern drinking bottle — photo by Tim Frank



Figure 49 Medieval drinking jug — photo from the collection of the British Museum

The main drinking vessel mentioned in the Bible is the cup (—*kos*). As a metaphor for a blessed life an overflowing cup is used (Psalm 23:5). It is something personal, so that a lamb drinking from someone's cup is like a daughter to that man (2 Samuel 12:3). The Bible figuratively refers to someone's cup, describing their lot (for example Psalm 11:6; Isaiah 51:17; Jeremiah 25:15). Together with the drinking bowl, (*gabia*'), cups are used to drink wine (Jeremiah 35:5). References that wine sparkles in the cup (Proverbs 23:31), and that the Pharaoh's chief cupbearer squeezed grapes into the Pharaoh's cup in his dream indicate that the cup form was not closed (Genesis 40:11). In 1 Kings 7:25–26 the rim of the Sea at the temple of Jerusalem is compared to the rim of a cup, "like a lily blossom". The cup was therefore an open form. However, cups are not often frequently found in excavations during the late Iron Age. Small juglets (—*pak*) are referred to in the Bible mainly in their function for anointing new kings with oil (1 Samuel 10:1; 2 Kings 9:1–3). The verses indicate small vessels that could be easily carried, could be sealed and held a small amount of liquid.

Juglet D7.88.25 is 13.4 cm high and 7 cm wide, with a neck 3.5 cm wide (Figure 50). Its internal volume is approximately 250ml. It has vertical burnishing, but appears to have no slip. The ware is pinkish grey to pale red with very few, fine inclusions. At about the middle of the body, opposite the handle, the juglet has a smooth, abraded area. No other use wear is visible, but the rim is only partly preserved.

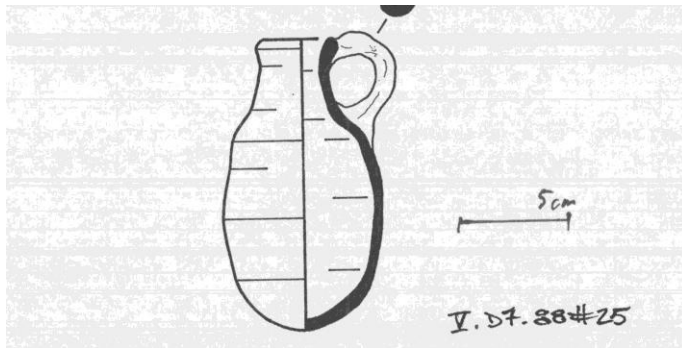


Figure 50 Juglet D7.88.25 — drawing by Dylan Karges, LRP

Juglet D7.76.1 is 13.3 cm high and 7.1 cm wide, with a rim diameter of 3.7 cm (Figure 51). It has a thin slip. The internal throwing lines are also visible from the outside. It is slightly wider near the bottom of the juglet than at the shoulder. Its ware is a light reddish brown.



Figure 51 Juglet D7.76.1 — photo by Seung Ho Bang, LRP

Juglet E6.128.1 is 14.3 cm high, 6.7 cm wide has a rim of 3.5 cm diameter (Figure 47). It has a light reddish brown ware. I did not observe any use wear.

Juglet D7.51.1 is 6.4 cm wide and 10.2 cm high to just below the neck. The neck and handle of the juglet are missing. The juglet is not burnished, but may have been slipped. It has pink ware, with a pale red exterior. It has few, large inclusions.

I suggest that these juglets were generally used to take liquids out of larger storage jars (Table 13). It is not impossible that they were also used as drinking vessels. They may have also occasionally served to carry liquids, such as oil. Other juglets are known from excavations, which might more likely have contained special oils (black juglets). Even though juglets may have been used together with storage jars, it seems they were mainly used at the point when the stored materials were processed or consumed. Therefore, they may be evidence for food processing (Table 13).

Table 13 Function of juglets

Food Processing	<i>Juglets</i>	Dipper juglet / cup	Drinking jug
	Form	close similarity	some similarity
	Material	close similarity	close similarity
	Use-Wear	close similarity	little similarity
	Location	good similarity	some similarity

Cooking pots

Throughout the room we also found several wide, slightly closed vessels, which have long been described as cooking pots by archaeologists. The description no doubt came from the observation of similar vessels being used for cooking by the local population. These vessels have a shallow, globular body, a well-defined rim that is a little narrower than the main form, and usually two handles. Two main distinctions among these cooking pots are apparent. The larger cooking pots have a proportionately wider mouth (Figure 52). Their body contains large and frequent temper pieces. Their rim is thick and low.

Cooking jugs on the other hand have often a proportionally narrower opening (see Figure 53). Their body contains few temper pieces. The paste is a bright red. The rim is more upright with a fine trefoil design.



Figure 52 Cooking pot E7.164B.3 — photo by Tim Frank

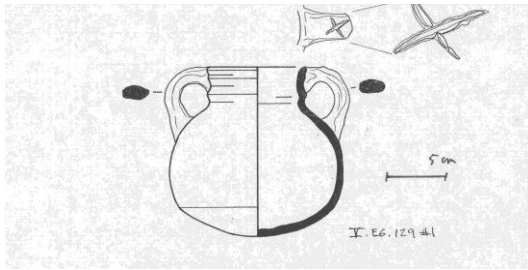


Figure 53 Cooking jug E6.129.1 — drawing by Dylan Karges, LRP

Dalman mentions the ceramic cooking pot as the main form for preparing cooked food in Palestine (Dalman 1935:4). The cooking pot shown in illustrations is indeed quite similar to the large cooking pots found on Iron Age sites (Dalman 1935:Abb. 5; Abb. 11).

The body of the Iron Age cooking pots is a little shallower. Dalman gives approximate

dimensions of 32 cm diameter and 16 cm height for cooking pots (Dalman 1942:201). Even though Dalman’s photos are just black and white, the charred lower body of the cooking pots is clearly visible. The upper part of the body above the largest width of the cooking pot is a lot lighter than the lower part. Dalman also shows pottery he describes as “milk pots” (Dalman 1935: Fig. 11; Dalman 1942:Fig. 118; see Figure 54). They are used to store and process milk products (Dalman 1942:240–241). Especially thickened milk and butter, which was not as firm in Palestine as the common European butter, were kept in these pots, the wider opening allowing easier access to the contents than if it would have been stored in jugs. As part of making butter, the thickened milk was sometimes heated in a pot on a hot stone so that the butter could be skimmed off the surface (Dalman 1939:298–299). The form and size of the milk pots is very similar to the cooking jugs uncovered in the “kitchen”.

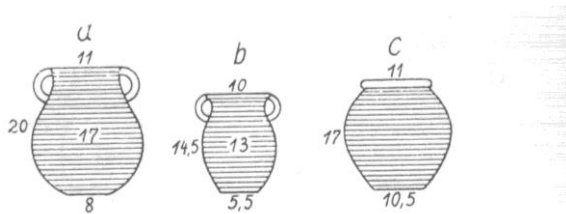


Figure 54 Milk pots — illustration from Dalman 1942:Fig. 118

In Hasanabad, Western Iran, most households use cooking pots made out of tinned copper to prepare cooked food (Watson 1979:161–163). Despite the different material the cooking pots look remarkably similar to ancient cooking pots—a roughly globular form with a carination towards the bottom of the pot. The bottom is curved and the widest part of the pot, slowly narrowing to a flanged rim. They do not have handles. Watson reports

that in the neighboring village of Shirdasht ceramic cooking vessels were still being used. These had two handles and looked very similar to the Palestinian and ancient cooking pots. They were roughly globular with a flattened bottom and a well-defined rim, and approximately 20 cm wide and 15 cm high (Watson 1979:267). Watson observed both a flat rock being used as lid as well as a cloth covering (Watson 1979:267–268).

Similarly shaped ceramic pots were also used in the Philippines (Skibo 1992). However, the water jars used in the Philippines also had a similar shape, though they were larger than the cooking pots. Nevertheless, the use of this basic form across the world suggests that it is very functional for cooking on fire. In the Philippines mainly vegetables and rice were cooked in these pots. While rice was not used in Ancient Judah, the cooking pots likely also used boiling water to cook the food.

The Bible mentions different vessels for boiling and preparing food. The *parur* was used to boil meat in a sacrificial setting (1. Samuel 2:12–15; 2. Chronicles 35:13), but also refers to the vessel in which Jehu puts the heads of King Ahab's family (2. Kings 10:7), to a vessel for figs (Jeremiah 24:1–2), and to baskets to carry construction material in Egypt (Psalm 81:6 [verse 7 in Hebrew]). The term *sir* is used to refer to the meat pots of Egypt (Exodus 16:3), to a pot to cook vegetable stew (2. Kings 4:38–41), figuratively for a pot in which meat is cooked (Ezekiel 11:1–12; Ezekiel 24:3–6; Micah 3:3) to compare the breath of Leviathan to a boiling pot over a fire (Job 41:20 [verse 23 in Hebrew]) or to mention the fire under a pot (Psalm 58:9 [verse 10 in Hebrew]; Ecclesiastes 7:6). At times the term is used to refer to a common household item (Psalm 60:10; Psalm 108:10; Zechariah 14:20–21). The term *parur* is also used to refer to a cooking pot for meat (1. Samuel 2:14) or for *mannah* (Numbers 11:8). Gideon serves a

liquid soup or broth in it (Judges 6:19). These examples show that in Ancient Israel several pots were used to cook meat and other food over an open fire. They were common household implements. Cooking pots in a similar shape to those from Tell Halif were found at excavations of many Iron Age sites in the Levant. Of all the excavated vessel forms they are the most likely vessels to have been used to cook food over fires. From references in the Bible, we should expect to find many of them, as has been the case in excavations so far.

When I used a ceramic pot above a fire, a characteristic sooting pattern occurred. While the whole outside bottom of the vessel was somewhat lightly blackened, the blackening was especially noticeable near the edges slowly fading away towards the upper sides of the vessel (see Figure 55). The vessel I used, however, did not have the characteristic cooking pot form and sat slightly angled on the fire. The vessel also was not frequently re-used. Still, similar patterns are seen on metal pots that are frequently used over open fires, as I observed over many outdoor trips.



Figure 55 Underside of ceramic pot used over a fire — photo by Tim Frank

Cooking jug E6.129.11 is 14.2 cm high and 13.2 cm wide (see Figure 53). It has a rim of 8.5 cm diameter. Its ware is light red with few temper inclusions. One of the two handles is marked with a potter's mark—an X. A piece approximately 1.5 x 1.0 cm wide and 1 mm thick has been chipped off the rim. This chip hardly affected the pot's appearance or function. The top edge of the rim is worn, probably by putting a lid on the pot. This is also supported by the worn, blackened appearance of a part of a handle that is at the same height as the rim. The underside of the top part of the handles appear worn and slightly blackened. The other handle was attached lower to the rim and is not worn. There are no signs of abrasion inside the pot, even irregularities from the throwing process still clearly visible. While no clear sooting is visible, the sides are darkened in a pattern that is similar to that of the pottery vessel I used for heating water in the *tannur*. The pattern is however, less obvious. The outside bottom is slightly smoother than the sides, but I could not discern whether this was part of the manufacturing process or due to the pot being placed on other surfaces. Use-wear analysis indicates that cooking jug E6.129.11 was mainly handled at the rim and handles, not internally and may have been used over a fire.

Cooking jug D7.99.3 is preserved to a height of 16 cm (Figure 56). Its original height would have been 18–20 cm. It is 17.5 cm wide and has a rim about 9 cm wide. It has two handles. The ware is light red and has few temper inclusions. The cooking jug has a few chips at the top edge of the rim. At the point where the body constricts and the rim continues some internal abrasion has dislodged temper particles. The bottom of the cooking jug is missing, but no further abrasion is visible. Externally the underside of the handles shows some increased wear. Particularly noticeable is the characteristic pattern of

sooting, where soot traces are mainly visible to just above the widest part of the body. Cooking jug D7.99.3 was probably used above a fire. Some abrasion near the rim indicates stirring and serving with wood utensils (see Skibo 1992:132–133).



Figure 56 Cooking jug D7.99.3 — photo by Tim Frank

Cooking jug D7.100.26 is about 25 cm high, 25.8 cm wide and has a rim diameter of 10 cm. The ware is light red with few temper inclusions. It has two thick handles. The top edge of the rim is worn smooth. Otherwise the internal rim is hardly worn with only irregularities from the throwing process still visible. Parts of the cooking jug show some root action. Near the bottom a round spot with a diameter of about 4 cm is worn smooth. No other obvious use-wear is visible. There is no indication of sooting.

Cooking pot E7.164B.3 is preserved to a height of 16 cm, but is likely to have been 18–20 cm high. It is 28.4 cm wide, with a rim 20 cm wide. It has two handles. The ware of the cooking pot has many very coarse limestone inclusions. Around the inner side the

rim is worn. The cooking pot has an external sooting pattern, indicating that it was heated on fire.

Cooking pot E7.114.2 is 17 cm high, about 27 cm wide, with a rim 19 cm wide. It has two handles. It also has ware with frequent temper inclusions. The rim and top two centimeters below the rim exhibit some wear, with several chips missing. Some external sooting is visible. Little soot is visible near the bottom of the cooking pot, but more near the edges.

The clearest sooting pattern is on cooking jug D7.99.3, with the other two cooking jugs having no clear pattern, and the two cooking pots having some pattern. In part, the preservation of such patterns depends on the context in which the potsherds were buried. It may indicate that the cooking pots and cooking jugs D7.99.3 were used above a fire, while the other cooking jugs were not.

While the ware of the cooking jugs differs markedly from those of the cooking pots, the shape is not quite as different, though there are clear differences. The shape of the cooking pots is more similar to the pots observed ethnographically that were used in cooking. The ware of the cooking pots is also similar to the ware of cooking pots used in Palestine. Cooking jugs may have been used similarly to the milk pots of Palestine, with which they are analogous in shape and probably also ware.

Most of the cooking vessels were found in the southeastern part of the “kitchen”, near the as yet unexcavated corner. Only cooking pot E7.114.2 was found in the southwestern corner, together with the loom weights. Further investigation is required to see whether a hearth may be located in the southeastern corner.

I conclude that the all the cooking pots and cooking jugs are evidence for food processing (Table 14 and Table 15). The cooking jugs may have more often been used for the processing and storage of milk products, rather than for cooking the daily meal. Even though they are similar in form and ware, cooking jug D7.99.3 may have been used quite differently from the two other cooking jugs.

Table 14 Function of cooking pots

Food Processing	<i>Cooking pots</i>	cooking pot	milk pot
	Form	close similarity	some similarity
	Material	close similarity	some similarity
	Location	good similarity	good similarity
	Use-wear	close similarity	good similarity

Table 15 Function of cooking jugs

Food Processing	<i>Cooking jugs</i>	cooking pot	milk pot
	Form	good similarity	close similarity
	Material	some similarity	good similarity
	Location	good similarity	good similarity
	Use-wear	some similarity	good similarity

Bowls

Several ceramic bowls were found in the room. They range in width from 17 cm to 33 cm and in height from 3.6cm to 14.5cm. Bowls are round, open forms with relatively high walls. All of the bowls found in this room had a well-defined foot, as is common for the Iron Age.

The most immediate comparison is to the bowls that are still used today for food consumption. Breakfast bowls can be found throughout the western world and soup bowls are used nearly all the world round. The form is simple, but very functional. It is

generally used for eating food that contains both liquid and solids, though sometimes solid food is eaten out of bowls, and in other circumstances bowls are used for drinking. Slightly larger bowls are often used for serving food. Salad bowls are common. Other foods such as rice, beans and meat sauces are also often brought to the table in bowls. Drink is seldom served in bowls, but traditionally the punch bowl is common in the western world. Bowls continue to be important in food preparation and home baking. While bowls for immediate food consumption are largely ceramic, serving and food preparation bowls are often made out of different materials today, such as stainless steel.



Figure 57 Breakfast bowl — photo by Tim Frank

But bowls might not only be used during food consumption. Rather, they might have been a very versatile vessel. I want to compare them to ice-cream containers, at least as they have come to be used in New Zealand households and industry. The 2-liter ice-cream container is made out of durable plastic, has a rounded square base form and is about 10 cm tall. It has a resealable lid. In New Zealand households it has come to be used as a multi-purpose vessel. Farm implements are kept in ice-cream containers, tools are stored in it, toys are kept there. It is used to feed animals, to mix paint, to drain oil from the car, for harvesting in garden and orchard. While the lid makes it even more

versatile, many of these uses just use the open form. Other cultures have other versatile containers. The size and capacity is very similar to the common Iron Age bowls. The comparison suggests that bowls also could have been used with some versatility in Ancient Judah. Of course, there are dissimilarities. Plastic containers are regarded as disposable. The use of the ice-cream containers for other purposes is a secondary function after they served their initial purpose. The containers probably would not be used quite so freely for these other functions if they were still required for their primary purpose. Bowls might be used longer for their primary purpose. But if we're looking for analogs in the modern world, we cannot just look at breakfast bowls. All things, with which we make comparison—and we make them whether consciously or not, will help us understand objects used in the past, but if we are not careful they can also lead us to wrong conclusions.

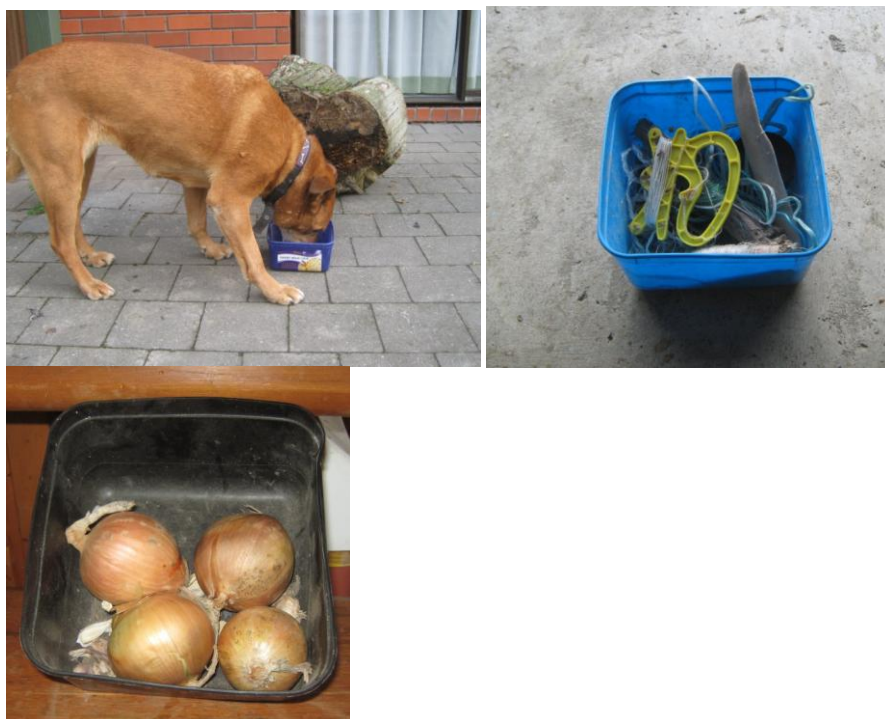


Figure 58 Different uses of ice-cream container in New Zealand household — photos by Eva-Maria Frank

The versatility of bowls is also suggested by their find location in excavations. Bowls have been found in diverse contexts. In Tell Halif Field V, more bowls have been found in the loom weight room than the kitchen. As an example, in the Beer-Sheba storehouses two loci together yielded 136 intact vessels. These were described as 135 bowls, 5 deep bowls, 1 krater, 21 cooking pots, 36 storage jars (including hole mouth jars), 2 flasks, 1 stand, 30 jugs and juglets, and 1 strainer (Aharoni 1973:25). In the western quarter houses at Beer-Sheba bowls were found in most loci (Aharoni 1973:Plate 64–Plate 74). At Lachish, bowls were found in a forecourt, a courtyard, several storage rooms, and other rooms (Ussishkin 2004:598–689). For example, in Locus 4083, 8 bowls were found together with 2 kraters, 6 jugs, 3 juglets, 6 cooking-pots, 1 pot stand, 4 lamps, 10 storage

jars, several ivory fragments, 1 iron sickle blade, 5 iron ploughshares, 2 basalt pestles, and a large variety of other finds (Ussishkin 2004:675). If bowls were found in so many different contexts, it is unlikely that they were just used for one specific purpose.

Dalman describes the use of bowls during meals in Palestine (Dalman 1942:126, 214–218). Meat, onion and bread were often served on plates, but sometimes also in bowls. Salads, beans, rice, mixed meat dishes, dips and sauces were all regularly served in bowls. These bowls were placed in the middle of the table and guests ate directly from the bowls using bread or the hand. Wooden spoons were used to place some of the liquid foods on the bread. While small jugs or cups were often used for drinking, bowls were also sometimes used, particularly for sweet drinks (Dalman 1942:214–218).

Bowls also played an important part in the baking process, when bread was baked in a *tannur* (Dalman 1935:104–107). The dough was mixed in a large bowl, before being kneaded and mixed with sourdough on a cloth or stone plate. It was then returned to the large bowl, kneaded again and formed into dough balls, which were placed into another bowl and left to rise. When the *tannur* was ready for baking, the woman took the dough balls from the bowl placed them on a straw mat and flattened them with her hands before slapping them one by one on the internal walls of the *tannur* (Dalman 1935:104–107).

Dalman reports that bowls were also used to wash the hands, face and feet (Dalman 1942:233). Normally there was no special bowl for this, and any available bowl was used. Bowls were also sometimes used for milking and the processing of dairy food (Dalman 1939:292,302; 1942:246). Dalman also describes mules being watered with bowls, though buckets made out of leather were more common watering vessels (Dalman 1939:270). Even though the primary use of bowls in Palestine was for serving food, they

also had a variety of other uses. Dalman does not give the exact size or shape of the bowls. This is not crucial. We can still get an idea of the range of activities that bowls were used for in a Near Eastern society. Granqvist shows bowls being used in a Palestinian village to carry food and to give water to a sacrificial goat (Granqvist 1981:67,148). However, in the Iranian villages the use of bowls does not seem to have been as prominent as in Palestine (Watson 1979:171). Regional differences do exist.

The Bible also mentions bowls that were used for the serving of food. Proverbs chides the sluggard, who is even too lazy to bring the hand back from the bowl to the mouth (Proverbs 19: 24; 26:15). A bowl that is wiped clean and then turned over serves as a picture of divine judgment (2. Kings 21:13). In the apocryphal account of Bel and the dragon, Habakkuk is on his way to the field carrying food for the reapers in a bowl (Daniel 14:33). We cannot conclude from the textual references alone that certain bowls were used to serve food, but it gives a possible indication of the use of (at least some) bowls in Ancient Judah.

The most common bowls found at Tell Halif had a rounded profile, a low trimmed foot and a carinated edge just below the thickened rim, which may have been folded. They have no handles. Outside they have a trimmed foot and there are signs that most of the outside has been thinned through trimming. They have been slipped and burnished on the inside. In addition there are a few rim sherds of such a bowl. Bowl D7.62.12 is 8.5 cm high and 23.8cm wide. Its ware is light red with few inclusions. In part it is charred both inside and outside, but in no obvious pattern. It is likely that this blackening occurred at the time of destruction. Bowl D7.93.1 is 9cm high and 20.9cm wide. It has red ware with few inclusions. Bowl D7.94.8 is 8.8 cm high and 23.8cm wide. It has red ware with few

inclusions. Bowl E7.152.6 is 8.8 cm high and 23.7 cm wide. Its main color is a reddish yellow. A dark ring in its interior near the bottom is evidence of burning or its burial in an ash layer. One complete bowl from the neighboring loom weight room had a capacity of 1.2 liters. It was about 9 cm high and 22 cm wide. The bowls from the “kitchen” might have a similar capacity.



Figure 59 Carinated bowl D7.94.8 — photo by Tim Frank

The size and form of the carinated bowls would make them ideal for serving food. They could hold a large individual meal or different dishes which could be scooped out of the bowl with bread. Their slightly incurving rim makes it easy to put food on a piece of bread as it is moved across the rim. Even though the bowls could have been used for many purposes, serving food is the most likely. I suggest that they were mainly used in food consumption (Table 16).

Table 16 Function of carinated bowls

Food Consumption	<i>Carinated bowl</i>	Serving bowl	Eating bowl	Mixing bowl
	Form	close similarity	close similarity	some similarity
	Material	close similarity	close similarity	close similarity
	Use-wear	good similarity	good similarity	some similarity
	Location	good similarity	some similarity	good similarity

Straight-sided bowl D7.69.5 is 3.6 cm high and 18.5 cm wide. It is very shallow. Its ware is soft, reddish-yellow and has few temper inclusions. It has a notably straight edge. Its outside is trimmed but there is no prominent foot element. Internally it has been lightly burnished or smoothed. I could not detect any use-wear traces.

This bowl is smaller and a lot shallower than the others. It is nearly shaped like a modern plate, rather than a traditional bowl. It is therefore suitable for serving food that is in larger pieces, rather than food such as lentil and grain dishes. For example, small cakes or bread could have been served on this platter bowl. I suggest that the straight-side bowl was probably used for food consumption (Table 17).

Table 17 Function of straight-sided bowl

Food Consumption	<i>Straight-sided bowl</i>	Serving bowl	Eating bowl	Mixing bowl
	Form	close similarity	close similarity	little similarity
	Material	close similarity	good similarity	good similarity
	Location	good similarity	some similarity	good similarity

Bowl E7.149.9 is 7 cm high, 17 cm wide at the lower body and 14.5 cm wide at the rim (Figure 60). It has light reddish brown ware with few inclusions. The bowl has been trimmed so that sides are quite thin. It has a very low and narrow trimmed foot. These

vessels are generally known as imitation Assyrian Palace ware. At Lachish a similar vessel was found (Ussishkin 2004:1904–1905). Petrographic analysis of the Lachish vessel determined that it was probably made from a mixture of loess and coastal sand, originating from the Southern Coastal Plain. Similar bowls were also found at Tel Batash (Mazar and Panitz-Cohen 2001:43–44). The excavators named them Assyrian-influenced carinated bowls. However, these bowls do not bulge as much as the bowl at Tell Halif or Lachish. Assyrian-influenced ware was found in large numbers at Tell Jemmeh, an Assyrian administrative center in the Southern Coastal Plain during the late Iron Age (van Beek 1993:670–672). The rim and the foot of bowl E7.149.9 have some chips and abrasions. A vessel with such fine ware was easily broken at the edges.

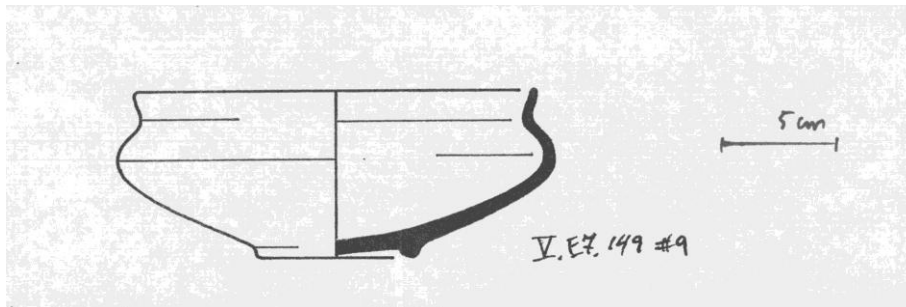


Figure 60 Assyrian-style bowl — drawing by Dylan Karges, LRP

Since bowl E7.149.9 is not very common in Ancient Judah and was quite fine ware, it may have been a special bowl used for particular foodstuffs. The broken edges may indicate that it was used with a spoon. In Palestine, spoons were often placed in bowls with dips (Dalman 1942:215). Because of its bulge, it would not have been suitable as a drinking bowl. I suggest that it was also used in food consumption (Table 18).

Table 18 Function of Assyrian-style bowl

Food consumption	<i>Assyrian-style bowl</i>	Serving bowl	Eating bowl	Drinking bowl
	Form	close similarity	good similarity	some similarity
	Material	close similarity	close similarity	some similarity
	Use-wear	close similarity	some similarity	little similarity
	Location	good similarity	good similarity	good similarity

Several bowls with handles, also called kraters, have been found in the “kitchen”.

Bowl E7.105.1 is 10.7 cm high and about 28 cm wide. It has a trimmed foot and trimmed outside up to the sharp carination. The four handles are attached to the rim and the carination. The bowl has a thickened rim, which has possibly been folded. Internally it is slipped and wheel burnished. Its ware is a light red paste with few temper inclusions. Apart from the added handles, the bowl is very similar to the ubiquitous carinated bowl. At the center of the bowl some internal attrition is visible. This may be due to repeated stirring or other use of the bowl. However, some caution is necessary, as this area also shows considerable root action. Formation processes may have altered the center of the bowl. Other traces on the bowl are likely from manufacture or from excavation and handling.



Figure 61 Bowl E7.105.1 — photo by Tim Frank

Bowl D7.87.3 is about 11.5 cm high and probably about 27 cm wide. Currently just one handle has been preserved, but it is likely to also have had four handles. The handle is attached to the thickened rim, which has possibly been folded. The bowl has light red ware with few large inclusions. It is internally slipped and burnished. It is similar to bowl E7.105.1, though the carination is less sharp and the handle is slightly bigger than those of bowl E7.105.1.

The bowls with handles are very similar to other bowls. They may have served some special purpose, but it is unknown. Bowl E7.105.1 was found right next to the loom weights. It may have contained materials directly associated with weaving. The bowls were probably multi-purpose containers. Because I cannot point to a specific purpose, I suggest that these bowls were also used in food consumption, the activity most closely associated with bowls in the ethnographic record (Table 19).

Table 19 Function of bowls with handles

Food consumption	Bowls with handles	Serving bowls	Eating bowls
	Form	close similarity	good similarity
	Material	close similarity	close similarity
	Use-wear	some similarity	some similarity
	Location	some similarity	good similarity

Bowl D7.80.2 is 14.5 cm high and 33 cm wide (Figure 62). It has one handle. It has a trimmed foot and has been externally trimmed to the carination. It has a thickened rim, which may have been folded. Internally it has been burnished. At the bottom it is slightly warped, probably because the bottom had not been adequately compacted in the throwing process. The bottom was also comparatively thin, probably because the foot was trimmed too much. The bowl has a light red ware with many inclusions. It has been smoothed on the inside, but not burnished. No obvious use-wear traces are visible.



Figure 62 Large bowl D7.80.20 — photo by Tim Frank

The bowl was found right next to the oven. It is the largest bowl in the “kitchen”.

Based on its size and its location near the oven and the working platform, I suggest that

the bowl was used for bread dough. Baking in a *tannur* required the use of containers such as a large bowl. The bowl is too large to serve as an eating bowl. It could have been used as a serving bowl for many people. But in this context a use in food processing is more likely (Table 20).

Table 20 Function of large bowl

Food processing	<i>Large bowl</i>	Baking bowl	Serving bowl	Eating bowl
	Form	close similarity	good similarity	some similarity
	Material	close similarity	close similarity	close similarity
	Use-wear	some similarity	some similarity	some similarity
	Location	close similarity	some similarity	some similarity

Oil lamps

Four oil lamps were found in the “kitchen”. They are shallow bowls with a spout and a thickened foot. Oil lamp D7.64.1 is 5.2 cm high and is about 13.3 cm long (Figure 63). It has a thickened foot, which still shows the signs of the lamp being cut from the hump while the wheel was turning. No attempt was made to smooth over these lines. Oil lamp E7.102B.1 is about 12 cm wide and 5 cm high (Figure 64). The thickened foot still shows signs of being cut off the hump. Oil lamp E7.159.1 is of a similar size. It has been preserved for a width of 11 cm, but probably was about 13 cm wide. It also has a thickened foot. Oil lamp E7.158.1 also is about 12 cm wide and 5 cm high. Its rim has been flattened slightly more than that of the other oil lamps. All the lamps have signs of burning at the spout. They probably had been in use for some time.



Figure 63 Oil lamp D7.64.1 from below — photo by Tim Frank



Figure 64 Oil lamp E7.102B.1 — photo by Seung Ho Bang, LRP

The use-wear indicates that these vessels were used as lamps. A wick burning in the spout leaves the soot pattern found on the oil lamps. I have made dozens of oil lamps of a similar shape and they have been used in houses and churches. I pour any vegetable oil into the basin of the oil lamp, though olive oil burns the cleanest and brightest. I then place a wick of jute, flax or cotton in the spout and light it. With frequent use the oil seeps into the ware of the oil lamp, so that the whole vessel becomes oily. The sides of the spout become blackened with continued use. Similar lamps are also still used for Hindu religious festivals.

In Palestine petroleum lamps were slowly replacing the use of oil lamps (Dalman 1935:268–269). But they were still present. Two basic forms were in use: the closed form

and the open form. The open form was a small steep-side bowl with a spout. The wick was placed in this spout and lighted. The open form was similar to Iron Age lamps, while the closed form is reminiscent of Roman lamps. Even though lamps were mainly used at night in Palestine, the houses were quite dark, so that lamps were also sometimes used during the day. Women often worked at night by the light of the lamp to mend clothes and prepare the bread for baking on the next day. Often a lamp burned the whole night through, also because it warded off the evil spirits (Dalman 1935:268–269).

I suggest that the oil lamps were used for lighting the room (Table 21). They were not used in a specific domestic function, but allowed other household tasks to be carried out. The presence of four oil lamps indicates that this was an enclosed space, since it is likely that they were used inside the house.

Table 21 Function of oil lamps

Lighting	<i>Oil lamps</i>	Oil lamps
	Form	very close similarity
	Material	very close similarity
	Use-wear	very close similarity
	Location	very close similarity

Cross dating

Pottery forms and ware also provide a tool for dating the “kitchen” by comparing it with other sites, for which the historical context is better known. A few pottery types are found throughout the Levant and it is clear that they vary with time. I compared the pottery from the “kitchen” with that found at other sites of Ancient Judah

LMLK-type jars are found throughout Judah, most prominently in Lachish Level III.

They were designated Type 484 by Tufnell and III: SJ-1 Storage Jars by Zimhoni

(Zimhoni 2004:1794–1975, Fig.26.6, Fig.26.7, Fig.26.8). One similar storage jar was also found in a Level II context at Lachish. Zimhoni thinks that while the form is similar to those of Level III, the ware is quite different. Storage jars from Levels IV and V are smaller and heavier. However, some jars from those Levels had similar ware (Zimhoni 2004:1684–1687). LMLK-type jars were also found in Stratum II at Beersheban (Aharoni 1973:Plate 65.11), but were not quite as frequent as at Lachish or Tell Halif. They have also been found at Tell Beit Mirsim Stratum A (Albright 1932:Plate 32). A few similar jars were also found at Tel ‘Ira in Stratum VII (Beit-Arieh 1999:206–207, Fig.6.59.21-23, Fig.6.75.11-12). In Stratum VI Beit-Arieh found many jars with two handles, which he called LMLK-like. However, not only the number of handles but also their form is different from the LMLK-type jars found in Level III at Lachish and those found at Tell Halif. Ovoid-shaped jars similar to jar E7.115.82 have also been found in Level III at Lachish. They were not represented in other levels.

Jars similar to the carinated storage jars found in the “kitchen” were excavated from Levels III and II at Lachish. They also somewhat resemble coastal origin storage jars. Zimhoni differentiates between Level II and Level III jars by comparing the base of the jars (Zimhoni 2004:1802). The upper body of Level II and Level III storage jars are very similar. Since we did not find the bases for these carinated jars in the “kitchen”, I cannot determine which jars they resemble more closely. Similar jars were also found in Stratum II at Beersheba (Aharoni 1973:Plate 74) and Stratum A at Tell Beit Mirsim (Albright 1932:Plate 53). Several carinated jars were also found at Tel ‘Ira Stratum VII (Fig. 6.75.5-6).

The hole mouth jar is similar to the jars found in Level III at Lachish. They have the same three ridges below the rim, where the handles are attached (Zimhoni 2004:1797; Fig. 26.5). Hole mouth jars were also found in Level II, but the handles are attached directly to the rim, not below it (Zimhoni 2004:1803). Many similar hole mouth jars were also found at Beersheba Stratum II (Aharoni 1973:Plates 53,65). Large hole mouth jars were also found in Stratum VII and Stratum VI at Tel 'Ira, though they were not very frequent (Beit-Arieh 1999:210-211). The jars from Stratum VI curve in further towards the rim so that they have a smaller opening. They also do not have the three characteristic ridges found on Stratum VII jars and those from Tell Halif. Large holemouth jars at Tell Beit Mirsim were also quite different in form (Albright 1932:Plate 32).

A small jar similar to jar D7.85.40 was found at Lachish Level III (Zimhoni 2004:1779). It also had smooth walls and a ledged rim. The jar at Lachish was, however, made out of well-lavigated clay, not the coarse ware of jar D7.85.40. But jars similar to small jar D7.85.40 were found in Stratum A at Tell Beit Mirsim (Albright 1932:79,Plate33, Plate52). The pictures indicate that some of the small jars had a similar thick, rough ware.

Jugs similar to large jug D7.89.20 were found in Stratum II at Beersheba (Plates 56,64). Several jugs similar to jugs D7.81.1 and D7.102.1 were found in Level III at Lachish. No similar jugs were found in Level II, Level IV or Level V (Zimhoni 2004:1643–1899). Similar jugs were also found at Beersheba Stratum II (Plates 56,62,64) and Stratum A at Tell Beit Mirsim (Albright 1932:Plate 57).

Small juglets with similar forms were in use in Judah throughout the Iron Age II and were found at Lachish in Levels V to II. However, earlier they often had vertical burnish,

which is often missing in Levels III and II. Similar juglets are also very common in Beersheba Stratum II. At Tel 'Ira they were found in Stratum VII (Beit-Arieh 1999:227), at Tell Beit Mirsim in Stratum A (Albright 1932:Plates 68,69).

The cooking pots and cooking jugs from the “kitchen” are very similar to those found at Level III at Lachish. One of the cooking jugs has the same potter’s mark as a cooking jug from Lachish Level III (Zimhoni 2004:Fig.26.36.3). Some of the cooking jug forms are continued in Level II. Similar cooking jugs are also found at Beersheba Stratum II. The cooking pots at Beersheba have a different form (Aharoni 1973:Plates 61,66).

The carinated bowls are similar to bowl type III:B-2 at Lachish, found in Level III. Many such bowls are also found in Stratum II at Beersheba. They are also very frequent in Stratum A at Tell Beit Mirsim (Albright 1932:85–86,Plates 60–63,66). I have not found any immediate comparison for straight-sided bowl D7.69.5. An Assyrian-style bowl was also found at Lachish, but it was unclear whether it should belong to Level II or Level III (Ussishkin 2004:1905). Medium sized bowls with handles, similar to bowls D7.87.3 and E7.105.1 were also found at Beersheba Stratum II (Aharoni 1973:Plate 74) and Tell Beit Mirsim Stratum A (Albright 1932:Plates 60,66).. I could not find a comparison for a large bowl with just one handle.

The oil lamps found in the kitchen are similar to the ones found in Level III at Lachish. They do not have the high foot common in Level II at Lachish. However, they are more similar to oil lamps found at Stratum II at Beersheba (Aharoni 1973:Plates 63,64). The oil lamps found at Tell Beit Mirsim Stratum A are also very similar (Albright 1932:86–87,Plate 70).

Even a cursory glance through excavation reports makes clear the similarity between the pottery in the kitchen and that of Lachish Level III and Beersheba Stratum II. The destruction of Lachish Level III is dated to 701 BCE, when Sennacherib invaded the Levant. Through pottery comparison and epigraphic evidence, the destruction of Beersheba Stratum II is also dated to 701 BCE (Aharoni 1973:6). Scholars currently date the destruction of Tell Beit Mirsim to 701 BCE (Blakely and Hardin 2002:14). Blakely and Hardin postulate that the main town of Tell Beit Mirsim was destroyed earlier in the 8th century BCE, and only a small citadel was destroyed in 701 BCE (Blakely and Hardin 2002:24). The pottery from the “kitchen” also has certain similarities with Stratum VII at Tel ‘Ira. The destruction of that stratum has been dated to the early 7th century BCE, though some of the pottery also reflects types known from the 8th century BCE (Beit-Arieh 1999:176). However, some forms at Stratum VII at Tel ‘Ira are more like Level II at Lachish or Stratum V at Tel Goren. It is likely that Level VIB at Tell Halif, including the “kitchen”, were destroyed at a similar time as Lachish Level III, Beersheba Stratum II, Tell Beit Mirsim Stratum A, but earlier than Tel ‘Ira Stratum VII. A late 8th century BCE destruction date is likely, possibly also by Sennacherib’s campaign in 701 BCE.

CHAPTER XV
OTHER OBJECTS

Ground stones

Under this heading I considered stones that archaeologists have traditionally called ground stones in opposition to chipped stone. This refers to the likely way these stones were shaped, rather than their intended use (see Ebeling and Rowan 2004:108). They are stones that have been altered by humans, very likely through grinding them rather than through knapping. Some of these stones may have been only altered by continual use rather than having been intentionally shaped.

In the “kitchen” several stones and stone fragments made out of basalt have been found. Basalt is a coarse, hard-wearing stone that is not local, but often had to be imported from areas such as the Golan to the northeast of the Lake Tiberias, the Trans-Jordan or parts of the Sinai Peninsula. Vesicular basalt has residual airpockets, which gives the stone a surface that is ideal for grinding. These basalt stones come in two forms: loaf-shaped stones with a flat and an opposite round surface; and querns, large stones with a thick end that is sloping to a thin end in a concave curve (Figure 65). These querns are somewhat reminiscent of a saddle and have therefore been called saddle querns.



Figure 65 Quern with grinding stone (flat side incorrectly up) and two pounders — photo by Tim Frank

Early archaeologists were still unsure about the use of these and how querns and grindings stones would have been used together. However, Egyptian models frequently show very similar querns and grinding stones in use (see Figure 66 and Figure 67). A person is kneeling—or standing (see Figure 28)—behind the higher end of the quern and holding the grinding stone on the quern. From the position of the model it is evident that the person would have pushed down on the grinding stone and moved it back and forth across the quern. The grain being ground is not shown. But the context of the models and continued use of such grinding stones in Africa, led interpreters to conclude that the models portray persons grinding grain.



Figure 66 Si-ese grinding grain — photo from the collection of the Brooklyn Museum



Figure 67 Woman grinding grain — photo from the collection of the Los Angeles County Museum of Art

The rotary hand mill was commonly used in Palestine (Dalman 1933:219–230). It normally consisted of two round basalt stones. Sometimes granite was used. At the center of the lower stone was a pin around which the top stone rotated. The top stone did not rest on the pin, but rather the underside of the top stone would rest on top side of the lower stone. Grain is poured through the central opening of the top stone and then ground between the two stones by turning the top stone in circles. A handle attached to the top stone allows this rotary motion. If a large amount of grain is poured between the stones,

groats are made, if less, finer flour is won (Dalman 1933:219–230). A similar rotary mill was used in Hasanabad, Western Iran (Watson 1979:169).

It is likely that the top grinding stone and quern were used similarly to the rotary hand mill in later times to grind the daily supply of flour. Use-wear analysis supports this. The flat side of the top grinding stones were smoother than the round side. Similarly, the curve of the quern was similarly smooth, indicating that these two surfaces rubbed against each other. The grain would have been poured from the top, ground between the stones by moving the top grinding stone back and forth, with the flour falling off the quern near the thinner end.

The Bible has several references to women grinding grain to produce flour (Isaiah 47:2; Proverbs 12:3; Exodus 11:5; Job 31:10). It may even be used as a metaphor for sexual intercourse (Job 31:10). That the strong man Samson had to grind grain in the Philistine prison was a humiliation inflicted on a vanquished enemy (Judges 21:10). Together with the ethnographic evidence, this suggests that grinding grain to flour was the task of women in Ancient Judah. Some Egyptian models have been interpreted to show men grinding grain. But in those cases it seems to be the owner of the tomb, usually a high official. The deceased is then portrayed as doing everything necessary to sustain life.

I suggest that the basalt stones found in the “kitchen” were used for food processing, primarily to grind grain (Table 22). Only one quern has been found, but eight parts of upper grinding stones. Exact refitting is still required, but my initial conclusion is that all these parts were from four upper grinding stones. As mentioned above, one was located

just south of the oval installation, one near the oven, one near the quern, and another near the loom weights.

Table 22 Function of basalt stones

Food Processing	<i>Basalt stones</i>	Grinding stones	Rotary hand-mill
	Form	very close similarity	little similarity
	Material	very close similarity	close similarity
	Location	close similarity	close similarity
	Use-wear	very close similarity	good similarity

Other ground stones were found in the kitchen. Unfortunately, I was unable to examine them closely. An expert analysis was also not available. Therefore any comparisons have to be provisional and incomplete. Several stones made from apparently local rock, such as chert, were found in the “kitchen”. They were usually rounded with some sides worn smooth (see Figure 65 and Figure 68). In the field and laboratory they were identified as “pounders”. This identification suggests that archaeologists believe that the stones were used to pound foodstuffs.



Figure 68 Pounders with an oil lamp and parts of a bowl on the “kitchen” floor — photo by Tim Frank

The closest comparison for their suggested use are pestles used with mortars in food processing in the Near East to this day and also seen occasionally in contemporary western kitchens. For Hasanabad in Western Iran, Watson describes the use of a wooden mortar in the shape of a large cup, with an unshaped rock as pestle, which was made from local limestone (Watson 1979:169). This was used to break up salt, to pound meat and to pulverize buttermilk cakes. Like the pestle used in Hasanabad, the “pounders” were not specifically formed, but rather well-shaped rocks that had a partly smooth surface. No mortar was found in the “kitchen”. Wooden mortars, like those in Hasanabad could have been used, so that no traces would remain in the archaeological record.

Dalman describes the use of mortar and pestle in Palestine to pound meat, onions and wheat (Dalman 1933:212–213). The mortar was normally made out of stone and the pestle out of wood. The pestle was about 31 cm long and 10 cm wide at the pounding end. For the grinding of roasted coffee beans a wooden mortar was used in Palestine. It

was a wooden cylinder with a hole 8–12 cm deep carved into it. The wooden pestle could be up to 50 cm long (Dalman 1933:214–215). The “pounders” found in the “kitchen” were made out of stone, not wood. None of the “pounders” were longer than 15 cm. Their similarity to the pestles described by Dalman is not strong. But they had similar worn surfaces. The evidence from Hasanabad suggests that such stones could have been used together with wooden implements to pound and grind food.

Another suggestion is that these round stones were sling stones. Shepherds in the Middle East still use slingstones to guard and control their flock. Dalman describes it as essential equipment for shepherds (Dalman 1939:223). The pouch of the sling, in which the stones were laid, was normally 5–12 cm wide. The stones for slinging would therefore be a little smaller than this.

In the Ancient Near East sling stones also were a military weapon. The Lachish Reliefs show troops of Assyrian slingers ready to bombard the besieged city of Lachish with sling stones (Figure 69). In modern experiments, good slingers were able to firmly shoot sling stones well over 100m distance (see Figure 70). From my own experience, round stones of about 5 cm diameter are best for the most accurate and forceful results.



Figure 69 Assyrian slingers as depicted on the Lachish Reliefs found in Sennacherib's palace — photo from the collection of the British Museum



Figure 70 Slinging sequence in modern experiment — photos by Tim Frank

Round stones with a uniform diameter of about 5 cm were found in excavations throughout Israel, including many at Tell Halif (see Figure 71). They were made from flint and were uniformly shaped. Some of them were broken. Apart from regular chips, which were probably largely due to manufacturing, few use wear traces or smooth sides

have been found on these uniform stones. It is likely that these were the sling stones used by the Assyrian army. The “pounders” found in the kitchen are different. They were not formed into spherical shapes by chipping away, like the sling stones, but rather they were worn smooth on some sides, probably through repeated use. Considering their dimensions, some “pounders” would have made good sling stones. This use cannot be ruled out, especially during siege conditions.



Figure 71 Slingstone — photo by Oded Borowski, LRP

It is also possible that the “pounders” were used as hammerstones to re-sharpen the quern and grinding stones. Such hammerstones usually have crushing wear, not ground surfaces. I was unable to examine the “pounders” closely enough to exactly determine how their smooth surfaces may have been formed.

It is likely that the “pounders” were used similar to pestles in household tasks such as pounding meat, dairy products and vegetables, as well as any other material that had to be pulverized. Their location close to other domestic items may also indicate their domestic

use. However, the site very likely did undergo a military destruction and therefore slingstones could remain in many locations. A closer examination of their exact form and use-wear is necessary for a better analysis. I tentatively suggest that the pounders were used for food processing (Table 23).

Table 23 Function of pounders

Food Processing	<i>Pounders</i>	Pestle	Slingstone	Hammerstone
	Form	good similarity	good similarity	good similarity
	Material	good similarity	some similarity	good similarity
	Location	close similarity	good similarity	good similarity
	Use-wear	good similarity	little similarity	some similarity

A large smooth stone, which was cracked when found, was just to the south-west of the oven (see Figure 4). Parts of it were also found further south-west, close to the western wall and some loom weights. If all the pieces were put together, it would be about 30 cm square and 10 cm thick. The material was not determined. It had one small indentation to the side of the upper surface.

In the field it was identified as a grinding stone. It has similarities with grinding stones—it was shaped through grinding and had smooth surfaces. But its shape is very different from grinding stones and querns. It is made from different material. It does not have the characteristic use-wear patterns found on grinding stones and querns.

One possible use is as a pounding platform. Cup marks in rocks have often been interpreted as simple mortars (Dalman 1933:216). However, the smooth stone had only one small indentation. This was just as smooth as the rest of the stone and there is no indication that it was purposely made. We also have to assume that the stone used to be more resistant to blows than it was when being excavated, when it split quite easily.

Another suggestion is that the smooth stone was a working platform used in food preparation, something like a kitchen top in today's household. These are often made of smooth, hard stone. They are used to prepare food, and in some cultures (South German!) especially to form and knead bread and cake. But for those reluctant to draw analogies to the modern world, similar working platforms for kneading bread are also portrayed by Egyptian models (see Figure 72). Some of the working platforms are hollowed, others just flat. They are longer than wide and do not have the roughly square shape of the smooth stone. Both Ancient Egyptians and 20th-century South Germans mostly baked bread loaves, not the small flat breads baked in a *tannur* oven. Nevertheless, some of the basic functions of kneading and shaping dough are similar.



Figure 72 Egyptian bakery with working platforms — photo from the collection of the Metropolitan Museum of Art

Dalman describes the use of flat stones to form the bread when baking in *tannur* ovens in Palestine (Dalman 1935:105). The dough balls were shaped into flat breads between the hands, but usually above flat stone, so that any flour would fall on the stone

and could be used when shaping the bread. The flat bread was then laid onto the flat stone before it was put into the oven. Often two women baked together, so that one woman could form the flat bread, place it on the stone before the other woman, who would take the bread, shape it some more and slap it on the oven walls. Sometimes, a smooth board was used instead of a stone (Dalman 1935:105). The smooth stone found in the “kitchen” could have served a similar purpose.

I suggest that the smooth stone was likely used as a working platform for food processing, maybe to help form bread (Table 24). Its location right next to the oven also supports this suggestion.

Table 24 Function of smooth stone

Food Processing	<i>Smooth stone</i>	Working platform	Pounding platform	Grinding stone
	Form	good similarity	some similarity	little similarity
	Material	close similarity	little similarity	little similarity
	Location	close similarity	good similarity	good similarity
	Use-wear	good similarity	little similarity	no similarity

A small, smooth pebble was found on the “kitchen” floor (see Figure 73). A similar pebble was found just above the floor. On many other sites this would have been unremarkable, but on these tell sites such smooth pebbles do not occur naturally. The pebbles are likely to have arrived there through human action.



Figure 73 Smooth pebble — photo by Oded Borowski, LRP

In the field reports these pebbles were variously described as “burnishing stone” and “worry stone”. Burnishing stones were used and continue to be used for burnishing pottery. They are smooth pebbles which can be easily held between the fingers. When a pot is leather-hard, the upper layer of the clay body is smoothed by rubbing the stone across the clay. This aligns the clay particles in one direction and gives a more shiny finish. The process also makes non-glazed pottery less permeable and more resistant to abrasion (Skibo et al. 1997). The pebbles found in the kitchen are quite similar to burnishing stones used by modern potters. It is smooth and would fit easily in the hand.

A worry stone is presumably a stone which was held in the hand to relieve stress. I was not able to find any direct analogical example, apart from modern stress balls. But they are normally made from flexible material and are larger. We all know people who like to fiddle with small objects. These objects can be of many shapes. The analogical link between the pebbles and such stress relievers is quite tenuous.

Watson describes children using pebbles for games in Hasanabad, Western Iran (Watson 1979:199–200). Several pebbles and a ball are normally used. It involves

picking up the pebbles after throwing a ball and then catching the ball again. The smooth pebble in the kitchen is small enough to be used by children's hands. However, only two pebbles were found and they were separate from each other. Games required several pebbles together.

In Middle Bronze Age levels at Gezer many smooth pebbles were found, several of them together in a domestic context. They are similar in size to those found at Tell Halif. After weighing the pebbles and comparing their weights, the excavators concluded that the pebbles were scale weights (Seger forthcoming). However, there seems no mathematical correlation between the weights of the stones. Bedouin women still use pebbles to weigh out goods at markets (Joe D. Seger personal communication). I am uncertain whether the case for concluding that these pebbles were scale weights is strong enough.

The pebbles could be some wadi pebbles smoothed by water action, which found their way somehow onto the tell. While there are not enough wadi pebbles on such tells to conclude that they naturally occur there, enough have been found to indicate that they might serve a purpose. However, the stones appear smoother than would be expected by water action. In part this may be due to the materials. Many of the suggested functions have some merit, but at this stage the analogies drawn are not very strong. Further studies taking the context of these smooth pebbles into account, studying their use wear, and more imaginative analysis might succeed in suggesting a purpose.

I suggest that the function of the smooth pebbles is unknown (Table 25). The best suggestions are still their possible use as scale weights and burnishing stones. But there are no other indications that pottery was produced in this area. Two pebbles, which have

no particular distinctive features, therefore should not be taken as evidence for pottery production.

Table 25 Function of smooth pebble

Unknown	<i>Smooth pebble</i>	Burnishing stone	Game pebble	Worry stone	Wadi pebble	Scale weights
	Form	good similarity	good similarity	little similarity	close similarity	some similarity
	Material	good similarity	good similarity	little similarity	close similarity	good similarity
	Location	little similarity	some similarity	little similarity	no similarity	some similarity
	Use wear	some similarity	some similarity	some similarity	some similarity	some similarity

A perforated stone was found near the southern wall of the “kitchen”. It was in line with a row of loom weights (see Figure 74). It was about 12 cm long and had a thickness of 5 cm. Made from local limestone, it had a roughly circular cross section and was perforated at the center. Its likely function can be determined from the context. Though it is somewhat smaller than the loom weights, it is similar to the loom weights and probably was used like one (see below for discussion of loom weights). Stone weights have been found throughout Europe, sometimes perforated, sometimes not. It was one way to weigh down the warp of a loom. The perforated stone is at the end of a row of loom weights and therefore could have been the last weight on a loom. I suggest that it was also used in textile production (Table 26).



Figure 74 Perforated stone in line with loom weights — photo by Tim Frank

Table 26 Function of perforated stone

Textile production	<i>Perforated Stone</i>	Loom weight
	Form	good similarity
	Material	some similarity
	Location	close similarity
	Use-wear	not known

Chipped stones

The chipped stones from Tell Halif Field V were studied by Futato (Futato 2011).

Most of the material from the study area was classified as shatter or fire-cracked stone. In the space associated with the kitchen, we found two cortical and two non-cortical flakes and two blade fragments. A total of 190 flakes and 48 blades and fragments was found in Field V. The density of chipped stone artifacts was therefore comparatively low in the “kitchen”. Users of the kitchen are unlikely to have made much use of chipped stone.

Futato concludes that there was little reliance on chipped stone in the areas uncovered in

Phase IV excavations (Futato 2011:194). This is consistent with other Iron Age sites in Israel.

The four flakes were all made from local chert, which outcrops in the immediate vicinity. The workability of the material is poor. One of the blade fragments was not examined by Futato and therefore not included in the report. The material of the other blade fragment was unidentified. I was not able to examine the blade fragment. It was 55.5mm long and 40.6mm wide, and 1.3mm thick. It weighed 33.2g. The measurements indicate that it was likely a fragment of a large, very thin blade.

Flint blades were used throughout the world and in the Near East for many purposes. In Egypt, for example, flint knives were used to butcher animals and cut meat (Curtis 2001:169–170). This is supported by Egyptian models showing butchery, by paintings in tombs, and by microwear analysis. Flint blades were also used in sickles to harvest grain (Borowski 1987:61–62). The dimensions of the measured blade correspond most closely to descriptions given for sickle blades and for Tabular Scrapers in Rosen's typology (Rosen 1997). Sickle blades have been identified as such on the basis of sickle gloss (Rosen 1997:55). They are generally understood to have been used in the reaping of grain and grasses, even though it is clear that other functions may also result in sickle gloss. Sickle blades can be thin and relatively square. Tabular scrapers can also be thin. Their function has largely been thought to be for hide working and for butchering (Rosen 1997:71–79). Without a closer analysis of the blade fragment and the defining characteristics, it is impossible to make a good comparison with the types identified by Rosen. What should be noted is that Rosen uses different characteristics as the identifying mark for the types he proposes. In part that is likely due to a desire to establish the

function of lithics. In this context, and due to the limited information, I would not see it as indicative of any particular function (Table 27).

Table 27 Function of blade

Unknown	<i>Blade</i>	Sickle Blade	Tabular Scraper
	Form	good similarity	good similarity
	Material	close similarity	close similarity
	Location	little similarity	some similarity
	Use-wear	unknown	unknown

Loom weights

In the south-west corner of the kitchen several rows of perforated baked-mud spheres were found. A total of 63 such clay spheres were found. Describing them as spheres is not fully accurate as they are not wholly spherical, but rather elongated. The hole is pierced through the entire sphere, and namely so that it opens on the wider sides (see Figure 75). They have traditionally been called loom weights.

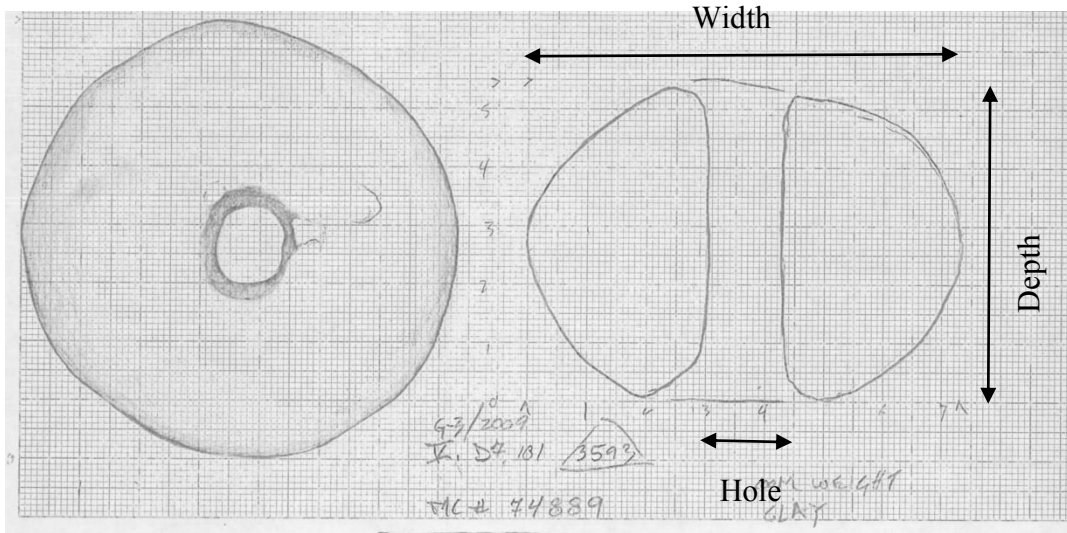


Figure 75 Loom weight dimensions — drawing by Dylan Karges, LRP; modified by Tim Frank

The width of the loom weights varied from 62.24mm to 85.5mm, with an average of 75.23mm (see Figure 75). The depth of the loom weights varied from 33.65mm to 80.00mm, with an average of 48.87mm. The width of the hole varied from 11.52mm to 23.75mm, with an average of 15.83mm. These figures come from the measurable loom weights. Not all dimensions were always measurable. Individual data are given in my report published in the Tell Halif 2008 Season Report (Borowski 2008:191–196). Unfortunately I did not have the exact weights of the individual loom weights.

The identification of the balls of clay as loom weights was probably initially made through analogy with loom weights found in Greece. Greek vases show warp-weighted looms (Figure 76). This loom stood upright. The warp of the loom hung from a single top beam. Weights at the bottom held the warp tight. The weights were usually attached to cords which bunched the individual warp threads (Barber 1991:92). On most depictions the weights were roughly triangular. Triangular weights have been found in Greece and

Asia Minor (see Figure 77). Depictions of looms and triangular loom weights have mostly been found in 6th-century BCE contexts or later. However, earlier strata in Greek excavations found roughly round loom weights in very similar arrangements as those found in later strata (see Figure 78). For example, at Troy three or four rows of clay loom weights lay between two postholes in Early Bronze Age contexts. Similar assemblages of perforated stones and clay weights have been found at archaeological sites throughout Europe (Barber 1991:91–110).



Figure 76 Weavers on Greek vase, warp-weighted loom — photo from the collection of the Metropolitan Museum of Art



Figure 77 Loom weight from Sardis — photo from the collection of the Metropolitan Museum of Art



Figure 78 Loom weight from Early Bronze Age Troy — photo from the collection of the British Museum

Many of the loom weights excavated in the Levant have been found in rows reminiscent of the way they hung on the warp of warp-weighted looms (Cassuto 2004:40). Caches have also often been found. At Tell Halif loom weights have been found in lines, in caches and individually. Generally, they have been found lying directly on floors, though caches have also been found in bins. In the “kitchen” the loom weights were found in two parallel, broad double rows running from the west wall towards the east. They were close to the southern wall. A strong analogy can be made with the Greek loom weights based on form, material and patterns. They are very similar to the Early

Bronze Age weights found at Troy. This analogy is further strengthened by use-wear on many of the loom weights found in the “kitchen”. String impressions were visible, especially on the edges of the perforations, indicating that the loom weights were suspended from strings.

Warp-weighted looms were still used in Scandinavia until the 20th century (Barber 1991:110; see Figure 79). The cloth woven on these looms was usually made out of sheep’s wool. The shape of the loom weights differs according to the sources. At times, it seems, unperforated stones were even used. Nevertheless, comparison with the Scandinavian warp-weighted looms can give us an indication how the loom weights found in Iron Age Judah may have been used. Barber compares the Greek illustrations with those of Scandinavian looms (Barber 1991:110–111). She comes to the conclusion that there were some important differences. In the Greek looms the shed bar (which separates the front and the back rows of warp thread) is located about half-way up the loom, while on the Scandinavian loom, it is near the bottom of the loom. The heddle bar, or possibly heddle bars, which bring the back warp threads forward, are a little above the shed bar on the Greek looms (see Figure). They are very light and have no visible means of support. In contrast, on Scandinavian looms the heddle bar is very heavy and rests on forks.

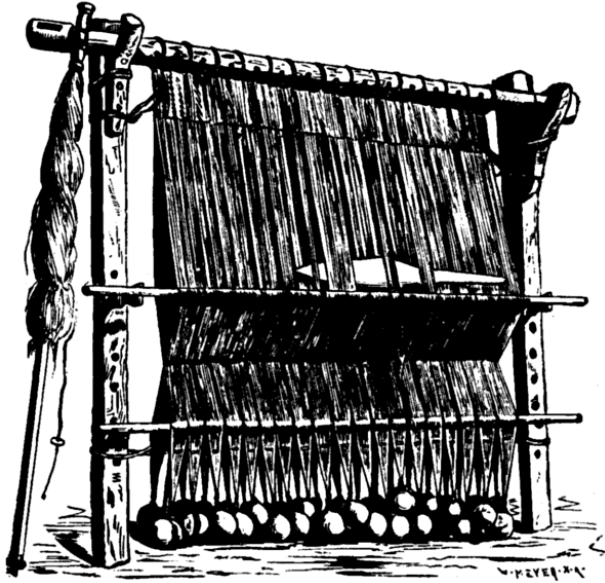


Figure 79 Scandinavian warp-weighted loom — illustration from Roth 1913:Fig.32

Dalman suggests that loom weights found in excavations were used to weigh the warp of looms he saw mainly in Syria (Dalman 1937:114). These were generally used by commercial weavers. The warp was fastened to a roller, which was held approximately a meter above the ground by two posts. The warp then runs horizontally or nearly horizontally to another roller, which is also held by posts or ropes. The warp wraps below this roller and then is continued to a roller above it. The warp continues above this upper roller and the threads hang down on the other side. On this side the threads are tied together around a wooden stick. Weights are then tied to this stick to weigh the warp down and hold it tight (Dalman 1937:144). If the loom weights we find in the “kitchen” and at other sites would have been used on such a loom, their finding in lines could only be explained if the warp threads were not all tied around one stick, but rather if a few threads were bunched together and tied to one loom weight so that a row of loom weights would weigh down the warp. It is unlikely that a large horizontal loom could have been

set up in the space available in the “kitchen”. The number of loom weights found in Israel makes it unlikely that they were all used on commercial looms. It is more likely that these loom weights were used on looms, which are documented for that time and region, rather than on looms that are similar to later commercial looms.

Loom weights have also been described as fishnet weights by B. Mazar (Cassuto 2004:39). However, in the majority of contexts this cannot be applicable, as the sites are far from any fishable body of water. Further, the loom weights are made out of unfired clay. They would dissolve in water (Cassuto 2004:39). The patterns they are found in can also largely not be reconciled with their identification as net weights. It is possible that loom weights were occasionally also used to weigh down objects.

It has also been suggested that the loom weights in fact represent stoppers to seal jars filled with fermenting or fermented beverages (Gal 1989; Hardin 2001:245–246; Homan 2004). At Horvat Rosh Zayit the excavators found more than 250 storage jars, but only 10 clay stoppers. In addition they found about 40 loom weights. Since stoppers with holes were found from the Roman-Byzantine period, by analogy these loom weights at Horvat Rosh Zayit could actually have been stoppers and the holes deliberate to allow for the release of gas produced during the fermentation of wine. The size of the loom weights apparently fit the rim of storage jars. As a further argument Gal compares the loom weights at Horvat Rosh Zayit with those found at Olynthus in Greece and concludes that the loom weights at Horvat Rosh Zayit were too heavy for weaving (Gal 1989:283). However, looms from Scandinavia used far heavier loom weights. Also, loom weights found in archaeological contexts throughout Europe and the Near East have a varying mass and can be both heavier or lighter than those found at Horvat Rosh Zayit (Barber

1991:94–101). Unfortunately, Gal does not give a description of the find pattern of the loom weights, so that it cannot be assessed whether they were in rows, in caches, or clearly associated with the storage jars. Forty loom weights are not a large number. At times a single loom might have that many weights, depending on the cloth being woven. The identification as jar stoppers is mainly due to Gal's insistence that Horvat Rosh Zayit is a public building and therefore an apparently domestic activity like weaving should not occur at such a location. Clearly, this assumption needs further testing rather than determining the interpretation of objects.

Hardin takes up this suggestion to explain loom weights, mainly recovered from the floor near several storage jars in the house he was investigating at Tell Halif (Hardin 2001:240–247). He thinks that the perforated center could be plugged and unplugged as needed to allow the grape must to breathe allowing completion of the fermentation process (Hardin 2001:246). Hardin does not give the dimensions of the loom weights found in the house. But I did measure the internal rim diameter of many of the jars located in the room Hardin was discussing. The opening for wine jars is between 9–10 cm wide. The average greatest width of the measured loomweights found in Field V at Tell Halif is 7.5 cm. Very few (~5%) loom weights were wider than 9 cm. It is likely that the loom weights would not have fit on the opening of the storage jars.

Two loom weights at Tell el-Hammah have been found in situ resting on the mouth of jars (Homan 2004:91). Homan says there was also a third loom weight resting on the mouth of a hole-mouth jar, but generally the openings of hole-mouth jars are too big to be covered by a loom weight. He also uses the example of one loom weight inside a small jar at Tel Zeitah as evidence for their use as fermentation stoppers. From this evidence,

Homan argues they were used in the fermentation of beer (Homan 2004). He compares them with Egyptian models that show jars being sealed with clay. However, there is no indication that the Egyptian jar stoppers were perforated. Rather the article is full of zeal for the goodness of beer and its copious consumption by the ancient Israelites. Homan wants to dispel the notion that the Philistines were beer drinkers and the Israelites were wine drinkers. He thereby apparently seeks to increase the status of beer in current society. In his argument he casts around for any evidence and lands upon loom weights. While loom weights may have occasionally been used to cover jars, a personal mission should not disregard the overwhelming evidence. I do not know why there was a loom weight inside a jar at Tel Zeitah, but it is not prudent to re-interpret object function from three or four unusual find locations. In all cases the re-interpretation of loom weights as stoppers was for the purpose of supporting conclusions that had already been reached before the loom weights were considered.

It is very unlikely that the loom weights in the “kitchen” were used as stoppers. They were all smaller than the opening of storage jars found in the room. Their grouping in rows indicates that they were used in textile production and fell as they hung onto the floor when the loom was destroyed (Table 28). Large pieces of charcoal were found with the loom weights, some several centimeters long, indicating a wooden implement near the floor. It is possible that the wooden loom burned and left these charcoal remains. Most likely a warp-weighted loom was used.

Table 28 Function of loom weights

Textile Production	<i>Loom weights</i>	Loom weights (warp-weighted)	Loom weights (machine loom)	Fishnet weights	Stoppers
	Form	close similarity	some similarity	some similarity	little similarity
	Material	close similarity	little similarity	no similarity	close similarity
	Location	close similarity	little similarity	no similarity	some similarity
	Use-wear	close similarity	little similarity	little similarity	little similarity

The two rows of loom weights in the “kitchen” were approximately 130 cm long and 35 cm apart. The two rows could be from two different looms, one standing before the other, with the row closer to the southern wall representing a loom that was set up against that wall. They could also represent the different lines of the warp. In that case the loom must either have been very tall or at a significant angle. If it stood 15° from vertical, the height difference between the shed bar and the top of the loom, where the different threads join, would have been 1.30m. While weavers would have stood when weaving, the loom in total would have been at least 1.80m high. It is unlikely that it would have stood at a very low angle. For example, if the angle were 45° from vertical and the shed bar at the very low height of 50 cm from the ground, the loom would have nearly touched the oven. In this case it seems that the two rows were double rows. It is therefore more likely that they represent a loom with a separated warp each. However, the two rows extend the same distance from the west wall. Either the two looms had the same size, or it might have been one large loom after all. If it were one loom, the loom weight pattern indicates a complicated weaving setup, maybe even twill weaving, as was suggested by the registrar of Phase V excavations at Tell Halif. In twill weaving a weft thread crosses

over two or more warp threads in a distinct pattern. The resulting fabric is more pliable and durable than simple weave. For example, modern denim is a twill fabric. Further investigation may shed more light on possible weaving patterns.

Ceramics

Two formed lumps of fired clay have been found in the “kitchen”. They were identified as figurine fragments. Found just above the floor, but together with many pieces of storage jar D7 is a horn-like ceramic knob, pinched on one side (see Figure 80). Looking at it from the pinched side, with the broken-off side pointing downwards, it looks similar to a human face. It is likely that it represents the head of a pillar figurine or a horse and rider figurine, which have been found on sites from Iron Age Judah (see Figure 81 and Figure 82). In reference to the pinched face and to distinguish them from figurines with mold-made heads, they have generally been referred to as bird-faced figurines. Because the pinched faces are essentially the same for the female pillar figurines and the horse-and-rider figurines, I cannot tell what sort of figurine the head would more likely have belonged to.



Figure 80 Bird-face figurine fragment — photos by Seung Ho Bang, LRP



Figure 81 Female Pillar Figurines — photo from the collection of the Israel Museum



Figure 82 Horse-and-Rider Figurine — photo from the collection of the Israel Museum

The female pillar figurines have a cylindrical body with ample breasts held up by the hands. The head was either formed by pinching a knob or by adding a mold-made head at the neck. Clearly the most prominent features are the ample breasts. The figurines show little other detail and other sexual organs are not shown. Nearly all of the figurines come from Iron Age Judah, delimited both in geography and time. There have been many attempts to attach an identity to these pillar figurines. They are often associated with a

particular goddess, usually from the Canaanite pantheon, most commonly Asherah or Astarte (Stern 2001:205–206; discussion by Hess 2007:308–311). Dever, for example, argues that the figurines represent Asherah and that they provided women with a domestic access to religion that was denied by the official cult (Dever 2005:176–194,212–251). This identification has been criticized. Meyers cautions that there is no basis for concluding that the figurines represent deities (Meyers 1988:161–163). Indeed, they do not exhibit any markers of divine identity. In contrast with Canaanite fertility figurines, the pillar figurines also do not emphasize the sexual organs. Meyers and Hess both conclude that the figurines may rather emphasize the maternal role (Meyers 1988:162; Hess 2007:310). On the basis of textual and epigraphic studies, Lemaire, like many others, argues that Asherah was in fact not a goddess in Ancient Judah, but rather a sacred tree associated with religious places (Lemaire 1984). These may be dedicated to Baal or Yahveh. He therefore does not think that the pillar figurines could be related to Asherah. Zevit argues that since many of the figurines appear to be broken at the base of the head they were used in some ritual in which the figurines had to be broken (Zevit 2001:271). The voices wading into this argument are many. Most commentators suggest that they had significance beyond simple room adornment. An analogical analysis of symbolic objects would go beyond the ambit of this thesis. What should be noted is that most authors to some extent use analogical reasoning, comparing the figurines to others found, highlighting similarities and differences. However, the analogical reasoning is often not explicit and sometimes just a small part of the argument. Because conclusions about the religion of Ancient Israel also seem to affect current beliefs, the worldview of

the authors more clearly influences the comparison than it would for objects that may indicate more basic economic activities.

The horse-and-rider figurines have been the subject of less debate. They have been suggested to represent a warrior god, maybe Yahveh (Stern 2001:207–208). Again, the same cautions apply. There is nothing which indicates that these figurines represented deities or were cultic. I will tentatively suggest that the head of the figurine was “transcendent”, pointing to a reality beyond itself, whether that reality is religious or just the fearsome horse of a governor (Table 29).

Table 29 Function of figurine head

Transcendent symbol	<i>Figurine head</i>	Deity statue	Fertility figurine	Votive figurine
	Form	some similarity	good similarity	good similarity
	Material	good similarity	good similarity	good similarity
	Location	some similarity	good similarity	little similarity
	Use wear	little similarity	little similarity	good similarity

Below the floor of the “kitchen” we found another fired clay lump, which I identified as figurine fragment in the field (see Figure 83). However, I am less certain of that identification now. The ceramic piece is about 3.5 cm long, 2 cm wide and 2 cm thick. It has clearly been smoothed on one side, but is apparently broken on all the others. The ceramic body is unlike anything from the Iron Age in Judah. It has a light paste with dark sand temper. The clay piece seems to be evenly fired. It might possibly be a fragment of a large ledge-handled vessel from the Chalcolithic or Early Bronze Periods (Amiran 1969:22–71). It might come from a number of ceramic forms. However, it is likely to not have been in use in the “kitchen”. I therefore do not take it into further account.



Figure 83 Ceramic fragment — photo by Seung Ho Bang, LRP

In the “kitchen” two “stoppers” were found. These are potsherds that were later carved into a round shape with smooth edges. They are in secondary use, probably having initially formed part of a vessel before being converted into these round shapes.

The first “stopper” was found in destruction debris on the floor in the eastern part of the kitchen. It is nearly fully round, though has a slight oval shape (see Figure 84). The edge is smooth and even. It has a diameter of about 3 cm. The identification as a stopper is related to this round form and smooth edge. By being round the “stopper” can be inserted into the opening of a container and seal that opening. However, the “stopper” would not have sealed the opening of many Iron Age vessels in Judah. The rims of nearly all closed vessels taper in toward the top or are straight. Any “stopper” placed in the opening would fall into the vessel. The only vessel form for which such a small, round stopper might be suitable is the decanter. Few decanters were found on Tell Halif and none in the kitchen. It might be argued that stoppers were used together with cloth so that they would not fall into the vessel and could also be easily removed. If that were the case,

this “stopper” could have fitted large jug D7.89.20, which was located on the western (other) side of the “kitchen”.



Figure 84 Stopper — photo by Seung Ho Bang, LRP

Ancient stoppers that have been found in place usually fit around the rim of a vessel or are tapered so that they easily fit within the opening of a vessel and seal it. Flat stoppers are more likely to have an outside flange so that they can be placed securely on a rim. Examples can be found through the ancient classical world (see Figure 85). Mud stoppers were sometimes pressed into the opening of the vessel, with a cord attached so that they could be removed when opening the vessel. I did not find any reference to stoppers in the ethnographic literature. Dalman mentions that wine jars were sealed with Musselin cloth and that oil jars had narrow openings, but were left unsealed (Dalman 1935:252, 364–367).



Figure 85 Egyptian stopper from Hellenistic Period (view from below and the side) — photos from the collection of the British Museum

“Stoppers” may have also been used as lids—flat coverings that loosely sat on top of vessel openings to temporarily close them. However, the only vessels this “stopper” could adequately cover are juglets. Dalman and Watson only mention lids together with cooking pots (Dalman 1942:201; Watson 1979:267). I cannot find any other analogical comparison for the use of small rounded ceramic discs.

The other “stopper” was found on the western side of the “kitchen”. It is only roughly round and its edges are not very smooth (see Figure 86). It has an approximate diameter of 4 cm. Clearly, it would not seal well with a round vessel opening.



Figure 86 Stopper — photo by Seung Ho Bang, LRP

Clearly, the “stoppers” were deliberately rounded and therefore would have had some purpose. While they could be used like “stoppers” there are too many differences with stoppers found elsewhere to conclude that this was their likely function. Also, it is not very practical to seal vessels with these “stoppers”. Currently, the discussion mainly proceeds on the possibilities of the use of “stoppers” rather than pointing to similarities. Therefore, I have to conclude that their probable use in Iron Age Judah, and particularly in the “kitchen”, is unknown (Table 30).

Table 30 Function of stoppers

Unknown	<i>Stopper</i>	Stopper	Lid
	Form	some similarity	some similarity
	Material	little similarity	some similarity
	Location	some similarity	some similarity
	Use-wear	some similarity	no similarity

From the ethnographic evidence we should also expect that potsherds were used in daily life for other purposes, such as carrying fire or scraping (Dalman 1935:82). The prophet Isaiah mentioned the use of potsherds (Isaiah 30:14): “I will break in pieces like a jar shattered so mercilessly that among its pieces not a fragment will be found for taking coals from a hearth or scooping water out of a cistern.” Some of the potsherds found in the kitchen that could not be restored with other vessels might not be intrusions or discarded potsherds lying on the house floor, but may have been part of the household equipment. I looked through the potsherds lying directly on the “kitchen” floor, which could not be restored with a vessel. Only one of these potsherds looked as if it might have been used for other purposes, showing signs of possible contact with fire (Figure 87). However, its edges were still relatively sharp, not smooth as might be expected after some use. It is a reminder of the difficulty of making sense of the archaeological record.

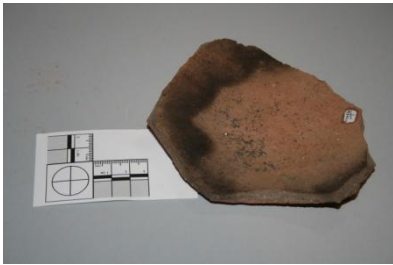


Figure 87 Potsherd D7.81B.1 — photo by Tim Frank

Jewelry

Two beads were found in the “kitchen”. One of them was just below the floor in the eastern part of the room (Figure 88). It could have been trodden into the floor, but also might have been deposited before the floor became a living space. It is about 2 cm long

and 1 cm thick. It has a thin hole through the entire length of the bead. The bead is made of stone of a dark reddish color. It is thickest at the center. Its edges are worn. The other bead was located near the loom weights (Figure 89). It is less than 1 cm long, and about 1 cm thick. A small hole has been pierced through the bead. It is made out of red carnelian.

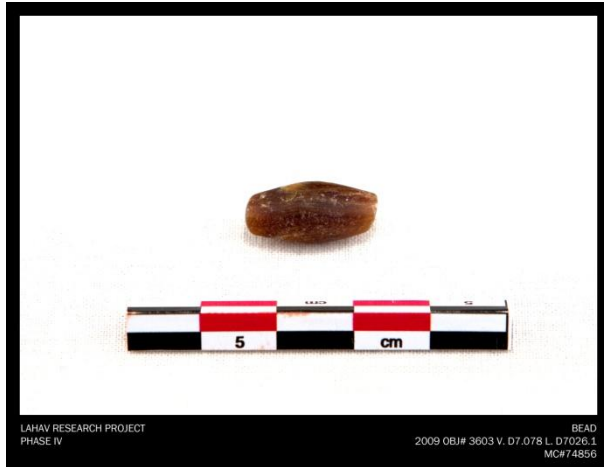


Figure 88 Bead from Locus D7026.1 — photo by Seung Ho Bang, LRP



Figure 89 Bead from Locus E7015 — photo by Seung Ho Bang, LRP

Beads are still worn today, mainly for necklaces, but also occasionally as bracelets or anklets. Beads are available in many different colors and are made from stone, glass, plastic, wood, and other materials. They have a variety of forms, but are usually rounded and smooth. They are normally not more than 10 cm long and 5 cm thick. Beads normally have a hole. They are strung together on a string, often in a deliberate pattern and then tied around the neck, arm, or ankle. Beads are worn by women, men, and children. Nevertheless, girls and women are more likely to wear beads than boys and men. Beads are also sometimes sewn onto clothing or onto accessories like bags and purses. Clothing and accessories with beads are usually worn by women.

Dalman reports that in Palestine men carried few adornments apart from signet rings and amulets (Dalman 1937:275–277). Women, on the other hand wore more jewelry. A necklace made with beads, shell, or precious stones was popular (Dalman 1937:341). Bracelets and anklets were usually made from glass, silver, gold, or copper (Dalman 1937:341–342). They were not made with beads. Headscarves also sometimes used beads, though in Palestine coins were the most important adornment of female head coverings (Dalman 1937:329–330).

In Hasanabad in Western Iran the main jewelry worn by women were necklaces, anklets and adorned chin straps (Watson 1979:194). These necklaces and anklets were made with brightly colored glass beads, twisted into several strands. The anklets were usually several rows wide with intricate patterns. Beads, especially blue ones, were also often tied to the fringes of a woman's turban as decoration and protection against the evil

eye (Watson 1979:195). Women also wore beads and cowry shells in their hair, by tying together braids of hair with decorated string (Watson 1979:26).

Many complete necklaces have been found in Egypt with beads normally made out of carnelian and faience (see Figure 90). They have been in use for thousands of years. Necklaces have also been found at other Iron Age and Persian Period sites in Israel (Stern 2001:530).



Figure 90 Bead necklace from Egypt 6th century CE — photo from the collection of the Los Angeles County Museum of Art

The Bible does not talk specifically about beads, but it does mention necklaces. A man (or more correctly son) wearing a necklace is mentioned in Proverbs 1:9, but there it is a metaphor for the grace of good teaching, which is also compared with a garland on the head—normally worn for festive occasions only. Necklaces are more often mentioned in connection with women, especially when praising their beauty (Song of Songs 1:10;

4:9; Ezekiel 16:11). The same word is also used for the neck hanging of camels (Judges 8:26).

It is very likely that the beads were used for personal adornment (Table 31). They are similar to beads still used for necklaces today and used throughout ancient times.

However, carnelian and stone beads would have had a proportionally higher cost than the glass, wood and plastic beads, which are common today or those in use during the 19th and 20th centuries in the Near East. Overall, the sources indicate that women consistently are more likely to wear jewelry, in particular necklaces and beads. Therefore, these artifacts suggest the presence of women in the “kitchen”.

Table 31 Function of beads

Personal adornment	<i>Beads</i>	Necklace	Anklet	Hair Adornment
	Form	very close similarity	close similarity	close similarity
	Material	very close similarity	very close similarity	close similarity
	Location	good similarity	good similarity	good similarity
	Use wear	not known	not known	not known

Between the “oven” and the “oval installation” a metal ring was found on the “kitchen” floor. It has a wide loop opposite an open part, where no metal is present. The ring is about 4 cm long and 3 cm wide. It was identified by the Director as a fibula.



Figure 91 Fibula — photo by Sueng Ho Bang, LRP

Fibulae were in common use in the Eastern Mediterranean from the Iron Age onwards. They were similar to modern safety pins, but with the back loop often stronger and higher. An Iron Age bronze fibula from Cyprus is 4.8 cm long and about 3 cm wide (Figure 92). Other fibulae found in the region are of similar size. One example found at Lachish Level IV is about 5 cm long and 3.5 cm wide (Figure 93 left). Also common were decorated fibulae with notches (see Figure 93 right). The fibula is closed by a pin supported by a spring, so that it can be locked into the other end of the fibula. In shape and size the fibula fragment found at Tell Halif is very similar. It has an arched back, is not quite round but rather arched. The spring, pin, and lock mechanism are missing. The measurements are approximately the same. The metal of the Tell Halif fibula has not been determined.



Figure 92 Iron Age bronze fibula from Cyprus — photo from the collection of the Metropolitan Museum of Art

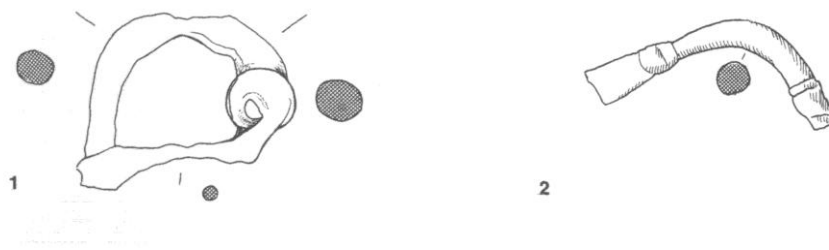


Figure 93 Fibulae from Lachish Level IV and III — illustration from Ussishkin 2004:2032

Other small metal objects common in the Eastern Mediterranean were rings and bracelets. A bronze bracelet found in Cyprus has a diameter of about 8 cm (Figure 94). This is an appropriate size for a bracelet. Rings usually have a diameter of 1 cm to 2 cm. Rings and bracelets are usually round, forming a circle. This contrasts with the slightly irregular shape of fibulae. The fibula found at Tell Halif is larger than a ring and smaller than a bracelet. It is also not shaped as round and regular as rings and bracelets, but more like the arched form of a fibula.



Figure 94 Iron Age bronze bracelet from Cyprus — photo from the collection of the Metropolitan Museum of Art

Just as today safety pins are mostly used to hold textiles together, fibulae were mostly used for clothing. In Greek and Roman paintings fibulae are shown holding together tunics above the shoulder and on the chest of heroes holding together the cloak. It is likely that fibulae were also used in less conspicuous places, especially the plainer examples. An example of such a plain fibula used on everyday clothes has been portrayed in a shepherd figurine from early 5th century BCE Arcadia (Figure 95). I suggest that the fibula fragment found at Tell Halif is indeed similar to other fibulae and was likely used for clothing (Table 32).



Figure 95 Arcadian bronze figurine of shepherd with fibula on cloak — photo from the collection of RMN, Musée du Louvre

Table 32 Function of fibula

Clothing	<i>Fibula</i>	Fibula	Bracelet	Ring
	Form	close similarity	some similarity	some similarity
	Material	close similarity	close similarity	close similarity
	Location	good similarity	good similarity	good similarity
	Use-wear	unknown	unknown	unknown

Shell

Two complete shells were found in the “kitchen”. Both were the Mediterranean bivalve species *Glycymeris insubrica* and had naturally worn holes. (Ktalav 2011). Shells can be used as ornaments by taking advantage of natural holes. Hasanabad women in Western Iran wore cowry shells in their hair (Watson 1979:26). However, cowry shells look different from the more round bivalves. In form, though not in material, bivalves are probably most comparable to the coins worn by Palestinian and Bedouin women (Dalman 1937:326–330). These coins were worn on dresses, on skull caps and on veils. It should

be noted that no coins have been found in Iron Age contexts and that they were only later introduced into the Levant from the Persian period and then mainly as payment, not for personal adornment (see King and Stager 2001:198–199). While coins and shells are quite different objects, the modern use of similarly shaped objects can give us an analogy to possible use in the past. It is not the strongest analogy, as coins do have other symbolic significance. In an earlier study on shells from Tell Halif Inbar Ktalav detected notches on shells of the taxum *Glycymeris insubrica* through magnification, which indicated that the shells were hung on a string or thread (Ktalav and Borowski 2010). This is consistent with using these shells on clothing, but may also indicate other hanging, such as on necklaces. I suggest that the shells were used for personal adornment, whether as part of jewelry or directly sewn on clothing (Table 33).

Table 33 Function of shells

Personal adornment	<i>Shells</i>	Clothing adornment	Necklace
	Form	some similarity	some similarity
	Material	some similarity	some similarity
	Location	good similarity	good similarity
	Use-wear	close similarity	close similarity

Bone

In this section I will discuss bones that were used as tools by humans because they were modified or were similar to bones that in other context had a particular use. The latter are in particular *astragali*—the knuckle bones—of sheep or goats (see Figure 96). At sites such as Ashkelon, Megiddo and Taanach they have been found in concentrations in what the excavators termed “cult corners” (King and Stager 2001:340–341). They suggest that they may have been used for divination, but indicate that at times these bones

might have also been used as gaming pieces. The game of knuckle bones is still popular today, though today often metal pieces are used instead of knuckle bones. It is mainly played by children and involves throwing knuckle bones in the air and catching them. Throughout the Ancient Near East lead-weighted astragali have been found, particularly in Bronze Age levels (Manhart and von den Driesch 2003:30). Some of the bones at least were used as dice.



Figure 96 Astragalus found in the "kitchen" — photo by Oded Borowski, LRP

Astragali were used in Hasanabad, Western Iran, as game pieces (Watson 1979:199–200). Watson gives a detailed description of the game of *qap* played with astragali. It was played on the ground. A circle drawn on the ground was the only other required item. Games similar to the throwing and catching game were also known in Hasanabad. It seems that the knuckle bones were not always smoothed. But households in Hasanabad also had knuckle bones that were smoothed and ground off. Watson states that the use of

astragali as game pieces is widespread across the Near East and seems to have considerable time depth (Watson 1979:199–200).

In the “kitchen” five astragali of sheep or goats were found, four of them from the same pottery basket (two different basket numbers, but one was just the continuation of the other on different days) (see Figure 96). The concentration makes it more likely that they were kept for some purpose and were not just part of the discarded bones found throughout the “kitchen” in low quantities. In comparison to the caches from sites, four astragali is a relatively low number. But it is still indicative that the bones were probably kept together. The astragali in the “kitchen” were not located in anything that could be termed a cult corner. No special use-wear was noted on the astragali. I suggest that the astragali may have served as toys (Table 34). As they are currently the only indication of play in the “kitchen”, this evidence of play must be taken with some caution.

Table 34 Function of Astragali

Play	<i>Astragali</i>	Game-pieces	Divination pieces	Bone discard
	Form	close similarity	good similarity	good similarity
	Material	close similarity	good similarity	close similarity
	Location	close similarity	little similarity	some similarity
	Use-wear	good similarity	some similarity	good similarity

Five pieces of thin, polished bone were found in the “kitchen”, three near the loom weights. The rounded edges, polished sides and pointed shape, all show that these bones were worked and made into a tool (see Figure 97). All of these bone tools were broken and we could therefore not establish the original length. They were identified by the registrar as fragments of “pick-up sticks” used in weaving, based on analogy with pick-up sticks used for weaving by Navajo Indians in North America, with whom she worked.

Pick-up sticks are used to pick up warps to produce patterns and designs in weaving. They are used all across the world in manual weaving. Dalman only made reference to gazelle horn when describing weaving of Bedouin women (Dalman 1937:96–97). Pick-up sticks today come in varying sizes, but are often about 15–30 cm long. One example is about 20 cm long, 1.5 cm wide and about 1 cm thick (Figure 98). They are relatively flat and smooth with rounded edges. They narrow to a point. Today, some pick-up sticks are double-sided with a pointed end on both sides.

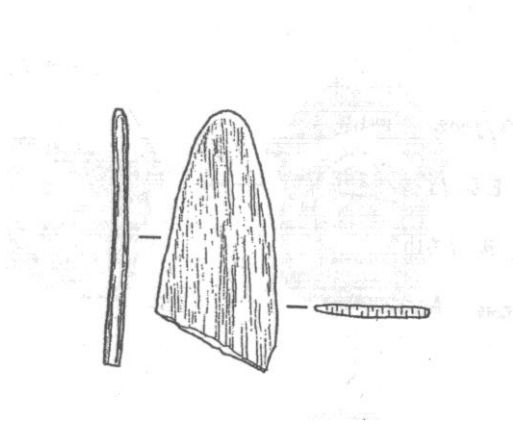


Figure 97 Bone pick-up stick — drawing by Dylan Karges, LRP



Figure 98 Modern wooden pick-up stick — photo by Bush Creek Wool Works

Two of the pick-up stick fragments were found near the loom weights in the “kitchen”. The other pick-up stick fragments came from several meters east of the loom weights. While they were found in the same room as weaving equipment, they are not clearly associated with it spatially.

The “pick-up” sticks also look similar to bone spatula that have been found at other archaeological sites. While museums have bone spatula in their collections and I found many references to them in articles, their possible function is not explained (see for example Galili et al. 1993; Savage et al. 2002; Akkermanns and Verhoeven 1995; Ussishkin 2004:2011–2012,2050). It seems that curators are happy with classifying them. They have got a flat bone implement with a rounded point and they have given it a name. No further interpretation of the artifact is made. We have some comparison, but it is hard to attach any meaning to it or come to a conclusion about its possible function. I found discussion of two-pointed metal spatulae in an article on evidence for medical care in Britain during the Roman Empire (Allason-Jones 1999). Allason-Jones suggests that because of the simplicity of the instrument it may often have not been recorded as a possible indicator for medical practice. But he suggests that it was also used to mix and apply cosmetics and therefore cannot be taken on its own as evidence for medical practice (Allason Jones 1999:141). The “pick-up sticks” may have a similar form to the metal spatula, but their point seems to be slightly sharper. Clearly, they are made from different material. The metal spatulae in northern Britain were also found together with other instruments, such as surgical knives, which clearly suggest medical treatment. Bone spatulae are still being used for cosmetics, even though they are not common. They look quite similar to the “pick-up sticks” found at Tell Halif and the bone spatulae found at

some other archaeological sites. Modern bone spatulae tend to be somewhat smaller than ancient ones. There is no other evidence for cosmetics in the “kitchen”.

While their use in cosmetics is plausible, I suggest that the “pick-up sticks” found in the “kitchen” were used as pick-up sticks in pattern weaving (Table 35). Even though not all of the “pick-up” sticks were not found directly beside the loom weights, they are still in the same room and can be associated with them. If that interpretation is correct, intricate cloth may have been woven on the loom, especially since the pattern of loom weights also indicates more than simple weave.

Table 35 Function of pick-up sticks

Textile Production	<i>Pick-up sticks</i>	Weaving pick-up sticks	Cosmetic spatula	Medical spatula
	Form	close similarity	close similarity	some similarity
	Material	close similarity	very close similarity	little similarity
	Location	good similarity	some similarity	no similarity
	Use-wear	not known	not known	not known

CHAPTER XVI

CONTEXT

Faunal Remains

Sapir-Hen provided a zooarchaeological report on the finds from Tell Halif in the 2007 to 2009 seasons (Sapir-Hen 2011). The analysis was conducted by stratum across the entire site. Disturbed contexts were not taken into account. An analysis of the “kitchen” area alone is not available. While I therefore cannot evaluate the patterns in the “kitchen”, the analysis across Field V provides a picture of the use and discard of bones at Tell Halif. In particular, the analysis may give us a clue about the animal economy and about diet at Tell Halif. Based on her ethnographic observation, Watson warns that discarded bones are not necessarily the best indicator of animals being kept in households, or even the meat that is consumed.

Sapir-Hen divided the strata into IVD, IVC, pre-VIB, VIB, post-VIB, VIA and post-VIA, and III. When I looked closer at some of the loci included, I realized that in his analysis stratum VIB only included the material collected directly from the floor, not the material recovered from just above floors or embedded into floors. I therefore combined his figures from pre-VIB, VIB and post-VIB. For ease of reference I also included the few bones that could not be identified to a species but were classified sheep/goat size with sheep and goat, and those classified large cattle size with cattle. Most of the identifiable bones recovered from loci associated with Stratum VIB were from sheep or

goat (see Figure 99). Overall, 82% of all specimens came from sheep or goat (rounding error in figure). Among those bones, which could be classified as either sheep or goat, bones from goats predominated. There was also a significant amount of cattle bones. Even though gazelle bones were not frequent, it should be noted that some hunting seems to have continued at Tell Halif during the Iron Age. The rodent bones probably belong to three individual animals. It is not clear whether these rodents were deposited here in the original context or as a result of later burrowing.

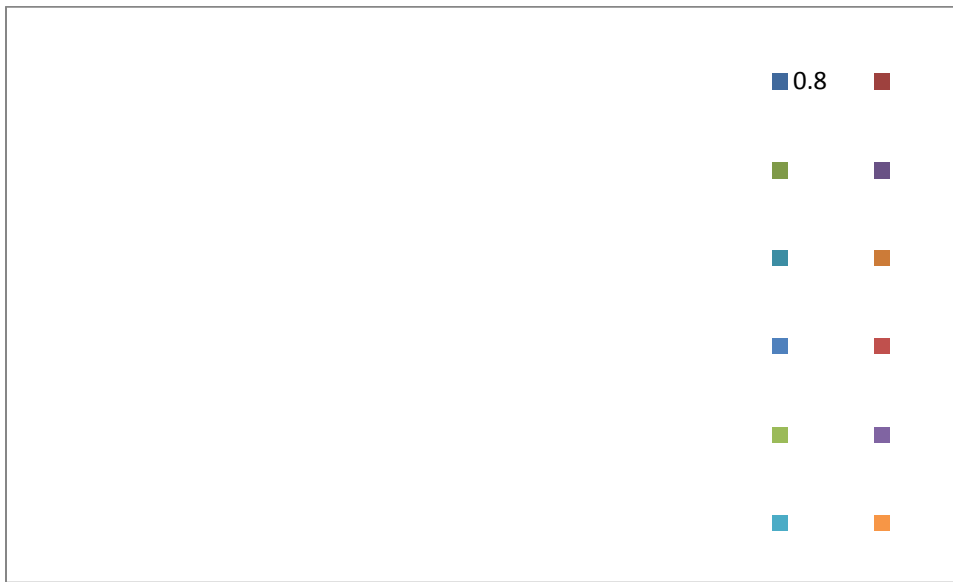


Figure 99 Number of Identified Specimens (NISP) of Tell Halif Field V Stratum VIB and associated loci —illustration by Tim Frank, based on Sapir-Hen

Sapir-Hen considered the age of sheep and goats based on long-bone fusion (Sapir-Hen 2011). Most animals seem to have survived into adulthood. One bone indicates that a sheep died before birth. Generally, no clear pattern emerges. It is taken as an indication that the residents consumed local meat, rather than importing prime cuts.

Considering all the bones related to Stratum VIB, both meat-rich and meat-poor parts are present, with no clear predominance. This may again be an indicator of local meat consumption. Out of the 276 bones, three bore cut marks, two of cattle and one of a goat, all resembling the dismembering stage. Four bones displayed evidence of carnivore gnawing.

Overall, the zooarchaeological evidence gives an impression of a local economy dominated by goats kept mainly for local needs. Other domestic species included mainly sheep and cattle. Gazelle bones are evidence of limited hunting. As the rodent bones show, rodents were also in the houses, probably living off agricultural food scraps.

Radiocarbon dating

Three samples of charred material from the “kitchen” were submitted for radiocarbon dating to Beta Analytic, Florida, as well as one sample from a layer above the “kitchen”. Charcoal sample 74447 was recovered from locus D7018—above the central western part of the kitchen. This may have been from Stratum VIA. It yielded a radiocarbon age of 2880 ± 30 BP. This gives a calibrated result of 1190 to 1180 BCE, 1150 BCE, and 1130 to 980 BCE. In other words, the age of the wood could fall anywhere between 1200 to 980 BCE. This is surprising because results from materials stratigraphically below this locus give a younger radio-carbon date. However, old wood could have been used in the construction of Stratum VIA. It could also be possible that in this locus debris gathered, which included remains from earlier strata.

The two samples below locus D7018 were taken from the contents of two pottery vessels—a large bowl and a juglet from locus D7026.P. Locus D7028 separates the two

loci. But every indication is that locus D7018 was deposited after loci D7028 and D7026.P, though I cannot rule out that it was deposited at the same time. But there is no evidence of pitting or later intrusion through D7018 by which earlier material could have been introduced. The contents of the large bowl yielded a radiocarbon date of 2640 ± 30 BP (Sample 74860). A 2-sigma calibration gives the absolute dates of 830 to 790 BCE. However, when I used CALIB, the most likely 2-sigma calibration was given as 845 to 780 BC with a probability of 0.98. The calibration used the model of IntCal09 (Reimer et al. 2009). The alternative date for a 2-sigma calibration was 890 to 880 BCE with a probability of 0.02. The juglet contents yielded a radiocarbon date of 2520 ± 30 BP (Sample 74859). The absolute dates given are 790 to 730 BC, and 690 to 660 BC, and 650 to 540 BC. Using CALIB, the most likely date was 695 to 540 BC with a probability of 0.7. Alternative dates are 790 to 715 BC, with a probability of 0.3. A piece of charcoal found near the quern was assigned a radiocarbon date of 2750 ± 30 BP. For a two-sigma calibration this gives absolute dates of 970 to 960 BCE and 940 to 830 BCE. CALIB gives a most likely date of 945 to 822 BCE, with a probability of 0.97. The alternative date range is 975 to 955 BC, with a probability of 0.03.

The radiocarbon dates give a somewhat incoherent picture, especially for material recovered from the same floor. The three samples were not far from each other and to all appearances were deposited in the same event. It is possible that the charcoal found near the quern was the result of old wood being burned.

The radio-carbon dates suggest a destruction in the early 8th century BCE, when the organic materials in both the large bowl and the juglet ceased to sequester carbon. The charcoal found nearby must then have been curated for at least 40 years. The charcoal in

the higher locus must then have been deposited from another part of the site, as it is at least 200 years older.

Comparison of the pottery with that of other sites suggests a destruction late in the 8th century BCE. That would accord well with the date given for the juglet contents, but not with those of the large bowl. The pottery dating largely relies on the stratigraphy at Lachish. Assyrian annal, the Lachish Reliefs in Sennacherib's palace and the Bible indicate an attack on Lachish in 701 BCE. Due to the dating of Lachish Level II to the end of the Iron Age (587 BCE), based on the pottery and ostraca found in Level II, the destruction of Level III has been associated with that of Sennacherib. This also accords with dating at other sites. It is possible that the town at Tell Halif was destroyed slightly earlier.

To reconcile the radiocarbon dates and pottery cross dating, we either have to conclude that the town on Tell Halif was destroyed several decades before Lachish Level III, or suggest that the contents of the large bowl (Sample 74860) were not organic materials that were harvested that year but several years previously. For example, ash from the house materials could have been in the large bowl.

CHAPTER XVI

PATTERNS

Spatial analysis of archaeological data proceeds on the assumption that human use of and interaction with space is not random, that humans organize the world around them (see Hardin 2010:23–24). These patterns can be interpreted through analogy, giving us also a sense of the uniqueness of a particular use of space. While patterns are likely to be similar to those found in other places, differences will exist.

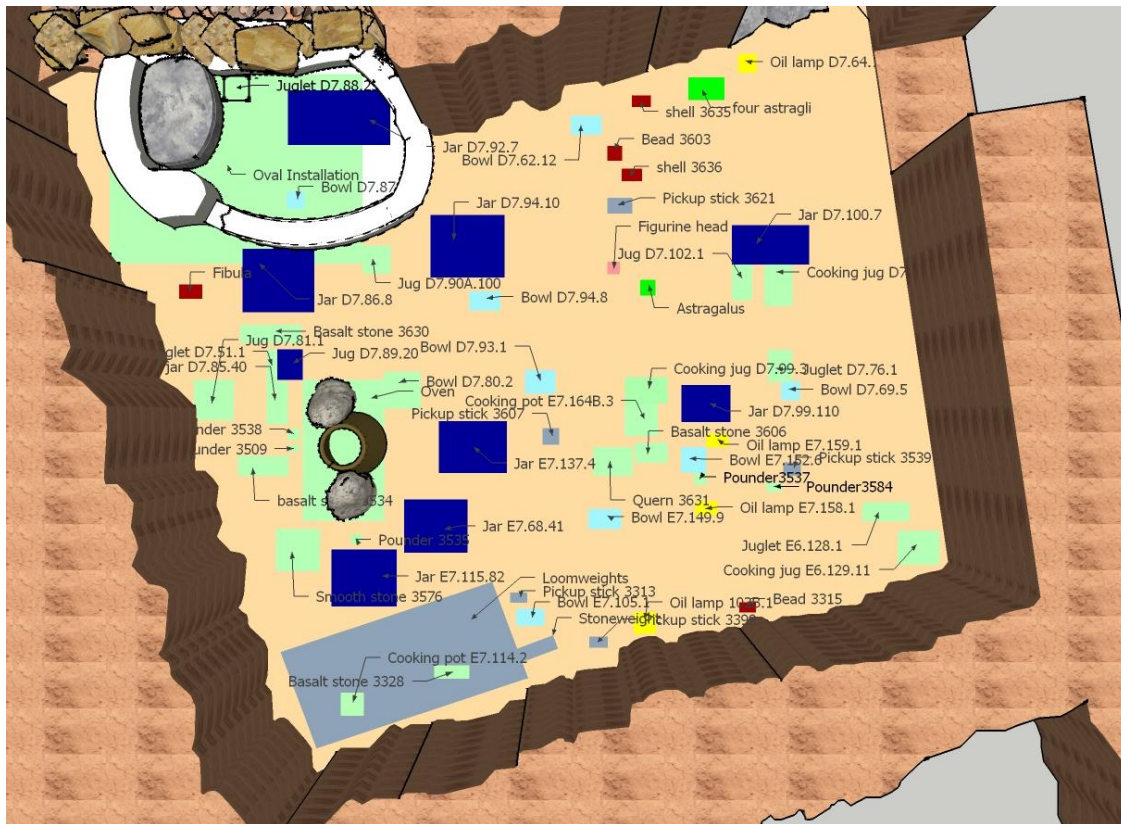
Household archaeology tended to use activity areas as the smallest unit of analysis (Hardin 2010:24). While that approach is helpful to organize the household, we have to recognize that drawing these boundaries can also distort interpretation of activities. Use of space is often more fluid than the boundaries we draw. We have to recognize the interaction of activities across space. Baadsgaard suggests that domestic spaces were more often defined by features such as ovens, rather than by walls or rooms (Baadsgaard 2008:35).

In this thesis I limit myself to the analysis of the excavated parts of one room, recognizing that this is only a partial view. Patterns are discernible in this room, but they will have to be reviewed with the consideration of expanded evidence. Such a revision in turn has to be based on an analysis of the parts. Similarly the analysis of patterns in the room builds on analysis of artifacts, but that earlier analysis may have to be revised when considering the artifacts in their patterned context. Analysis of patterns also has to move

between the more abstract function assigned to objects or groups of objects and the particular object itself.

Any analysis of patterns has to take into account formation processes. Conclusions need to be taken with some caution. Artifacts may not always have been at the exact location where most of their parts were found in excavation. Excavation itself may introduce patterns into the archaeological record, which need to be taken into account.

To map patterns of artifacts I used a basic three-dimensional representation of the “kitchen”. It includes wall lines beyond the excavated area (see Figure 100). While I drew a doorway on the eastern side of a possible wall-line, I did not draw a door connecting the “kitchen” to the “loom weight room”. Such a doorway could well have existed just east of the center of the southern wall. The oven and oval installation are drawn in as features of the room. In the east and north-west there are as yet unexcavated sections of the room. No artifacts have been mapped there, but they are likely to yield further artifacts to enable us to understand the use of space in the “kitchen”. Each artifact was color-coded by the abstract functional categories and then placed on the map. A label identifies the individual artifact. The artifacts were positioned based on the basket location, and based on photos. As this is a two-dimensional representation, the level was not taken into account. When parts of an artifact were spread across the room, I located it at the point where most of its parts came from and also gave preference to the base sherds.



Food Processing	Lighting
Food Consumption	Play
Storage	Personal Adornment
Textile Production	Transcendental Symbol

Figure 100 Functional patterns in the "kitchen" — illustration by Tim Frank

Patterns become apparent from the visual representation of the spatial data. Most striking is the cluster of food-processing related artifacts located around the oven. In part this hinges on the previous interpretation of the smooth stone as a working platform and of bowl D7.80.2 as mixing bowl. The artifacts around the oven are very similar to the equipment used when baking in a *tannur* in Palestine, as described by Dalman. All the instruments used when baking bread in a *tannur* may be present. It is less clear how a

single basalt grinding stone could be used in the baking process and why this was near the oven (see Figure 4). Several pounders are also near to the oven. Jug D7.81.1 and juglet D7.51.1 are also quite close. They may have contained ingredients in the baking process. I assigned the large jug D7.89.20 to the storage category. It is also close to the oven. Maybe ingredients (water) were directly used in food processing.

The storage jars surrounding the area around the oven are notable. Several of them seem to have been placed in the middle of the room. Because of the size of the storage jars, this creates a division in the room and the food processing area centered on the oven is closed off. This arrangement may also give access to the storage jars from more parts of the room. Storage jars are located in other parts of the room. Noticeable are particularly the large holemouth jar just to the east of the oval installation and the jar D7.92.7 inside the installation. While the presence of hole mouth jar D7.94.10 accords well with my interpretation of the oval installation as a grinding basin, the presence of LMLK-type jar D7.92.7 inside the installation does not. The jar may just have occupied one corner of the installation, or the installation may no longer have actively been used for grinding. No grinding stone was found in the installation, though a broken grinding stone was found just adjacent to it.

The quern was found in the center of the room, together with parts of an upper grinding stone. This indicates that grinding of grain took place here. Near it was a LMLK-type jar. A cooking pot and cooking jugs were found in this area (Figure 101). Here the vessels with sooting were concentrated. The cooking area may be separate from the bread-baking area. It seems likely that food processing was also carried out in the eastern area of the room.

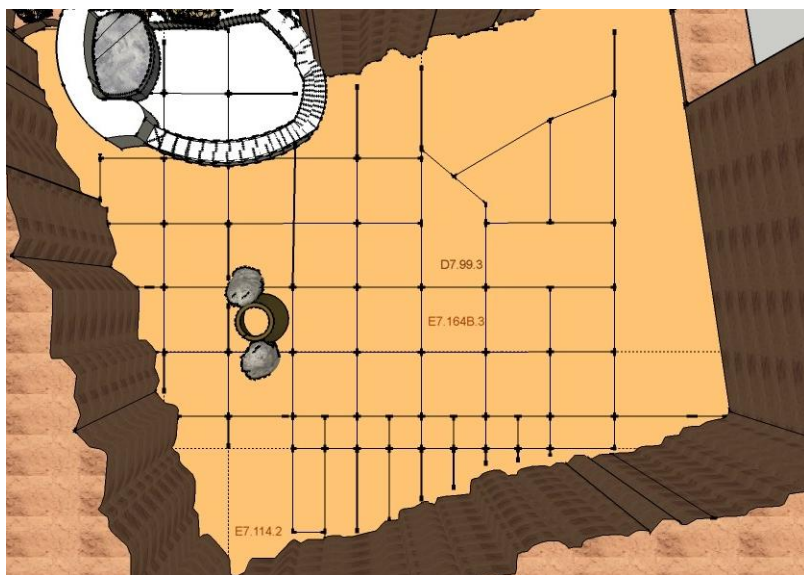


Figure 101 Distribution of vessels with sooting pattern — illustration by Tim Frank

Not much pottery was found in the north-eastern part of the kitchen. In part this may be because the floor was higher in this area so that we initially dug through the occupation level. However, the pottery baskets excavated above and below floor level do not contain much pottery. And the pottery found there is hardly restorable and marked by a great number of small pieces. Only a bowl and an oil lamp could be located in this part of the kitchen. We did find other artifacts. These were not associated with food processing or storage. Rather, they were little things, such as jewelry, which could easily have been lost. The astragali were also found in this area of the “kitchen”.

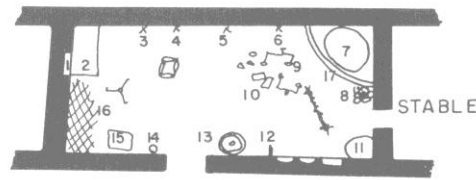
The south-west corner of the “kitchen” was mainly associated with textile production. Here we found the loom weights, as well as two pick-up sticks. The loom would have stood close to the oven, but partly separated from it by a storage jar. It may have just been placed in the corner of the “kitchen”, where it did not interfere with other activities, but

was close by to be easily accessed. Somewhat surprising is the cooking pot and grinding stone found among the loom weights. It is unlikely that cooking would have taken place under the loom. Rather, these objects may have been placed in the corner of the room also, where they were out of the way.

Bowls were spread throughout the “kitchen”. It is unlikely that they would be used for a specific meal. Rather, the variety of uses for a bowl may account for such a distribution. They could have aided in other functions carried out in the “kitchen”, such as food processing or even textile production.

The lamps were located in the center of the room, roughly in a line running south to north. Three of the lamps were certainly found top-side up and near the floor. They probably stood directly on the floor, though maybe two or three could have been set on stands or placed in wall niches.

In Hasanabad, Western Iran, food was processed in the living room (Watson 1979). Even though the living room of each household was arranged differently, there were commonalities. The hearth, on which the bread was also baked, was generally located near the center of the room. Other objects were arranged around the walls of the room. One or several big grain storage chests also stood against a wall of the room. The living room of Merim Charchi is fairly typical (Figure 102). He also had a small shop selling goods from his house. The hearth is in the center. The rotary quern and other objects were placed against the wall. It should be noted that many objects were hung on the walls. Only the scales and some of the shop’s stock were away from the wall. The bedding was placed against the wall as well and brought out at night to be distributed across the floor.



- 1 CANS IN THIS NICHE
- 2 REED SCREEN WITH BEDDING
PILED ON IT
- 3 SALT BAG
- 4 KETTLE
- 5 ANIMAL SKIN
- 6 MANY YARN BALLS HANGING
ON WALL
- 7 WHEAT STORAGE HOLE
(STRAW IN IT)
- 8 ROCK PLATFORM FOR
WATER BAG
- 9 BALANCES
- 10 SACKS & COVERED CANS
WITH MERIM'S STOCK
- 11 MUD CHICKEN HOUSE
- 12 STUFFED CALFSKIN HANGING
FROM PEG
- 13 ROTARY QUERN
- 14 DOOR PIVOT STONE (3-4 CM.
DEPRESSION, APPROX. 10
YEARS OLD)
- 15 KANU
- 16 DUNG FUEL & SOME WOOD
PILED HERE
- 17 LOW MUD MANGER WALL

LIVING ROOM OF MERIM CHARCHI (29)

Figure 102 Living room in Hasanabad, Western Iran — illustration from Watson 1979:Fig. 5.22, copyright Wenner-Gren Foundation

In contrast, storage jars were placed throughout the “kitchen”. While some of the objects may have hung on the walls and fell onto the floor when the building was destroyed, it seems that much of the floor space was covered with objects at the time of destruction. There is no indication that bedding was kept at any location and that there would have been space to spread the bedding on the floor. While the installation indicates that grinding may have been done against a wall of the “kitchen”, the quern and grinding stones were found more towards the center of the “kitchen”. However, the loom was placed against the wall, out of the way but close to food processing areas. Space in the kitchen was organized differently from a living room at Hassanabad with materials spread throughout the room. Storage jars separated the kitchen into various connected

activity areas. Sleeping and food processing probably occurred in different rooms, not the same room as at Hassanabad.

In Aliabad, Iran, living rooms and kitchens were separate rooms (Kramer 1982). There also were separate storage rooms. However, grain was usually stored in storage chests in the kitchen, which were set against the wall. At the center of the kitchen was usually a *tannur* oven. The kitchen presumably also had the most essential food processing equipment. The living room in contrast had bedding and the prestige items of the household. It was heated by a hearth. It seems that this hearth was just used for heating the room and roasting coffee. Kramer does not describe food processing, but it seems that cooking also took place in the kitchen over the oven. Ovens were also located in outside areas. The ideal is to have a warm weather oven in the courtyard and an oven in the kitchen for use during colder weather (Kramer 1982:99). However, Kramer noticed that smoke dispersion may be better for ovens in the kitchen, so that these may be used even in warm weather, and even if an oven has also been installed outdoors. Most kitchens also had a loom for textile production. However, this was not an old custom. Older women usually did not have a loom in the kitchen. They used the horizontal loom, which was set up in unroofed areas (Kramer 1982:100). It was just with the increased use of the vertical loom among younger women that looms became an important part of the kitchen. The kitchen was the domain of women; the living room, of men (Kramer 1982:102).

The presence of an oven and a loom in the “kitchen” at Tell Halif is similar to the basic features found in kitchens at Aliabad. While there is indication for storage in the “kitchen” at Tell Halif, most of the storage vessels are for liquid goods. Only one of the

storage jars is for granular goods and there is no other evidence for large storage of granular goods in the kitchen. One jar of cereals would not have been sufficient for the household. Therefore, it is unlikely that all the grain was stored in the “kitchen”. Since jars were mostly used for storage in Ancient Judah rather than storage chests, the jars might be moved to the food processing area from a storage room as needed. In contrast, most of the grain in Aliabad was stored in the kitchen. If cooking also took place over the oven at Tell Halif, as it presumably did in Aliabad, some of the preparation of the food nevertheless seems to have taken place in another part of the kitchen, not immediately adjacent to the oven. The presence of the loom in the kitchen may indicate that this was women’s space. It may point to a separation between the activity areas of men and women.

Dalman describes several houses in Palestine. The pillared houses are probably most comparable to the houses in Ancient Judah. Dalman describes a house located in Balat near Mount Hermon in detail (Dalman 1942:121–128; see Figure 103). Six pillars supported the roof and divided the interior space. The house was entered from the courtyard. The first third of the house was used as a stable, housing 8–10 large animals (cattle or donkey). The living terrace occupied the other two thirds of the house and was about 70 cm higher than the stable. Several depressions at the edge of the terrace served as feeding troughs. To the right of the door a mezzanine floor stood above the stable. A part of the living terrace was partitioned off by storage chests, where grain was stored, and a wardrobe, where the bedding was kept. Inside this storage area oil and grape molasses were kept in jars. Other storage space was on the mezzanine floor, where bedding and small objects were kept. The hearth was in the center of the open space to

the right. Against the walls were more storage chests and shelves. These storage chests were smaller and contained flour and wheat and barley grits. Near the hearth were also a rotary hand mill, mortar and pestle. Also, there was a basket for vegetables, a basket for figs, the water-carrying jar, the water storage jar, cooking ware, several bowls and the coffee jug. From the ceiling hung a wooden rack to store meat and other food. There was a wooden board for kneading the dough. Several oil lamps were distributed across the house, with stands of clay, wood or metal. More jars were kept in the stable during winter, or outside the house during summer. During summer food preparation and washing was done in an external kitchen across the courtyard. The bread was baked in a *tannur* in a baking hut outside the village (Dalman 1942:121–128).

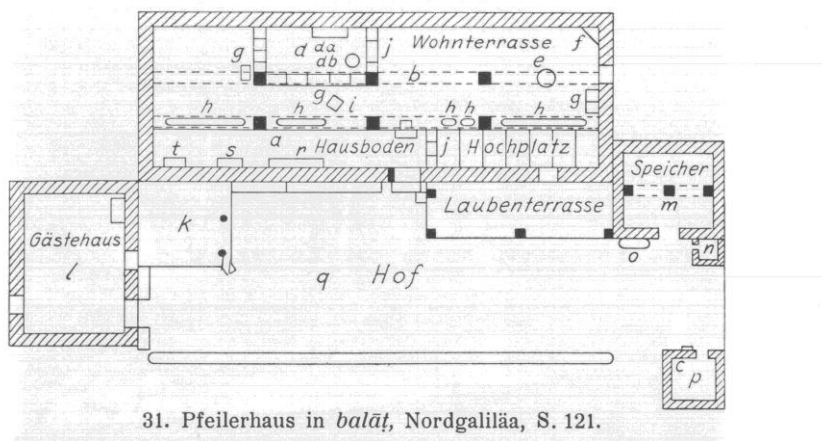


Figure 103 Pillared house in Balat — illustration from Dalman 1942:Fig.31

a) stable; b) living terrace; c) mezzanine with stable underneath; d) storage room enclosed by storage chests; da) chest for clothes; db) storage jars for oil and grape molasses; e) hearth; f) corner stand; g) storage chests; h) feeding troughs; i) hanging rack; j) bedding storage; k) open outside terrace; l) guest room; m) storage room; n) chicken coop; o) feeding trough; p) kitchen; q) courtyard; r) bench for setting down water jars; s) ash bin; t) cage for fattening chickens

The Palestinian pillared house had just one large room, which was divided by height difference and by furniture. It is therefore difficult to compare one room from an Iron Age house to a whole Palestinian house. What is notable is that storage space was separated by storage chests, not by walls. Maybe the jars in rooms from Ancient Judah also sometimes functioned to section off areas of a room or house for storage. However, it seems that in the “kitchen” at Tell Halif the storage jars did not partition off a storage area, but rather different areas of food processing. The storage jars were kept where they would be easily accessible. Like in the Palestinian house, flour may have been kept close to the place where dough was made in the “kitchen”. Dalman’s plan does not show where the various smaller household objects were kept, but it seems in the Palestinian house many of the objects were near the food processing area. The free space, where meals were served and the occupants slept, was between the food processing area and the mezzanine floor. It seems likely that the busy scene of the “kitchen” corresponds more to the food processing area of the pillared house, where flour was stored, figs were kept, grain was ground, dough mixed, and food cooked. Unlike in the Palestinian house, bread was baked within the household, in the food processing area. This does not preclude the possibility that there may have been other bread ovens outside the house or in courtyards, where bread was baked during the summer.

In her investigation of the social context of weaving in Ancient Israel—including Ancient Judah—Cassuto also concludes that weaving and food processing were often carried out in the same space (Cassuto 2004:134). However, she concludes that often the preliminary stages of food processing, such as grinding, pounding and mixing, were carried out in the same space as textile production, while cooking or baking was carried

out in another space (Cassuto 2004:138–142). In the case of the “kitchen” at Tell Halif, the oven and the loom were very close together with other food processing activities carried out in the same room, but further away and separated by storage jars. Through the use of wide ethnographic analysis and the evidence of ancient texts and art, Cassuto concludes that weaving and food processing were mainly carried out by women (Cassuto 2004:23,49–51). She finds that most artifacts found in the domestic context of houses in Ancient Israel are associated with activities carried out by women. In contrast, few masculine-associated artifacts were found in domestic contexts. She concludes that it was mainly women who ran the house, while men probably were mainly active outside the house, such as in field work and public activities (Cassuto 2004:134–138,146).

Based on a survey of ethnography, texts and artworks, Meyers concludes that the various steps in the daily production of cereal foods can be attributed to women (Meyers 2007:75). She argues that the most significant obstacle to understanding the importance of women’s contribution is present-mindedness, that we use current values to evaluate past activities. She questions the private/public dichotomy, which we also assign to past societies (Meyers 2007:76–77). This contrasts with Cassuto’s conclusions about work in and out of the house. In her survey of ovens in Iron-Age Syria-Palestine Baadsgaard concludes that ovens were not located in secluded spaces, but rather in areas of high visibility and traffic (Baadsgaard 2008:41–42). She argues that women were able to gather with other women and interact with other household members.

The oven in the “kitchen” at Tell Halif is not close to any doorway. I have not explored the relationship of the “kitchen” to the other rooms, and therefore cannot assess any flow patterns. But on current evidence, the “kitchen” at Tell Halif may well be a

space used mainly by women. The artifacts are mainly related to women's work—food processing and textile production. Storage seems to have been closely intertwined with food processing. Even artifacts that are evidence of personal adornment or transcendent symbols can be related to activities carried out by women. There are no artifacts that point to activities probably carried out by men. It may be that men hardly ever set foot in the kitchen.

Clearly, a broader exposure of the whole room, and as much of the house as has been preserved, would allow a better assessment of the patterns. At this stage, the patterns in the “kitchen” point to a flexible arrangement of space within the kitchen with access to storage from throughout the room. They also point to a self-contained activity area, partly segmented from other household activities. According to Kent the degree of segmentation allows us to assess the emphasis placed on the differentiation between sexes in prehistoric groups (Kent 1984:224). The dominance of patterns in the “kitchen” that indicate activities carried out by women points to gendered space. This may reflect differentiation between men and women in Ancient Judah. At the same time, the patterns in the “kitchen” indicate that many different household activities were carried out closely together. Grain was ground near where the flour would eventually be used in baking bread. The loom was adjacent to the food processing area.

While the association of food processing with other activities may allow us to contribute to the picture of gender relations in Ancient Judah, it can also tell us about the integration of household tasks and therefore something about life in a household of Ancient Judah. By assessing the patterns of artifacts we can see how the use of space is

both similar to and different from that found in other cultures and at different times. It is a way of relating to the life of the people of Ancient Judah.

Most studies on houses and households in Ancient Judah focus on architecture. They may consider the function of whole rooms, but do not consider the patterns inside rooms in detail. The study with the most detail and consideration of the distribution of artifacts is that by Hardin (Hardin 2001; Hardin 2010). This is also based on a house at Tell Halif. In the house described by Hardin, both an oven and a hearth were present. The oven was near an area with many LMLK-type storage jars. In fact, the oven may have been partly surrounded by those jars. Due to the presence of other artifacts and the many storage jars which seem to have been stacked against each other, Hardin concludes that the area was probably used in wine-making (Hardin 2010:156–157). Rather than a few storage jars, which could have contained foodstuffs for immediate use, like in the “kitchen”, the oven in that house was found in a more industrial setting. The hearth was found several meters west of the oven. It was separated from the oven by jars, both hole mouth jars and jars with narrow openings. It is possible that jars were used to partition areas or were placed where they were most accessible. The house that Hardin investigated also had several jars that were kept together in a small separate room, suggesting that special storage rooms were used in Ancient Judah. But they also are present, at least in low numbers, in all other rooms. Several loom weights were found near the oven, but Hardin describes better evidence for weaving in another room (Area D; Hardin 2010:146). Grinding stones were also found in that other room, including parts of a quern.

The comparison suggests that in these two houses food processing was integrated with other activities. Interestingly, baking was separate, but close to, other food

processing in both houses. A closer investigation on the different steps to process food and the use of space may therefore be warranted. Excavations in Field III at Tell Halif also suggest proximity to, but separation of baking from, other food processing (Borowski 1977:300–302). Hardin used micro-artifact evidence to support his conclusions (Hardin 2010:124–157). Such micro-artifacts were not collected from the “kitchen”. Studies from lipid analysis and botanical remains were not available, but would have complemented and maybe altered the analysis. Other lines of evidence, such as soil testing, could also have contributed to understanding spatial patterns. The careful excavation noting the detailed provenance of artifacts allowed us to give a more nuanced perspective of the room and suggest different uses for different areas, rather than seeing it just as one whole without internal patterning.

The patterns noted in the “kitchen” also have to be set in further context to get a better understanding. The remaining areas to the west and east should be excavated. The analysis in this thesis provides a base to design such further excavation, investigating in particular the possible presence of grinding or cooking installations. Investigation can also focus on the whole household to understand organization within it. From there, conclusions can also be made about the role of the house and household in the town, especially as the house seems to have been part of the town’s fortifications.

CHAPTER XVIII

A RECONSTRUCTION

Reconstructions of ancient space and life most clearly shape our imagination about different times and cultures. They are also most clearly shaped by our imagination. It is often that these reconstructions shape the narrative profoundly, our way of seeing the world. Dever, for example, uses frequent reconstructions in his argument about folk religion in Ancient Israel (Dever 2005:20–29,157–158,278–279). But reconstructions, just as any historical narrative, have to be open to constant revision. For they are based on the difficult task of interpreting incomplete data. And decisions have to be made in any reconstruction. For a reconstruction is a coherent whole, which should make sense in its own terms. The person reconstructing a space therefore has to decide between many possible interpretations. Many different reconstructions often are possible for any given data. That does not mean that anything goes. Some reconstructions are better and more honest than others. Careful consideration of the evidence is required. Just as with a criminal case, the strength of a reconstruction depends both on the evidence and on the point to be proven, so an archaeological reconstruction depends on the quality of the evidence and the purpose of the narrative. The purpose of this reconstruction is to give a limited academic audience a sense of what life in a kitchen from Ancient Judah would have been like and allow that reconstruction to be incorporated into larger narratives about Ancient Judah.

Entering through the doorway at the north end of the “kitchen”, the first thing a visitor would notice is the smoke that fills the room. Not that it is so dense that she cannot see, but the smell is everywhere, clings to the walls. In the light of the oil lamp, which is perched on a wall ledge just to the right of the door, she sees the smoke particles dancing in the air. The visitor notices the children playing knuckle-bones on the ground. The oldest has a bowl in his lap, sorting through the lentils picking out little pieces of dirt and stalks of straw and tosses them on the ground. As if watching over them, a small clay figurine of a woman with prominent breasts sits in a niche in the wall. The visitor may notice the oil jar not far from the door. It sits on a jar ring made out of plaited straw. A dipper juglet lies on the floor not far from it. The small jug that leans against the jar ring is empty, but may be used to serve oil at meals. Beside them is a milk pot, presumably filled with butter. A cloth lid covers it. Not far is the large water jar—an old wine jar that is used that shows the signs of fermentation only too clearly. It’s no longer used to store the wine once it is ready. It sits on a jar stand of dried clay. Beside it are the cooking dishes, a cooking pot for the stew and the newer cooking jug. A few bowls sit beside the cooking pots. The meals are served in them. Two oil lamps, one on a stand, the other on the floor light the food preparation area. A quern and grinding stone also sit here on a cloth, which catches the wheat grits used in stews and salads. A wooden mortar and several stone pestles sit just beside the quern. The most important cooking utensils are all kept here in the center of the room, where the water jar and the heart of the kitchen is. The visitor would probably hardly notice the small juglet and milk pot standing on the shelf in the corner. Instead, she might turn around to hear the greeting of the woman of the house. Separated from the cooking area by a line of storage jars, she kneels in front of

the oven, from which the smoke rises lazily and drifts through a hole in the ceiling. The visitor walks through the gap between the storage jars. To her left are jars of oil and grape molasses; to her right is a wide jar, half-filled with grain (see Figure 104). The woman at the oven asks the visitor to wait a moment. She puts her hands into a small jar and dusts them with flour. Then she picks up one of the balls in the large bowl. Over the stone she works the dough into a flat bread and slaps it on the inside of the oven. She quickly takes another flattened piece of dough from the stone in front of her and also slaps it on the interior oven wall. She had flattened that bread before.



Figure 104 Reconstruction of the kitchen — illustration by Tim Frank

Now the woman of the house stands up, wipes her hands and invites the visitor to look at the large cloth for a mantle she just started weaving. She isn't yet far along, but the border has an intricate pattern. She takes a pick-up stick from the side of the loom and points out the flowers woven into the edge. From a bowl beside the loom, she takes two

balls of yarns and compares the colors. Suddenly she turns around, remembering the bread in the oven. With a stick she takes it out quickly and puts it in a bowl on top of some bread she baked before. Flattening a few more dough balls, she fills the oven again.

Not far from the oven is also the water-carrying jug. She probably used some water when mixing the dough. She now pours some water in a smaller jug and walks over to the corner. Here stand two wine jars, one to the side of the grinding basin, the other propped against the wall in a corner of the grinding basin (see Figure 105). Here is where the woman of the house grinds the flour for the bread. A grinding stone lies perched on the high stone. The woman takes the dipper juglet and takes some wine out of a jar. She pours it into the jug, adding it to the water and offers a drink to the visitor. She excuses herself, while she quickly intervenes into a dispute among the children. When she hurries back to the oven, the bread is already burnt at the edges. The visitor excuses herself. It seems that for the moment it's just too busy in this kitchen.



Figure 105 Reconstruction of the kitchen — illustration by Tim Frank

Nothing in this reconstruction should be new; nothing surprising. It is based on the analysis of objects and patterns. I have decided on the interpretation of objects and patterns, knowing that I could have chosen another interpretation. But that interpretation is not haphazard. Rather, it is based on a weighing of the evidence. For example, I have decided to interpret the quern and grinding stone found with the cooking utensils as being used to grind grits, because I know from ethnographic accounts and personal culinary experience that grits are often used in cooked foods, while flour is more often used for baking. I have decided to interpret the grinding basin as being used to make flour. This accounts for two different grinding installations. The grinding installation is also closer to the oven. These interpretations are not final, but based on the evidence and my imagination. I hope that in this thesis I have given enough evidence for other interpretations, for other imaginative work. I have given sufficient analogical comparisons for those interpretations to be based on considered evidence.

CHAPTER IXX

CONCLUSION

The guiding question this thesis sought to address was whether other activities were carried out together with food processing in the “kitchen” as excavated at Tell Halif. As a result of the analogical analysis of objects and their patterns I conclude that food processing was carried out in the “kitchen”. Other activities carried out in the kitchen were textile production, storage and play. As part of their lives the people who used the kitchen also left evidence of their personal adornment and clothing. They surrounded themselves with transcendental symbols and used artificial light to see when the room would otherwise be dark.

It is possible to highlight that this room was probably women’s space. But the room just provides one part of our evidence to consider gender relations in Ancient Judah. It is another example of the proximity of textile production in Ancient Judah with food processing. I cannot draw wide-reaching conclusions about diet in Ancient Judah, but I can contribute to our understanding of how food was processed, how food processing might have interacted with other activities. I find the interaction between storage and food processing interesting. Unlike in houses I used for ethnographic comparison, stored food in the “kitchen” was probably immediately accessible for further processing. While dedicated storage space probably existed, these spaces might not have been accessed on a daily basis. Rather, part of the storage took place right among the daily activities.

Through careful use of analogy, I was able to reach conclusions about the possible use of many of the objects found in the “kitchen”. It also brought to focus the space use patterns. It is through comparison with ethnographic analogies that the differences between the use of space in Ancient Judah and those societies became clearer. Too often there is the temptation to ascribe ethnographic examples completely to ancient societies. This sometimes has led to a total dismissal of ethnographic analogy. However, when we see it exactly as that—analogy—and highlight similarities and differences, it enables us to see ancient cultures more clearly. Analogy not only enables us to use ethnographies of societies that still incorporate many traditional life ways, it also allows us to draw comparisons with our contemporary world, to see how different life in the past was, but also acknowledge the similarities. I believe it can even be used to assess sites from different time periods and provides us with comparison across time.

Even though the “kitchen” is used differently from kitchens today, the emphasis on food processing would justify the term “kitchen” being used as long as we remember that it is not like a kitchen in a modern house. What I intend to say is that if we want to find a room in our modern houses today that is most similar to that room we found at Tell Halif, it would be the kitchen. It allows us to relate the past experience to our lives and use it in historical narratives. At the same time, such a comparison allows us to paint the very real differences in life ways and the use of space.

In this thesis I used a consistently analogical approach. It makes explicit what otherwise is often implicit in archaeological research and tests some of our basic assumptions. It enables discussion and dialogue between archaeologists as they try to learn more about a distant past. It enables narratives to be formed and corrected.

Unfortunately, it often is not used explicitly and our reasoning is not acknowledged. Other approaches contribute to our understanding of the past. As modern technology moves our own experience ever further away from ancient technology and ancient life ways, explicit analogy is required more and more as we try to make sense of a world that is increasingly foreign to us. Descriptions of technologies and life ways that are more similar to those of ancient cultures are therefore ever more valuable. The books of Gustaf Dalman are particularly valuable for our understanding of Ancient Judah, because he observed people who lived in that environment with similar technologies and he observed them closely and sympathetically. And maybe they are so full of detail and life because he did not want to test a hypothesis or promulgate a theory. I found them very helpful in understanding the objects found at Tell Halif and imagining the people who would have used them.

Even though household archaeology has come to the fore in the study of the Ancient Near East, such detailed analysis of patterns in one room is not normally undertaken. The use of computer technology is aiding in placing artifacts and establishing their context. The use of visualizations is not yet the norm in archaeology, but new interdisciplinary studies, such as those at the The Center of Interdisciplinary Science for Art, Architecture and Archaeology at the University of California, San Diego, are beginning to advance these avenues. They help both in associating the artifacts as well as reconstructing ancient space. Not only do we need to think about the mapping and analysis of patterns, but also about their presentation

This thesis is a preliminary study. It draws some conclusions about a particular space at Tell Halif. It brings to focus further questions: What other methods can we use to

understand the activities in this room? What is under that balk to the west and east? How does the kitchen connect to the wider household? How does it connect to the city? What implications does this local narrative have for our understanding of Ancient Judah and the region as a whole? That is the subject of further research.

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