UTILITARIAN OBJECTS IN SACRED SPACES:

GROUND STONE TOOLS IN MIDDLE AND LATE BRONZE AGE TEMPLES

IN THE SOUTHERN LEVANT

by

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ABSTRACT

The goal of this dissertation is to identify and reconstruct activity areas in Middle and Late Bronze Age (*ca.* 2000-1200 BCE) temples and sanctuaries in the southern Levant by analyzing the ground stone artifacts found in them. Chapter 1 reviews the history of research of Middle and Late Bronze Age temples in Israel, the Palestinian Authority and Jordan, and briefly describes the physical remains of the Canaanite cult and other activities associated with temples and sanctuaries. The history of ground stone tools from prehistory through the Iron Age is the focus of Chapter 2, which emphasizes the ritual character of certain stone tool types from the fifth-fourth millennium BCE in this region. Stone tools from temple complexes excavated at Hazor, Tel Nami, Megiddo, Tel Mevorakh, Tell Kittan, Bet Shean, Tell el-Hayyat, Deir 'Alla and Lachish are included in the typology and catalogue presented in Chapter 3. Chapter 4 provides an analysis of each temple complex and the reconstruction of some of the activities associated with the ground stone artifacts found in them. Evidence for the presentation of offerings, ritual disposal of cultic equipment, use of liquids, food and pigment processing and other activities is summarized in the conclusion in Chapter 5.

INTRODUCTION

Identifying and interpreting the archaeological remains of religious activity are among the most difficult and controversial topics in archaeological discourse. Religious belief and practice are complicated subjects in contemporary understanding, and this complexity has carried over into modern interpretations of ancient phenomena. Although methodologies for identifying cultic material in the archaeological record have been developed, interpreting this material and the activities and ideas it represents remains problematic. Ambiguities in our our definitions of religion and cult and our understanding of how these phenomena were expressed in antiquity need to be clarified using innovative approaches.

In the ancient Near East, where the history of 'great' civilizations is inextricably tied to the development of several 'great' religions, interpreting evidence for cultic activity in archaeological remains is particularly problematic. Thousands year-old texts from this region have survived until today as scripture, and archaeological exploration in the Near East in the 19th and early 20th centuries was driven by a desire to validate textual accounts. Although archaeologists working in the southern Levant,[1] a historically controversial area that lies at the crossroads of continents and cultures, have abandoned a

[1] The 'southern Levant' encompasses a broad area, including modern Lebanon and Syria, but only sites located in Israel, the Palestinian Authority and Jordan are considered in this study.

biblically-oriented approach and adopted more anthropological methods, identifying and interpreting the remains of religious activity in this region is still wrought with difficulty.

Although temples, sanctuaries and other cult sites dating to the Middle and Late Bronze Ages[2] (*ca.* 2000-1200 BCE) have been excavated since the early years of archaeology in the southern Levant, few attempts have been made to identify specific activities associated with these sacred spaces. Several dozen temples and sanctuaries, most with multiple phases, have been excavated or explored in this region, and their remains offer a glimpse into the religious practices of the Canaanites and other MB-LB inhabitants of the southern Levant. Temple complexes range from large multi-storied structures with massive walls that dominated the cities and villages in which they stood, to roadside temples and shrines, to rambling complexes that functioned among domestic and other structures. Despite their diversity, aspects of the architecture and artifactual remains in these spaces share specific traits that allow for their identification as cultic.

Since few ritual texts have been uncovered from Bronze Age sites in the southern Levant, many scholars seem resigned to never knowing much about the Canaanite cult. Fortunately, aspects of the architecture, built features, installations and artifacts from excavated temples and sanctuaries provide a wealth of information that can be used to reconstruct cultic and other activities associated with MB-LB temples. In addition to figural art, unusual artifacts of an presumed cultic character, and other elite objects of high value, many utilitarian artifacts and installations have been unearthed in MB-LB temples and sanctuaries. Ovens, bins and pits, ceramic vessels used for cooking, storing

[2] Hereafter 'MB' or 'MBA' and 'LB' or 'LBA.'

and presenting foods, chipped and ground stone implements and other remains attest to the variety of activities carried out in these temples. This dissertation focuses on the analysis of an overlooked artifact class – ground stone tools – in order to identify some of the cultic and other activities that took place in temple complexes.

Research Objective

This goal of this dissertation is to identify specific activities carried out in a sample of MB-LB temples and sanctuaries in the southern Levant by analyzing their ground stone artifact assemblages and the relationships between these tools and other physical remains. Although ground stone tools are found in quantity in cultic contexts, they have been overlooked as a source of information about the MB-LB temple cult in part because they are assumed to have served utilitarian functions that are easily recognized and understood. In addition to the ground stone tools, built features, installations and ceramic forms typical of the domestic repertoire found in sacred contexts also hint at the diversity of activities that took place in temple complexes. By analyzing the stone tools from some better-excavated temples and sanctuaries and investigating their relationships to other artifacts and installations, specific activities associated with these sacred complexes can be reconstructed.

Studies of ground stone artifacts in other parts of the world have demonstrated the wealth of information these artifacts can provide about raw material selection, manufacturing techniques, trade, use and reuse, discard and other phenomena in antiquity. Ground stone specialists focusing on tools from prehistoric contexts in the southern Levant have demonstrated the ritual character of certain stone vessels, mortars, tables, querns and other artifacts. Although ground stone tools have been largely overlooked by archaeologists working in Bronze Age sites in this region, enough is known about these pervasive artifacts to permit a typology, catalogue and some comparative analysis with the material excavated from temples and sanctuaries. Analyzing the ground stone tools recovered from MB-LB temples according to their provenance sheds light on food preparation, pigment processing, presentation of offerings, ritual disposal of sacred objects, the use of liquids and other activities.

Methodology

In *Spatial Information in Archaeology*, D.L. Clarke wrote "as with artefact typology and taxonomy, it can now be seen that the intuitive analysis of spatial form both 'by inspection' or 'eyeballing' is no longer sufficient nor an end in itself. It has slowly emerged that there is archaeological information in the spatial *relationships* between things as well as in *things* in themselves" (Clarke 1979: 457). The analysis of space in this study is restricted to the micro-level, which is space within and attached to a structure within a site. At this level, space comprises the non-random location of artifacts, spaces and activities to particular relative loci within a structure (Clarke 1979: 464). The spatial associations of archaeological remains are meaningfully related to specific functions (Gibbon 1984: 141) that can be identified through an analysis of the relationships between built features, installations and artifacts.

Likewise, the functions of ground stone tools from archaeological deposits can be identified through macroscopic and microscopic examination of use-wear, residues and other physical characteristics. Focusing on evidence for tool function in addition to artifact morphology allows for a more complete and accurate assessment of ground stone tool use in the past. The implements included in this study were physically assessed wherever possible, which allowed for observations of tool use not available from published reports of stone objects excavated from MB-LB cult sites.

The temples and sanctuaries included in this study were selected based on several criteria. First of all, only architecturally defined sacred spaces – usually called 'temples' or 'sanctuaries' in the literature – are considered in this study.[3] Comparative ground stone artifacts from other cultic spaces are included in the catalogue in Chapter 3 and considered in the conclusions in Chapter 5. The selected temples and sanctuaries, if not completely published in final report form, were published in preliminary reports with enough information to allow for the reconstruction of some of the activities that took place within them. An attempt has been made to narrow down the long list of MB-LB temple complexes in order to focus on relatively well excavated and reported cultic assemblages.

The temple sites were also selected based on their state of preservation, since temples that survived relatively intact without looting provide more accurate information about the activities associated with them. Likewise, temples with large, diverse and

[3] Areas with physical evidence of religious ritual, or cultic activities, are referred to by the general terms 'cultic' or 'sacred' spaces, while 'temples' and 'sanctuaries' refer only to areas with well-defined architectural components.

published ground stone assemblage were chosen over those sites whose ground stone artifacts are unknown. Sites with physically accessible stone tool assemblages were chosen over those whose artifacts were discarded or lost, so that information about artifact function could be included in the typology and analysis in Chapters 3 and 4.

Finally, temples and sanctuaries from relatively diverse geographical locations were chosen, so that material from a range of sites could be considered. Upon comparison, some interesting similarities between the ground stone assemblages in temples and sanctuaries clustered in the same geographical region (for example, the Jordan Valley) were seen. Differences between the uses of ground stone tools at sites in different geographical regions were also noticed; these differences can be explained by variations in cultural influences, the availability of raw stone materials, trade routes and networks and other factors.

Dissertation Organization

Chapter 1 begins with a brief history of research of the archaeology of cult, which refers to studies carried out in the eastern Mediterranean at pre-classical sites. The literature review continues with a survey of past studies of MB-LB temples and sanctuaries in the southern Levant, which reveals the limited foci of many early investigators. An overview of the physical remains of the cult, including built features, installations and artifacts is also presented, with special attention to ground stone tools excavated from sacred contexts.

Chapter 2 provides an introduction to the state of the research of ground stone artifacts in the southern Levant. After reviewing the literature on various ground stone analytical techniques – including use-wear, residue and provenance studies – it describes what is known of the ground stone tools from contexts ranging in date from the Upper Paleolithic through Early Bronze I. The ritual character of ground stone artifacts from prehistoric and proto-historic sites is highlighted in order to set the stage for a continuation of this phenomenon in the MB-LB. The chapter continues with an overview of problems surrounding the study of Bronze and Iron Age ground stone artifacts, and concludes with some suggestions for future research.

Chapter 3 presents a typology and catalogue of the ground stone artifacts from MB-LB temples in the southern Levant. All published examples and some unpublished material from the sites analyzed in Chapter 4, as well comparable objects from other cult sites in this region, are included. Artifact types are illustrated throughout with examples from published temple assemblages.

Chapter 4 provides an analysis of temple complexes unearthed at nine sites in the southern Levant and focuses on excavated ground stone artifacts and the relationships between these tools and other artifacts and installations. It begins with a brief overview of the history of the MB-LB in the southern Levant, and a review of the known cult sites. A brief history of each temple is then presented along with details about its architecture, installations and artifacts. The temples and sanctuaries are presented by geographical region, so that similarities and differences between temple assemblages in the region can be seen.

Chapter 5 provides a synthesis of the data presented in this study and conclusions about the functions of ground stone tools in temple contexts. It demonstrates how physical characteristics of ground stone tools and their association with other artifacts and installations shed light on a range of MB-LB temple activities.

Conclusion

This dissertation aims to supplement past studies of MB-LB cult sites by using an innovative approach to reconstruct activities associated with temples and sanctuaries of this period. Most synthetic studies and individual temple reports have focused on architectural comparisons between temples and analyses of elite objects found within them, and have all but ignored the excavated artifacts and installations that are more 'utilitarian' in nature. Focusing on ground stone objects challenges the assumption that these tools were used only in 'domestic' activities that are well-known and understood, and demonstrates the use of a variety of ground stone tools in cultic and other activities associated with temple complexes. Examining this previously overlooked artifact assemblage also demonstrates how much we can know about activities associated with MB-LB temples using only contemporary archaeological evidence, without relying on textual or Iron Age archaeological data for information.

Chapter 1

HISTORY OF RESEARCH: TEMPLE AND CULT

Introduction

Attempts to reconstruct the religious beliefs of the Bronze and Iron Age inhabitants of the southern Levant have dominated studies of ancient Near Eastern texts and material culture. Biblicists, historians, archaeologists, linguists and other scholars have focused on this topic since the emergence of these independent disciplines in the 19th century, and the rapid rate at which new data have come to light in the 20th century has inspired even more investigation into this subject. The close relationship between the cult of the Bronze Age Canaanites[4] and that of the later Israelites was realized in the early days of archaeological investigation in this region, and the potential newly-excavated Bronze Age temples and textual sources had for contributing to our knowledge of Israelite practices was not overlooked.

While a review of the history of research into Canaanite and Israelite religion is beyond the scope of this study,[5] it is well known that past investigation into this topic has looked to the Hebrew Bible and other textual sources for information to the exclusion of archaeological evidence, with few exceptions. H.G. May, in his study of the Iron Age cult at Megiddo (1935), described how archaeological information could shed light on

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[4] The term 'Canaanites' is used as a general term for the population of the southern Levant in the MB-LB; it is understood that other 'ethnic groups' lived in the region during this period as well.
[5] See Chapter 1 in Nakhai (2001) for a concise review of past investigation into this topic.

ancient religious practices. Using the wealth of data accumulated since May's writing, W.G. Dever demonstrated how archaeological remains could be used to understand the religious practices of the ancient Israelites (1983) and suggested ways by which Bronze Age Canaanite ritual might be identified (1987b). Using a selection of artifacts and installations commonly found in Bronze and Iron Age temples and cult sites, he listed some of the activities that could be reconstructed using material remains alone. Although archaeological and textual evidence demonstrates cultural continuity between the Bronze and Iron Ages, enough data are available to reconstruct aspects of the MB-LB temple cult in isolation of textual and later archaeological material. Following Dever, this study uses only contemporary archaeological information to reconstruct activities associated with MB-LB temple complexes.

This chapter provides an overview of what is presently known of the MB-LB temple cult in the southern Levant. A brief discussion of the archaeology of cult will review some methodologies that have been developed to identify cult sites in the archaeological record, and an overview of the history of research of MB-LB temples will demonstrate the foci of past investigators. It continues with an overview of the physical evidence of the cult, including built features and installations, and elite and utilitarian artifacts that are typically found in temples and other cult sites. The chapter concludes with some suggestions for how activities can be reconstructed from the material remains of the cult using recent developments in spatial analysis.

Definitions

Before proceeding, definitions for the terms 'religion,' 'ritual' and 'cult' as they are understood in this study are required. Religion may be defined as "a specific set of beliefs in a divine or superhuman power or powers, to be obeyed and worshipped as the creator(s) and or ruler(s) of the universe" (Flannery and Marcus 1996: 353). The goal of this research is not to illuminate the religious beliefs of the MB-LB inhabitants of the southern Levant, as the methodology of cognitive archaeology – the study of aspects of culture that are products of the mind (Flannery and Marcus 1996: 351) – is still underdeveloped (Renfrew 1994: 54). At present we can only use archaeological remains to *infer* what ancient people were thinking (Hill 1994: 90).

Religious ritual, or cult, "involves the performance of expressive acts of worship toward the deity or transcendant being" (Renfrew and Bahn 1996: 390). Simply put, it is "the practice of religion" (Dever 1987b: 210). Separating religious belief from ritual activity makes it possible to recognize "material actions that, like all human activities, involve the acquisition, use, control, and discard of artifacts" (Walker 1995: 71). As the "material correlates" of human behavior, artifacts can be used to identify human activities in sacred contexts (Dever 1987b: 236). Seeking to identify physical evidence of cultic activity is called 'archaeology of cult.'

The Archaeology of Cult

Few methodologies have been developed for identifying cultic loci in the archaeological record of the Near East and eastern Mediterranean world, and none have focused systematically on Bronze Age cult sites in the southern Levant. Those that have been developed go a long way toward refining the typical 'intuitive' approach by providing tested methods based on comparative studies of cultic remains.

Identifying cultic loci in archaeological contexts is difficult. According to C. Renfrew, "...it is, in general, only where religious practices involve either the use of special artefacts or special places, or both, that we can hope to discern them archaeologically" (Renfrew 1994: 51). Ambiguities surrounding the definition of 'special' artifacts and places led Renfrew to undertake a detailed study based on the remains of an LBA sanctuary at Phylakopi, on the Greek island of Melos (Renfrew 1985). From the outset, Renfrew stressed the importance of context in identifying cultic remains:

> "in practice the recognition of cult must be on the basis of *context*: single indications are rarely sufficient in themselves. Any single find of supposedly cult significance, could, for instance, be dismissed in the absence of other evidence as either a toy or as a secular prestige object" (Renfrew 1985: 15).

A stress on the importance of context was in part a criticism of the tendency of archaeologists to ascribe a ritual function to any misunderstood phenomenon in the archaeological record (Renfrew 1985: 15).

Renfrew developed a list of eighteen "archaeological correlates" or indicators that could be used to recognize the remains of cult in the absence of written sources. These correlates indicate four main cultic activities: focusing attention, delimiting boundary zones, marking the presence of the deity and participating in worship and offering

(Renfrew and Bahn 1996: 390). The following correlates selected from Renfrew's list are pertinent to the present study:

> 3. [Ritual] may involve both conspicuous public display, and hidden exclusive mysteries, whose practice will be reflected in the architecture.
> 5. The ritual may employ various devices for inducing religious experience, such as dance, music and drugs.
> 6. The structure and equipment used may employ a number of attention-focusing devices, reflected in the architecture and in the movable equipment.
> 8. The chosen place will have special facilities for the practice of ritual e.g. altars, benches, pools or basins of water, hearths, pits for libations.
> 10. Food and drink may be brought, and possibly consumed as offerings, or burnt/poured away.
> 11. Other material objects may be brought and offered (votives). The act of offering may entail breakage.
> 12. Special portable equipment may be employed in the cult practice e.g. special receptacles, lamps, etc.
> 13. The sacred area is likely to be rich in repeated symbols (redundancy).
> 16. Concepts of cleanliness and pollution may be reflected in the facilities and maintenance of the sacred area.
> 17. Great investment of wealth may be reflected both in the equipment used and in the offerings made (Renfrew 1985: 19-20).

Renfrew's analysis of the sanctuary at Phylakopi is significant because it outlines a methodology based on comparative analyses between the remains at Phylakopi and that at other Aegean sites, and because all aspects of its architecture and associated artifacts (including ground stone tools) are considered. The result is a compelling reconstruction of the cult practiced at Phylakopi in the LBA, and the place of this sanctuary among other cult sites in the region.

In the southern Levant, Renfrew's methodology was used to interpret the archaeological remains at the fourth-third millennium BCE site at Gilat, in the Negev

(Alon and Levy 1989). By systematically identifying evidence for cultic activity using Renfrew's criteria, the excavators concluded that this Chalcolithic site was home to one of the earliest ceremonial centers in the eastern Mediterranean. Renfrew's system provided a means of identifying one of the functions of this important site in the absence of texts and much comparative cultic material from other Chalcolithic sites.

G.H. Gilmour presented a model for discerning cultic loci at Early Iron Age sites in the southern Levant in his PhD dissertation, *The Archaeology of Cult in the Southern Levant in the Early Iron Age: An Analytical and Comparative Approach* (1995). On a scale of one to ten, Gilmour identified and analyzed Early Iron Age cult sites based on aspects of their architecture, installations, artifacts and other evidence. Although his conclusions are generally in agreement with the excavators' opinions regarding the cultic character of the sites in question, his system is undeniably subjective and thus difficult to use consistently. This methodology could be applied to MB-LB cult sites, but it would probably offer little new interpretation of the material.

Neither these nor other methods have been applied in identifying MB-LB cultic remains. Instead, the cultic character of sacred sites has been identified using stereotyped architectural plans and the presence of certain elite artifacts assumed to have been used in cultic activities. The identification of certain MB-LB complexes as temples is, however, generally undisputed: temples and sanctuaries are relatively easy to identify among the archaeological remains of this period because they are usually built in special locations, they retain their cultic character over a long period of time and feature clearly defined architecture and associated artifacts (Gilmour 1995: 10). This study focuses on artifacts from those temples and sanctuaries that have been generally accepted as such by archaeologists, although some comparative material from sites with a less certain cultic character is considered in Chapter 5.

Studies of Middle and Late Bronze Age Temples in the Southern Levant

From their first appearance in archaeological excavations nearly a century ago, temples dating to the MB-LB were recognized for their potential to illuminate later Israelite religious practices and physical aspects of the First Temple in Jerusalem:

> "the religious architecture of Pre-Israelite Canaan has an interest extending beyond the intrinsic. As with other aspects of its culture, Temple building may be linked with a very diversified background of influences. In turn the temple types thus established the form and the natural background to the temple in Jerusalem, which in age-long and world-wide understanding has remained the most awesome material expression of man's religious possibilities" (G.R.H. Wright 1971: 17).

As a result of such views, early studies overlooked the value of MB-LB temples and sanctuaries as a source of information about the cultic practices of the contemporary Bronze Age population. This may in part account for the continued dearth of synthetic studies that consider the Bronze Age temples in isolation of later archaeological material and textual sources.

Temple Typology and Synthetic Studies

Typologies based on architectural features of the main temple buildings were used to describe and compare Bronze Age sacred complexes unearthed in the first half of the 20th century. Temple typologies facilitated comparisons between MB-LB temples

(Mazar 1992), between Bronze Age temples and Mesopotamian precedents (Kaplan 1971; Seton Williams 1949; G.R.H. Wright 1971) and between Bronze Age temples and the First Temple described in the Hebrew Bible (Busink 1970). The four traditional categories of temple building plans – *Langbau, Breitbau, Knickachse Herdhaus*, and Centralized Square Plan (G.R.H. Wright 1971: 18) – took only the style and orientation of the temple buildings into consideration, and disregarded the exterior spaces and other structures and installations associated with most MB-LB temples complexes.

Dever noted that "few archaeologists in reporting their own temples have gone beyond rather elementary architectural typologies to a consideration of either temple ideology or function" (1987b: 223-25). Synthetic works, like A. Mazar's comparative studies of Bronze and Iron Age temples in the southern Levant (1980, 1992), adopted a purely typological approach and limited discussion of the material remains to comparisons between them. The *migdal* temples known from MB-LB urban and village sites have also been the focus of comparative typological analyses (e.g. Bonfil 1997) that have demonstrated little more than their development from Syro-Mesopotamian prototypes. Synthetic studies by non-specialists (e.g. Ottosson 1980) likewise focused on architectural comparisons between temples and offered few if any conclusions about the nature of the temple cult.

Several recent synthetic studies have gone farther by focusing on the temple complexes individually and discussing the role of the temple in social phenomena. B.A. Nakhai's *Archaeology and the Religions of Canaan and Ancient Israel* (2001) focuses on each Bronze and Iron Age cult site individually, not typologically. Hers is the only synthetic study of MB-LB temples to use textual sources and artifacts to reconstruct some of the social, political and economic functions of excavated cultic spaces and suggest specific activities that were associated with them. Nakhai's thorough survey of the archaeological remains, as well as her assessment of the textual evidence for sacrifice in Canaan, signals a shift in the study of Bronze and Iron Age temples to a consideration of the activities, including political and economic, in which the temple played a part.

This shift can also be seen in W. Zwickel's *Der Tempelkult in Kanaan und Israel* (1994), in which the author considers evidence for cultic activity in the southern Levant from the MBA through Iron Age II. Zwickel's study is exceptional for its reassessment of spaces whose cultic nature is in some doubt, and for his use of all available published sources. Like Nakhai, Zwickel uses textual sources, mainly the Hebrew Bible, to shed light on archaeological phenomena. His study does not focus, however, on reconstructing activities associated with the temples and cult spaces in question.

Excavation Reports

The results of the excavation of MB-LB temple complexes are usually included in excavation reports along with other materials excavated from the site, and as a rule include some comparative analyses with other temples in the southern Levant and surrounding region. Quite rarely have a temple complex and its associated artifactual assemblages been completely published, however:[6] Hazor Areas H and C (Ben-Tor, ed. 1989; Yadin et al. 1958, 1960, 1961), Bet Shean VIII-VII (James and McGovern 1993),

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[6] Even these publications do not provide a full account of all excavated material.

Tel Mevorakh (Stern 1984) and Deir 'Alla (Franken 1992) may be the only exceptions. Reconstructing temple activity areas is thus wrought with difficulties resulting from incomplete recording, analyzing, curating and publishing of the data.

Many temples and sanctuaries have been published in preliminary reports that, although subject to revision in future publications, are useful. The preliminary reports of the Acropolis Temple at Lachish, for example, provide enough detailed information to allow for some observations about temple activities (Clamer and Ussishkin 1977; Ussishkin 1978a, 1978b, 1983, 1985), as does a preliminary report of the R3 and R2 sanctuaries at Bet Shean (Mazar 1993b). These temples were uncovered during the course of reneweds excavation at Lachish and Bet Shean; other LBA temples were investigated at both sites during previous excavation seasons in the first half of the 20th century. The renewed excavations at both sites have answered questions left unanswered by the earlier excavators, and have added an important dimension to the cultic history of these sites in the MB-LB.

E. Stern's analysis of the LBA temples unearthed at Tel Mevorakh includes a comparative study of the temples and their relation to other MB-LB examples in the southern Levant. Based on the small size of the site and the absence of domestic architecture in the LBA, Stern concluded that the site functioned as a kind of roadside sanctuary (Stern 1984: 36). Tell Kittan (Eisenberg 1977: 80), Deir 'Alla (van der Kooij and Ibrahim, eds. 1989: 79) and Timna (Rothenberg 1993: 1485) are among the other sites with temples and sanctuaries that may have functioned on a regional level.

Although the transition from a typological assessment of temple structures to a consideration of the temples in their wider context can be seen in recent publications, the temples and their associated artifacts have not yet been fully exploited to shed light on temple activities on the micro-level. Neither synthetic studies nor excavation reports have focused on systematically analyzing the physical remains of temple activities, despite the wealth of information available from excavated temple complexes.

Physical Remains of the Cult

Specific activities carried out in the temple can be reconstructed based on relationships between built features, installations and portable artifacts found in them. As will be shown, the presentation of offerings was the most important activity in the cult of this period, "and the remains of offerings and paraphernalia with which they were prepared and offered are the most common furnishings and artifacts found in excavated Canaanite temples and shrines" (Nakhai 1997: 169). The following overview of aspects of the architecture, installations, built features and portable artifacts in MB-LB temple complexes will demonstrate the wealth of evidence presently available to reconstruct temple activities. Many of the examples given below are discussed in detail in Chapter 4.

Courtyards and Associated Spaces

Given the relatively small interior spaces of temples and sanctuaries, it is likely that many activities took place outside the main buildings. Worship that took place inside the temple buildings themselves was primarily "individual, simple, and mostly private" (Dever 1987b: 230), and may have been restricted to priests and other officiants. Early investigators, who focused on comparing aspects of temple architecture, often overlooked the exterior spaces of temple compounds.

The courtyard, a concept that perhaps evolved out of earlier open-air sanctuaries (G.R.H. Wright 1971: 28), was "a most important component of the cultic complex" (Mazar 1980: 72), a place where groups could gather and participate in worship and other activities. Exterior space was the only possible location for messy and dangerous activities like slaughtering animals and burning offerings; bones, ashes and other evidence for animal butchering has been identified in several temple courtyards. Evidence for industrial or craft activities, a phenomenon known from Iron Age cult sites as well (Stager and Wolff 1981), has also been found in MB-LB temple complexes. Remains of pottery production were found in Hazor Areas C (Yadin 1975: 49-53) and H (Ben-Tor, ed. 1989: 228-229), and remains of metalworking discerned at Tell el-Hayyat (Falconer and Magness-Gardiner 1989b: 259), Tel Nami (Artzy 1995: 23), Nahariya (Dothan 1981: 77) and Timna (Rothenberg 1988: 274).

The main temple room was often surrounded by auxiliary rooms that served special functions related to the cult. The artifacts found within most of them suggest their use as storerooms for cultic paraphernalia, and are thus sometimes referred to as treasuries in publications. Possible 'kitchens' with ovens and other evidence for food preparation activities have been identified in several sacred areas, including the Bet Shean IXA temple complex (Mazar 1993b: 613-614) and the sanctuary complex at Deir 'Alla (Franken 1992: 163-165). The specific function of some of the excavated rooms is less clear, although their association with the main temple structures and the presence of special artifacts supports their cultic character.

Built Features and Installations

A number of built features and installations are common in MB-LB temple and sanctuary complexes. Niches, platforms, tables, benches, pits and bins are found inside the main temple structures, and platforms, tables, benches, pits, bins, *stelae* and other installations are found in courtyards and other associated spaces. Niches sometimes built into the temples' rear walls are believed to have housed the statue or other emblem of the deity. This function is vividly illustrated by the row of *stelae*, one inscribed with upraised arms and a symbol of the lunar deity, found in the niche of the Area C sanctuary at Hazor (Yadin et al. 1958: 90). Other niches served as shelves, as demonstrated by the *in situ* remains of ceramic vessels and lamps in niches in Lachish Fosse Temples II and III (Tufnell et al. 1940: 39-41). Platforms, tables and benches made of stone or mudbrick were used for the placement of offerings; they are sometimes found with vessels and other objects still sitting on them (e.g. Stern 1984: 6-7). Large platforms found in courtyards may have been used for slaughtering and burning animals.

Platforms, tables and similar features are often called 'altars' in publications. In this study, altars are understood simply as places to put offerings (Haak 1992: 162); the term does not imply slaughtering, burning or other activities. *Bamah*, a term frequently seen in publications of MB-LB cult sites, is a Hebrew term used derisively in the Hebrew Bible to refer to Canaanite cultic activities associated with open-air locations (Nakhai

2001: 165-167). The exact form and function of *bamot* remain uncertain, and the term is not used to describe the cult areas included in this study.

The presence of pits and bins in the temple complexes indicates the storage of various materials. Pits containing the remains of broken and discarded objects are sometimes found in temple structures and more frequently in their courtyards: they are usually interpreted as *favissae*, containers for "obsolete offerings and cult objects" (Mazar 1990: 254). Objects found in *favissae* may or may not have been intentionally damaged through breakage or fire at the time of their interment (Walker 1995: 75), and may have been disposed of for other reasons. As a rule, objects brought to the temple as offerings should not be reused or recycled, as the "act of giving must be irreversible" (Burkert 1996: 146); burying offerings and cult objects helped to ensure that they would not be used outside the cultic sphere.

Votive deposits are also found under temple foundations or built features in them (James and McGovern 1993: 241). Different behaviors may be responsible for the deposition of objects in votive deposits versus cultic objects deposited in *favissae* (Walker 1995: 76); the specialized character of a votive deposit might demonstrate this distinction through the inclusion of figural representations of the deity (Ilan 1992: 261). The intentional interment of statues in pits and platforms is also attested in MB-LB temples (Loud 1948: 159; Yadin 1972: 84); the tradition of burying gate-lions and royal statues has a long history in the ancient Near East (Ussishkin 1970).

Roasting pits and ovens with evidence of burning are often found in temple courtyards and associated spaces. Bins constructed of mudbrick or stone were occasionally built into corners and along walls in temple structures. Although botanical remains were rarely collected by early temple excavations, and these installations were either found empty or containing various artifacts, they are usually interpreted as containers for grain. Large storage vessels found embedded in (Tufnell et al. 1940: 41) or sitting on (Ben-Tor, ed. 1989: 258) temple floors probably served the same function.

Standing stones, often called *stelae* or *massebot*[7] in publications, are known from many MB-LB temple complexes. These are found singly, in groups and in rows in temple courtyards and occasionally in temple interiors, and are often associated with tables, vessels and artifacts left as offerings. *Stelae* found in sacred contexts range from unworked slabs to well-hewn and finished stones, and may stand over three m high (Dever 1973: 68). *Stelae* modeled with anthropomorphic features or incised with representations of the deity are more rare than 'undecorated' ones, although several examples have been found in MB-LB temple complexes. According to C.F. Graesser, a *stele* serves to "jog the memory", and is erected to mark a legal relationship, memorialize the dead, commemorate an event, or mark the immanence of a deity (Graesser 1972).

Although some of these built features and installations have been uncovered in non-cultic contexts in the MB-LB (Daviau 1993), the clustering of features like benches, platforms and especially *stelae* along with characteristic artifacts is indicative of a cultic area.

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[7] The term *stelae* is favored over the Hebrew term *massebot* when discussing standing stones from periods preceding the Iron Age, since *massebah* is a later Hebrew term. This study thus does not use the biblical term *massebah* to describe archaeological material from the Neolithic through LBA.

Elite Artifacts

Temple assemblages are characterized by certain elite artifacts not often found in other contexts. Quantities of imported ceramic vessels and special objects are found in all temple complexes: ceramic vessels are the most predominant artifact class found in MB-LB cult sites. Miniature vessels, stands, seven-spouted lamps, zoomorphic figurines, models, *kernoi* and other ceramic objects probably served specific functions in various temple activities, although examples are sometimes found in non-cultic areas as well.

Male and female figurines believed to represent kings and deities are found in clay, metal, stone and ivory in temple contexts. Many excavators have attempted to identify the deities worshipped in the temples based using the figurines and other iconographic representations found in them (e.g. Rowe 1940: 6; Stern 1984: 35; Tufnell et al. 1940: 25). Metal objects, including pieces of gold and silver, cymbals, plaques, jewelry, weapons and tools, are found in many temple complexes, as are scrap metal, crucibles, molds and other evidence for metalworking. Objects of ivory and bone, as well as ostrich eggs, seashells, and other worked organic materials are also common. Quantities of cylinder seals, scarabs and beads made of semi-precious stone and other materials have been found in many temple complexes, as have imported stone vessels made of alabaster, calcite and other materials probably used as containers for precious substances. These and other elite artifacts are found in quantity in nearly every excavated MB-LB cult site in the southern Levant.

Utilitarian Artifacts

Focus on elite objects, many of which are assumed to have functioned in the cult, has obscured analysis of the utilitarian objects found in temple complexes. Ceramic vessels used for cooking, storing and serving foods are found in abundance, as are less typical ceramic forms like baking trays that were used in cooking activities. Agricultural tools, weapons and other implements made of metal and stone are also found in many temple complexes. Although excavators have only recently begun systematically collecting botanical samples, the evidence suggests the use of a variety of agricultural products in the temple. A large pile of wheat discovered in front of the altar in the Lachish Acropolis Temple, as well as the remains of barley, grapes, vetch and olive pits in other parts of the temple complex, is a particularly vivid illustration (Ussishkin 1978a: 21). These agricultural products and implements – many of which are associated with food processing, storage and consumption – attest to diverse activities that involved the use of plants in cultic contexts.

Ground stone tools have also been found in MB-LB temples, but they have been essentially overlooked by temple excavators and other researchers of this topic. There have been no specialist reports of ground stone artifacts in temple excavation reports, and when they are mentioned by the excavators their presence is usually explained by their function in ambiguous food processing activities. An example of this ambiguity can be seen in the recent publication of the Stratum VIII-VII temple(s) at Bet Shean, in which a large assemblage of ground stone tools was uncovered:

> "Minor craft activities were sometimes carried out in ... temples. Near the stairway in the Level VIII precinct, a possible fireplace (or oven) and grinder atop a quern were excavated. This installation might have been used to prepare temple offerings or food for temple personnel. Indeed, mortars, pestles, and grinders were about equally distributed between temple and residential contexts in Levels VII and VIII" (James and McGovern 1993: 242).

The authors have nothing more to say about other possible functions for the many types of ground stone tools uncovered in the temples, even though fully half of the entire Stratum VIII-VII assemblage was found in a cultic context. No specialist report for the ground stone is provided[8] and the stone objects are illustrated with other 'small finds' in the plates.

Some temple excavators have sought to explain the presence of ground stone tools in cultic contexts as evidence for the embeddedness of ritual activity in ancient society. Based on the large numbers of querns, mortars and other stone processing equipment found in and around the sanctuary at Phylakopi, Renfrew concluded that the "problem of the 'embeddedness' of cult activity within the other activities of daily life is thus a very real one" (1994: 47). He assumed that these implements were used to prepare offerings, that were part of "simple domestic activities by the priests or priestesses who may have looked after the sanctuary" (Renfrew 1985: 388). The presence of domestic-type ceramic vessels likewise demonstrates that the preparation and consumption of food took place in cultic contexts, "but also vividly illustrates the blurred lines between cult and other aspects of life in this period" (Gilmour 1995: 13).

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[8] Although a variety of other material culture assemblages were analyzed and reported on by specialists.

Separating religious activities from daily life activities is a modern construction: the ancients certainly did not look at 'religion' or religious practice as phenomena distinct from their other daily experiences. Attributing simplistic functions to ground stone tools found in temple contexts, or explaining their presence by the embeddedness of cultic activity in ancient society, does not contribute to an understanding of the actual uses of these implements in the contexts in which they are found. Chapter 4 will show that the function of ground stone tools in temple contexts is dependant on much more than simply their *presence*: function can be reconstructed based on tool type, physical evidence of use-wear and residues, relationships with features, installations and other artifacts, and other factors. Since these artifacts have been essentially ignored or uninterpreted by researchers in the past, ground stone tools provide an ideal data set for reconstructing MB-LB temple activities.

Activity Areas

Systematically analyzing the associations between artifacts, built features and installations allows for the reconstruction of activities carried out in specific areas. P.M.M. Daviau undertook a spatial analysis in order to identify activity areas in MB-LB domestic structures (1993). Using functional paradigms or activity sets based on ethnographic observations and iconographic representations, she identified areas related to food preparation, storage, textile production and weaving, pottery production, business, personal adornment and recreation (Daviau 1993: 449-455). Ground stone tools of various types were included in all of her functional paradigms (48-51), and functions mainly related to food preparation activities were attributed to them. Daviau's functional attributions disregarded any other sources of information beyond tool morphology to reconstruct the functions of these artifacts, which included a wide range of stone tool types.

A similar study might be useful for reconstructing activity areas in MB-LB temple complexes, but it would need to replace models based on ethnographic studies of domestic activities with models based on ethnographic documentation of religious practices in contemporary societies. The nature of the publications of excavated temple complexes makes any quantitative analyses impossible, however, and severely restricts the potential spatial analysis might have for providing accurate reconstructions of temple activities. This research project is more of a descriptive study than a systematic spatial analysis, as only one artifact class is reconstructed in its entirety in the temple analyses in Chapter 4. Artifacts and installations directly associated with ground stone tools are included, since they provide important evidence for the functions of the stone tools, but they are only a fraction of the total excavated material. Although this approach does not permit a complete account of temple activities using all available physical evidence, it does allow for the reconstruction of specific activities that involved the use of ground stone tools in temple complexes.

Conclusion

This review of the state of the research of MB-LB temples and sanctuaries has demonstrated the strengths and weaknesses of past studies that have appeared in synthetic and temple excavation reports. It has emphasized the lack of investigation into actual activities associated with MB-LB temples in past studies, and suggested ways by which excavated features, installations and artifacts could be used to reconstruct temple activity areas. Enough physical data are now available to reconstruct MB-LB temple activities in isolation of textual or later archaeological material, as this study will demonstrate.

In 1983, Dever proposed that evidence for cultic activity might be found through the testing of archaeological material: "[T]hrough chemical or physical means of testing, or by high-magnification use-wear analysis, can we ascertain how implements such as 'Israelite' altars, censers, and votives were actually employed ...?" (Dever 1983: 580). Along with a definition of ground stone tools and a history of these artifacts in the archaeological record of the southern Levant, Chapter 2 will discuss some of the analytical methods that can be used to reconstruct the functions of stone implements excavated from temple contexts.

Chapter 2

GROUND STONE ARTIFACTS IN THE SOUTHERN LEVANT

Introduction

The scientific investigation of ground stone artifacts is a relatively recent phenomenon the world over. Reasons for the neglect of ground stone tools from archaeological contexts vary, although the following statement describing the situation in the American Southwest holds true for other parts of the world, including the southern Levant, as well:

> "... the analysis of ground stone artifacts has largely been neglected because they are associated with the mundane task of processing plant foods and because researchers have assumed that the uses of ground stone tools are known and well understood" (Fratt and Adams 1993: 313).

Recent studies of ground stone tools have shown, however, just how little we know about the actual functions of these implements in the past, and how much of our understanding is still based on intuitive assumptions.

Ground stone artifacts have been excavated from archaeological sites all over the world, and their manufacture and use in contemporary societies has been documented ethnographically. The results of recent analytical and experimental studies, coupled with archaeological information and ethnographic observations, can be used to shed light on a number of phenomena surrounding ground stone tool use in antiquity.

This chapter provides an overview of ground stone tools in the southern Levant from their earliest appearance in the archaeological record through the Iron Age. It begins by providing a definition for ground stone tools, specifically those artifacts considered in this study, and reviewing some of the techniques that are now being used to analyze ground stone tools from archaeological contexts. Evidence for ground stone tool use in ritual contexts is stressed throughout the discussion of ground stone artifacts from the Upper Paleolithic through the Iron Age. The chapter concludes with some suggestions for future studies of Bronze Age material using the multiple lines of evidence available for reconstructing tool function during this period.

Definitions

Specialists working on material from disparate parts of the world have defined ground stone artifacts in similar ways. J.L. Adams, a ground stone specialist who focuses on material excavated in the American Southwest, defines ground stone tools as "artifacts that are either altered by or used to alter other items through abrasion, polishing, or pecking" (Adams 1996: 2). This category includes:

1. Artifacts used to reduce intermediate substances to a finer texture: for example, manos, metates, mortars, and pestles, which are used to process vegetal products, pigments, clays, and tempers.
2. Artifacts used to shape other artifacts, for example, abraders, polishing stones, and hammerstones.
3. Artifacts shaped by abrasion, polishing or pecking, for example axes, pipes, figurines, personal ornaments, and architectural pieces (Adams 1996: 2).

Grinding technology includes a combination of knowledge, ideas, behavior and equipment to solve problems involved in altering substances or surfaces; this is accomplished through the interaction of mechanical and chemical processes that occur when surfaces come into contact (Adams 1993, 1996). Understanding these technological processes involves a consideration of how an artifact was designed and manufactured; an assessment of the artifact using use-wear analysis; and an assessment of the archaeological context in which the object was found (Adams 1996: 2).

In this study, 'ground stone tools' refers to artifacts that were selected or fashioned in order to serve a utilitarian function, usually an activity involving the processing of materials into a finer texture. Several types of artifacts, including basins, tables, perforated stones and other objects, served a different purpose. The typology and catalogue presented in Chapter 3 includes the following stone tool categories: vessels, mortars, basins, tables, grinding slabs and querns, palettes, handstones, pestles, pounders and hammerstones, perforated stones, potter's wheels, roof-rollers and miscellaneous tools. The artifacts included in this study were made of materials available in the southern Levant, including basalt, limestone, sandstone, quartzite, flint and beachrock (a sedimentary rock found along the eastern Mediterranean coastline) (Neri 1993: Abstract). Statues, figurines, personal ornaments, gameboards and gamepieces, maceheads, architectural fragments and other stone objects used for a variety of purposes are not considered in this study; neither are stone objects made of alabaster, calcite and other materials not available in the southern Levant.

Analytical Studies

A number of archaeologists and ground stone specialists have focused on identifying evidence for ground stone artifact use-wear in recent years, mainly through replicative studies (e.g. Adams 1988, 1993; O'Brien 1994; M.K. Wright 1993). These experimental studies have shown that processing different materials using ground stone tools produces unique wear patterns that can be identified macroscopically and microscopically. The results of these studies can be used as a baseline against which tools from archaeological contexts can be compared. This attention to the physical attributes of ground stone tools in addition to morphology allows for an understanding of stone tool use that goes beyond simplistic 'form = function' equations that characterize older studies.

Likewise, analysis of organic residues on ground stone implements has shown the diversity of materials that can be processed using this equipment. Residue analyses first performed on ceramics (e.g. Badler, McGovern and Michel 1990; Evershed, Heron, Charters and Goad 1992) and chipped stone tools (e.g. Hyland et al. 1990; Loy 1987, 1991; Loy and Wood 1989) from archaeological contexts have more recently applied to ground stone tools. Pollen samples removed from ground stone implements in the American Southwest, for example, record the variety of wild plant foods processed in addition to cereals (Greenwald 1993). Starch grains from tuberous plants, which are notoriously elusive in the archaeological record, have been detected on grinding stones from Egypt (Jones 1989) and Central America (Piperno and Holst 1998). Prompted by earlier immunological analyses and numerous ethnographic accounts of the processing of animal bones and flesh in mortars and basins, researchers identified blood residues on ground stone artifacts from two archaeological sites in southern California (Yohe, Newman and Schneider 1991). Use-wear analyses and organic residue analyses have not yet been systematically performed on ground stone material from the southern Levant.

Provenance studies that allow for the identification of the geographical origins of stone, especially basalt, have been performed on ground stone tools from prehistoric contexts in the southern Levant. Several recent studies have focused on petrographic analyses of Chalcolithic and Early Bronze I prestige objects, especially the well-made basalt vessels/mortars known from sites in Palestine and Transjordan, in order to determine the origin of basalts (Gilead and Goren 1989; Goren 1991; Philip and Williams-Thorpe 1993). Y.M. Rowan was able to identify the origins of basalt vessels/mortars through geochemical analyses (1998). Petrographic analyses of some Chalcolithic and Early Bronze I artifacts revealed an interesting and unanticipated phenomenon: the apparent substitution of phosphorite for objects typically made of basalt. Y. Goren has shown that phosphorite, a less costly and more easily worked material available in the northeastern Negev and Judean Desert, was used to create 'fake' basalt vessels (Goren 1991: 109-110).

Due in part to the physical condition of the material included in this study, use-wear, residue and provenance analyses could not systematically conducted. The typology and catalogue presented in Chapter 3 and the temple analyses in Chapter 4 take any available physical evidence for tool function into consideration, however. A functional typology is more relevant to a study focusing on stone tool use than one based on morphology alone, since it takes into consideration a variety of physical attributes resulting from raw material, manufacture, physical changes that result from wear, deposition and other factors.

Ground Stone Artifacts in the Southern Levant

In the southern Levant, only ground stone material from prehistoric and proto-historic contexts have been the subject of sophisticated analyses. Ground stone tools are important for understanding aspects of food production, and a number of studies have focused on artifacts dating to the Neolithic period when grinding implements are found in contexts of early plant domestication and permanent settlements. Certain types of stone vessels and mortars found in Chalcolithic and Early Bronze I strata have also been the subject of much research. Ground stone implements from Bronze and Iron Age contexts have been the focus of much less study, although they are pervasive in archaeological sites of this period. The following review of the state of the discipline will highlight some of the current trends in studies of ground stone tools through the Early Bronze I period, and demonstrate the strengths and weaknesses of studies of Bronze and Iron Age material in order to place the current study in its proper setting.

Overview: Upper Paleolithic – Neolithic Period (ca. 45,000 bp – 4500 BCE)

True ground stone tools – implements that were manufactured in part by abrasion – first appear in sites in the Levant during the Upper Paleolithic period (45,000-22,000 bp). Small portable grinding slabs and handstones appear in assemblages early in this period, the latter sometimes with visible remains of ochre. Ground stone tools of strategic design have been uncovered in Kebaran (22,000-14,500 bp) and Geometric Kebaran (14,500-12,500 bp) levels, and become numerous in Natufian assemblages (12,000-10,500 bp) (K.I. Wright 1991: 19). The increase in variety and number of plant-processing tools in the Natufian Period coincides with increasing sedentism and the dawn of cereal cultivation in the Levant.

An increase in the numbers of grinding tools as opposed to pounding tools found in Neolithic settlements corroborates the botanical evidence for the transition from foraging to farming (K.I. Wright 1992: Abstract): grinding both wild and domestic cereals produces finer food particles, which can be more easily digested and absorbed by the body than grains processed through pounding alone. Excavation reports of prehistoric sites in the southern Levant include chapters and even volumes on the ground stone artifacts uncovered at these sites (e.g. Gopher and Orrelle 1995), which are comparable to publications of stone material from other prehistoric sites in the Near East with evidence for early plant domestication and agriculture (e.g. Davis 1982; Moholy-Nagy 1983; Solecki and Solecki 1970).

A classification system for ground stone tools through the Neolithic period has been developed by K.I. Wright (1992). This system is important because it standardizes the terminology used by prehistorians when describing stone artifacts in their publications, and because it is based on Wright's comparative study of ground stone assemblages from Levantine sites (K.I. Wright 1991, 1992, 1993). Wright's recent ground stone reports are among the most sophisticated in the southern Levant from any period, and her classification scheme is the most complete yet developed for use in this region.

Chalcolithic Period and Early Bronze Age I (ca. 4700-3200 BCE)

Certain types of ground stone artifacts are 'type fossils' in the succeeding Chalcolithic period and Early Bronze Age I, and evidence supports a ritual function for many of them. Although a range of ground stone tools is known from sites of this period, basalt vessels and mortars, many of which were elaborately carved and decorated, have been the focus of most studies of proto-historic ground stone tools (e.g. Amiran and Porat 1984; Braun 1990; Rowan 1998; van den Brink, Rowan and Braun 1999). Y.M. Rowan has shown that these prestige objects were acquired through long-distance trade, and that their high cost of manufacture and deposition in caches evidences their ritual function. Braun's survey of Early Bronze I basalt bowls led him to conclude that these objects were multifunctional: two bowls found in domestic contexts bore deep channels worn by rotary motion, while vessels found in tomb contexts did not exhibit wear marks (Braun 1990: 94). This may demonstrate a symbolic function for the mortuary artifacts.

Another type of stone artifact found almost exclusively in Chalcolithic settlements in the Golan Heights is the basalt pillar figure. C. Epstein believed that these pillar stands were used in a domestic cult to promote fertility; the majority of the excavated pillar figures were found in houses, usually in positions that suggested their original placement on shelves (Epstein 1998: 230). All the known pillar figures have a depression on their tops that Epstein believed "served as a receptacle for propitiatory offerings, through which it was hoped to guarantee the basic subsistence needs of the household" (230). It is clear from the high degree of technical skill required to fashion them and their symbolic representations of parts of human and animal anatomy (which can be compared with other examples of Chalcolithic art) that they served a specialized function.

Several of the published specimens are quite schematic, and are really no more than tall, shallow mortars with no plastic decoration (Epstein 1998: Plates XXXII:5; XXXIII: 12). Epstein opposed the idea that they were used as mortars (personal communication), although a cursory examination of several examples on display in the Israel Museum in Jerusalem revealed evidence of use-wear beyond that of a receptacle.

U. Avner's investigations in the southern Negev and Sinai have led to the identification of several hundred sites with evidence for cultic activity dating to the fifth-fourth millennium BCE (Avner 1984, 1990, 1993). Many of these sites include *stelae* standing alone or in groups with associated architecture and stone features and artifacts, including tables, basins (or mortars) and 'altars' constructed of flat stones (Avner 1984: 115). Two groups of quern triads with their handstone counterparts were found in association with two separate *stele* installations in the Uvda Valley (Avner 1990: 135). Avner interpreted the querns as offerings symbolizing the fertility of the land, or as equipment used to grind flour for religious ceremonies (Avner 1990: 135).

Middle and Late Bronze Ages and the Iron Age (ca. 2000-586 BCE)

Less is known about ground stone tools in use during the Middle and Late Bronze Ages and the subsequent periods, but this is not due to a lack of such artifacts, as they are pervasive in Bronze and Iron Age strata.[9] Although specialists in pottery, lithics, glass and other classes of material culture have long focused on artifacts excavated from these contexts, no real specialists in the analysis of ground stone objects from the 'historic periods' have emerged. As a result, there are no comprehensive studies of grinding implements from the Bronze Age, no standard terminology for discussing them, no consistently used typology of tool forms and no standards for published illustrations of ground stone artifacts in site reports.

State of the Research

A few studies focusing on Bronze and Iron Age ground stone assemblages have appeared in excavation reports in recent years. Most reports present the material in catalogue form along with other 'small finds' (e.g. Ben-Tor 1987; Brandl 1993; Dorrell 1983; Goldsmith, Ben Dov and Kertesz 1999; Sass 2000; Singer-Avitz 1989), are primarily descriptive and have not employed the analytical techniques that have been applied to prehistoric and proto-historic material in the region. Several specialist reports have appeared in recent publications that focus on the ground stone assemblage from a specific site (Hovers 1996; Milevski 1998; Petit 1999); each of these reports uses a different classification and typology system for the ground stone tools they discuss, making comparisons between even these small assemblages difficult. Although these publications of otherwise overlooked material are commendable, they are all site specific

[9] The Iron Age is included here as most reports consider Bronze and Iron Age ground stone together.

and suffer from problems resulting from the standards of their excavation, curation and publication.

Overview of Problems

The fundamental problem is the unsatisfactory way in which these artifacts are collected during the course of excavation: many archaeologists are guilty of leaving these heavy, awkward objects in the field, making proper documentation, analysis and publication impossible. Ground stone artifact collection in the field often falls victim to what S.A. Rosen, a lithics specialist, called the "pretty piece syndrome," whereby poorly preserved or unidentifiable artifacts are overlooked in favor of complete, well-made and decorated items (1997: 37). Incomplete artifact collection results in weak ground stone reports, hinders inter-site assemblage comparisons and quantitative analyses, and renders difficult the possibility of using the data to answer specific questions about stone tool use during this period.

E. Hovers suggested that the origin of the omission of ground stone analyses in the historic periods lay in the early days of archaeological excavation in this region, when stratigraphy, based primarily on typological classifications of pottery, was the main focus (Hovers 1996: 171). The fact that no clear changes in ground stone tool morphology through time could be seen by the early excavators allowed these artifacts to fall by the wayside in excavation reports. In addition to focusing on typology, Bronze and Iron Age excavations in the Near East were "developing on a scholarly trajectory removed from that of similar societies in Europe and North America" (Rosen 1997: 18). Since early investigators were primarily trained as text scholars, they were simply unaware of anthropological methods and material culture analyses being developed elsewhere. Thus, lithic studies and other subfields of archaeology were absent from Bronze and Iron Age archaeology in the Near East prior to the 1970s (Rosen 1997: 19).

Writers of ground stone reports have sometimes been pessimistic about reconstructing the functions of stone tools in antiquity. P. Dorrell, in his study of the ground stone artifacts from Jericho (1983), wrote:

> "...it might be instructive to take the matter a stage further and to attempt to discuss stone tools and vessels as indications not only of period but also of particular economic activities. Such an attempt, however, would be fraught with obvious difficulties. The artifacts only rarely give unambiguous evidence of their use. A quern, for instance, strongly suggests the exploitation of millable grain, but a mortar might have been used for several different purposes: pounding nuts, grain, or fruit, grinding pigment, plaster, salt, or bituminous limestone, and so on" (489).

Advances in ground stone tool analysis in other parts of the world since Dorrell's report have shown how the identification of stone tool use-wear and organic residues allow for the identification of tool function. Although Dorrell was skeptical of ever knowing the actual functions of the stone tools with which he was working, he at least suggested some of the different kinds of materials that could have been processed using this equipment.

Despite the problems described above, enough is known about the general types of ground stone tools from Bronze and Iron Age contexts to identify parallels between the artifacts found in temples and sanctuaries and those found in other contexts. The typology and catalogue presented in Chapter 3 includes a description of every type of tool included in the assemblage and uses published ground stone reports for comparative material and other evidence for the functions of these implements.

Avenues for Future Research

There are various lines of evidence available to ground stone specialists and other investigators that can be used to analyze stone material from Bronze and Iron Age contexts. The analytical methods described above can certainly be applied to Bronze and Iron Age material, and iconographic and textual sources from the southern Levant and surrounding regions can be used critically to shed light on the functions of certain ground stone equipment (e.g. Breasted 1948). In addition, ethnographic accounts of stone tool use among the inhabitants of 20th century CE Palestine provide information about the functions of similar implements in the past (e.g. Avitzur 1976; Dalman 1933; Hirschfeld 1995). Experiments using ancient implements and modern reconstructions (e.g. Neri 1993; Samuel 1989) can also be used to clarify aspects of ground stone tool use in antiquity. There is great potential for combining information from these sources with the archaeological data to reconstruct aspects of ground stone tool use in the southern Levant during the Bronze and Iron Ages.

Ground Stone Tool Use and Cultic Continuity

As was demonstrated in this chapter, ground stone tools with a ritual character are known from at least as early as the Chalcolithic period in the southern Levant. Basalt and phosphorite vessels/mortars from diverse Chalcolithic and Early Bronze I settlements probably served a ritual function, as did the basalt pillar figures found mainly in Chalcolithic sites in the Golan Heights. There is also a clear association between several types of ground stone tools – including tables, mortars, querns and handstones – and cultic sites with *stelae* in fifth-fourth millennium sites in the Negev. The tradition of using open stone vessels, mortars, tables, querns and handstones in cultic contexts continued into the MB-LB, along with many other types of ground stone tools.

Much later textual sources reveal that issues of purity necessitated the use of vessels made of stone in temple ritual and other activities (Magen 1994: 19*-23*). From the second half of the first millennium BCE to the first century of the Common Era, vessels carved of white and bituminous chalk appear in quantity in sites in Jerusalem, Judea and Galilee. According to Jewish law, stone, in contrast to ceramic and other materials, cannot become ritually impure. This made stone vessels desirable alternatives to ceramic and other vessels that had to be broken or discarded once contaminated (Cahill 1992: 232). Although a connection between the use of stone vessels and a concept of purity preceding the Second Temple period is purely speculative, purity may have been an attribute of stone that made it desirable for use in Bronze Age cult sites.

Conclusions

This review of the history of ground stone tools in the southern Levant has demonstrated how much we have yet to learn about the functions of these ubiquitous implements in antiquity, especially in the Bronze and Iron Ages. Ground stone tools from this period could be analyzed using the analytical techniques described above to reconstruct their uses in the past: this study employs use-wear analysis and the macroscopic identification of residues where possible to reconstruct tool function. Chapter 3 presents a typology and catalogue of the ground stone artifacts from MB-LB temples and sanctuaries analyzed in detail in Chapter 4 and from other cult sites with comparable material in the southern Levant.

Chapter 3

TYPOLOGY AND CATALOGUE OF GROUND STONE ARTIFACTS FROM MIDDLE AND LATE BRONZE AGE TEMPLES AND SANCTUARIES

Now that the state of our knowledge of ground stone tools from the southern Levant through the Bronze and Iron Ages has been reviewed, a typology and catalogue of the material from MB and LB temples and sanctuaries can be presented. It includes those stone objects made of locally-available materials that served some sort of utilitarian function in the context in which they were found, including vessels, mortar bowls, and mortars, basins, tables, grinding slabs and querns, pestles, handstones, pounders and hammerstones, perforated stones and a few 'miscellaneous' objects. This catalogue provides as complete an account as possible of published ground stone tools from temples and sanctuaries in the southern Levant, including objects from sites chosen for inclusion in this study, artifacts from other sacred sites and some unpublished material.[10] As noted in Chapter 2, stone objects made of materials not locally available – like alabaster, serpentine, diorite, and other types of stone – are not included in this study, as they are considered to be elite, imported objects.

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[10] There are a number of ground stone objects that are either mentioned in text or shown in photographic plates in temple excavation reports that are not illustrated clearly enough to be included in this typology and catalogue. These objects are mentioned in the individual temple analyses in Chapter 4, marked with this symbol (°) and included in the summary in Chapter 5. Several of these objects are types (like 'incense altars') not considered in this study.

Ground Stone Classification and Typology

As was discussed in Chapter 2, there is no consistently used typology or classification system for ground stone artifacts from 'historic' contexts in the southern Levant. Before the emergence of specialist studies, these objects were typically published along with other 'small finds,' including reports of MB-LB temples (e.g. Loud 1948, Rowe 1940, Tufnell et al. 1940, Yadin et al. 1958, 1960, 1961). Despite the trend toward including specialist reports in site publications, more recent publications of MB-LB temples continue to include ground stone tools with other 'small finds' (e.g. Franken 1992; James and McGovern 1993; Stern 1984). The lack of consistent terminology and illustration standards for ground stone artifacts in these reports, especially those published in the first half of the 20th century, makes it difficult to even recognize the type of tool being described and prevents their placement into a typological system.

Ceramic typologies have focused featured prominently in archaeological research in the southern Levant, and it has been clearly demonstrated that certain ceramic vessels are chronological indicators. This does not hold true for ground stone tools, however. Generally speaking, most types of ground stone processing equipment do not change morphologically or functionally from their first appearance in Upper Paleolithic strata through ethnographically documented stone tool use among 20th century CE inhabitants of Palestine. Since most types are not useful for answering questions concerning chronology and dating, ground stone typology must then serve a different purpose. In this study, the typological scheme stresses artifact function based on tool morphology and physical evidence of tool use-wear. Further evidence for stone tool function can be reconstructed from its archaeological provenance, which is examined in detail in Chapter 4.

It has been demonstrated that a direct correlation between function and form cannot be assumed, and it may be that an absolute typology of ground stone tools is not only impossible, but *irrelevant*, since tool function can only be identified through physical and chemical analyses. In her discussion of ground stone tools from the prehistoric Levant, K.I. Wright concluded that:

> "the final forms of ground stone tools often appear to be conditioned not by deliberate manufacture of types according to norms, nor for highly-specific functions, but by complex patterns relating to raw material variability, duration of use, and refashioning" (1991: 33).

These and other factors affected the final physical appearance of stone tools recovered from archaeological excavations, which further complicates the placement of these artifacts into typological categories.

This study generally follows the classification system (but not typology) for ground stone tools developed by K.I. Wright for describing ground stone material from the prehistoric Levant (1992). This promotes a consistency in the use of terms that will hopefully be adopted by others working on ground stone tools from the historic periods. Not all of her types and subtypes are relevant here, as the material included in her system dates only up to the Neolithic period and certain prehistoric forms are not found in later contexts. In addition, numerous forms appear in Bronze Age contexts that are unknown in the Neolithic period, which necessitates additional terms and types.

The Assemblage

The typology begins with stone vessels and mortars, as they are the best known types of ground stone tools found in MB and LB cult sites.[11] It is followed by basins and tables, which played special roles in the temples and sanctuaries in which they were found. The typology continues with processing equipment, including grinding slabs and querns, pestles, handstones, pounders and hammerstones, and other objects that are ubiquitous in non-temple contexts in this region and found in sacred contexts as well. A few special stone objects like potter's wheels and roof-rollers are also included, as several of each has been found in temple contexts. Most of the objects in this catalogue originated in those temples and sanctuaries analyzed in Chapter 4, although some comparable artifacts are included from other MB-LB cult sites.[12] Where possible, each artifact type is illustrated by a published example from a temple assemblage discussed in Chapter 4. Some sub-types have not been illustrated in publications and thus cannot be included here.

Vessels

Although they are morphologically similar to mortars, stone vessels are distinguished by several characteristics: "a well-defined, uniform rim; a well-defined base; a continuous exterior surface; consistent (or gradually changing) thickness of walls; (and) exterior finishing" (K.I. Wright 1992: 75). Although the term 'vessel' has

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[11] I am indebted to R. Sparks for allowing me access to the typology of second millennium BCE stone vessels she developed in her PhD dissertation, which is currently being prepared for publication.

connotations of container, no function for these objects is implied. Stone vessels may have been used as containers or as mortars; only by examining physical evidence for artifact use-wear could this distinction to be made.[13] Notes on the physical condition of the objects, when they were accessible, are provided in the catalogue below and in the temple analyses in Chapter 4.

Stone vessels considered in this study are made of locally available materials, which include basalt, limestone, sandstone, flint and beachrock. Basalt bowls were usually made of dense, or nonvesicular, basalt, which gives them a finer appearance and a smoother surface than vesicular basalt. The latter material was typically used to fashion processing tools, like grinding slabs, querns and mortars. Stone vessels are the most frequently illustrated types of ground stone tools in publications of Bronze and Iron Age sites in the southern Levant, and more is known about them than other type of stone artifact. This study of vessels and mortars follows R. Sparks' typology of stone vessels from the second millennium southern Levant, with some additions (Sparks 1998).

Plates

Plates, called 'platters' by K.I. Wright, are defined by their large ratio of outer rim diameter to height and inner rim diameter to depth (K.I. Wright 1992: 75). Type 1 plates include those with circular or oval plan view and flat base (1A), ring base with no

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[12] The Timna sanctuary is not included in the temple analyses in Chapter 4 because of its distant location in the southern Aravah, and because it was an Egyptian-style temple used mainly by Egyptians working in the local mines. Canaanites may have visited the Timna sanctuary as well (Giveon 1978)

[13] When possible, I examined the ground stone artifacts included in this study to identify macroscopic evidence of tool use wear. The examined artifacts are marked with an asterisk (*) in the text.

handles (1Bi) and ring base with lug or bar handles (1Bii). The single type 2 plate (2) is rectangular in plan view and has lug handles (Sparks 1998: 22-24).

Plates Type 1A: Circular or Oval Plan View, Flat Base

Temple/Stratum	Locus/Description	Material/Object #	Reference
Bet Shean IXA LBIIA	L 1236, Sacrificial Altar Room	Basalt, Penn ID 29-107-372	Unpublished
Bet Shean VII LBIIB	L 1371, Western Outer Courtyard	Basalt	James and McGovern 1993: 121.10

Plates Type 1Bi: Circular or Oval Plan View, Ring Base, No Handles

Temple/Stratum	Locus/Description	Material/Object #	Reference
Bet Shean IXA LBIIA	L 1331, Near Lion and Dog Relief	Basalt, Penn ID 29-107-392	Unpublished
Bet Shean IXA LBIIA	L 1331, Near Lion and Dog Relief	Basalt, Penn ID 29-107-430	Unpublished
Bet Shean IXA LBIIA	L 1333, Oven Room	Basalt, Penn ID 29-107-449	Unpublished
Bet Shean VII LBIIB	L 1089, Southern Outer Courtyard	Basalt	James and McGovern 1993: 121.6
Bet Shean VII LBIIB	L 1086, Entrance Hall	Basalt	James and McGovern 1993: 121.7
Bet Shean VIII LBIIB	L 1108, Under Western Outer Courtyard	Basalt or Diorite	James and McGovern 1993: 123.1

Plates Type 2: Rectangular Plan View

Temple/Stratum	Locus/Description	Material/Object #	Reference
Hazor H 1B LBIIA	L 2156, Pit (*favissa*) in Outer Court	Basalt, H1045/1	Yadin et al. 1961: CCLXXVIII: 6; CCCXXXIII: 16

All known plates have been excavated from sites in the Jordan Valley and surrounding area. The Type 2 plate from the Area H temple at Hazor, which is a shallow vessel with a lug handle that extends from rim to base, is the only example of its kind known from the second millennium southern Levant. Sparks noted similarities between it and the basalt tables found in the Stratum 1B and 1A temples in Area H at Hazor, and suggested that this plate was manufactured on site (Sparks 1998: 24).

Bowls

Bowls are open vessels characterized by regular walls that follow the outer contours. They feature deeper interior cavities than plates, and are more finely made than mortar bowls and mortars (below). Second millennium stone bowls found in MB-LB sacred contexts include two Type 1D and one Type 2B everted bowls, one carinated bowl, three pedestal bowls and two tripod bowls.

Everted Bowls

Everted bowls are characterized by their everted walls. According to Sparks' typology, Type 1 everted bowls are circular or oval in plan view with a flat base (1A), disc base (1B), concave base (1C) or ring base (1D), while Type 2 everted bowls are rectangular in plan view and have a convex base (2A), flat base (2B) or ring base (2C) (1998: 26).

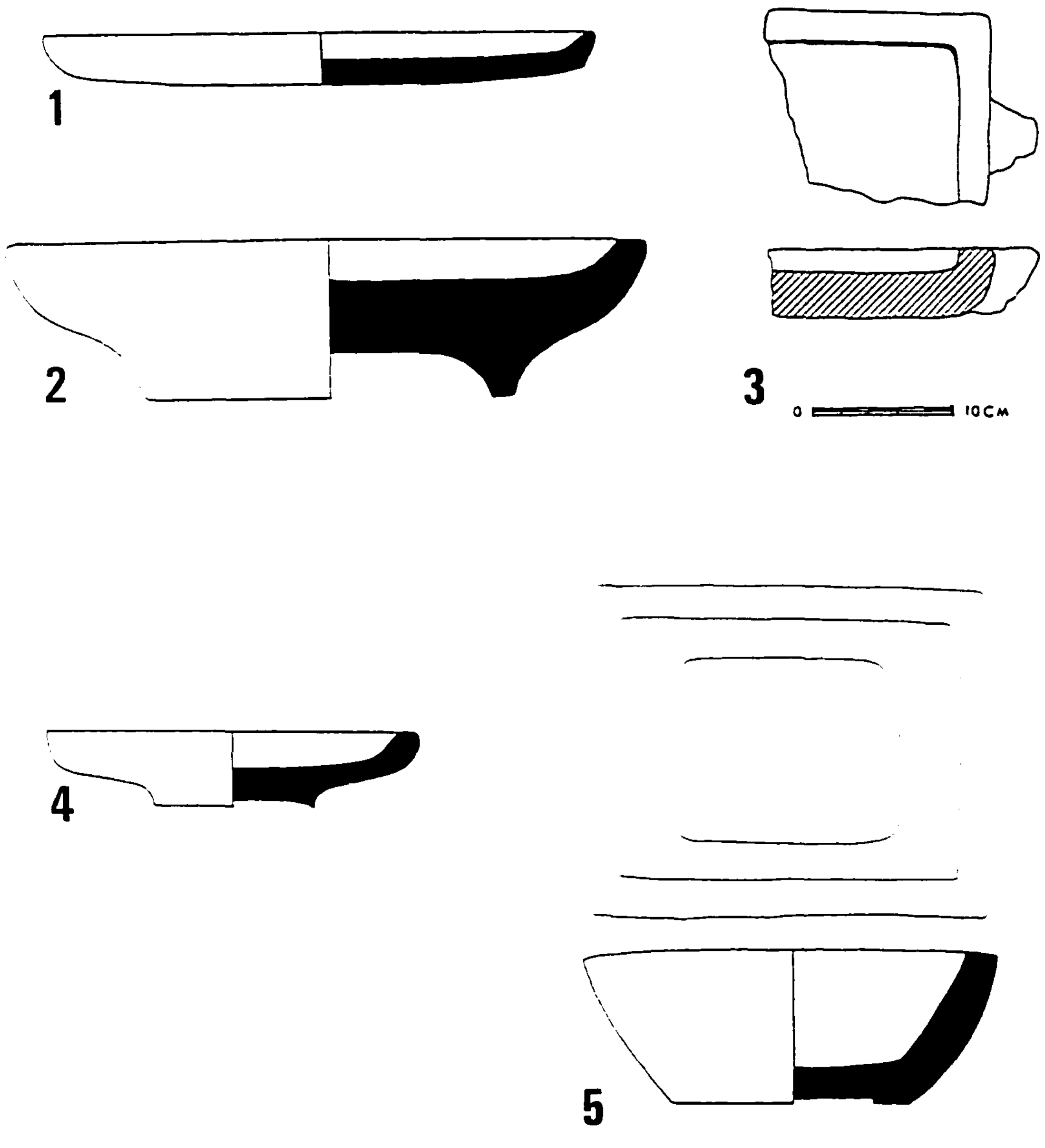

FIGURE 1, Plates and Everted Bowls. **1.1**, Plate Type 1A, from James and McGovern 1993: 121.10; **1.2**, Plate Type 1Bi, from James and McGovern 1993: 121.6; **1.3**, Plate Type 2, from Yadin et al. 1961: CCLXXVIII: 6; **1.4**, Everted Bowl Type 1D, from James and McGovern 1993: 121.5; **1.5**, Everted Bowl Type 2B, from James and McGovern 1993: 122.7.

Everted Bowls Type 1D: Circular or Oval Plan View, Ring Base

Temple/Stratum	Locus/Description	Material/Object #	Reference
Bet Shean VII LBIIB	L 1106, Northern Outer Courtyard	Basalt	James and McGovern 1993: 121.5
Bet Shean VIII LBIIB	L 1304, Portico of Northern Outer Courtyard	Basalt	James and McGovern 1993: pl. 48l
Hazor F 1B LBIIA	L 8019, Cult Place	Basalt, F133/2	Yadin et al. 1960: CXLIX: 6

Everted Bowls Type 2B: Rectangular Plan View, Flat Base

Temple/Stratum	Locus/Description	Material/Object #	Reference
Bet Shean Late VII LBIIB	L 1089, Southern Outer Courtyard	Basalt	Rowe 1940: XXII:20 James and McGovern 1993: 122.8 (describes .7); pl. 48m

Carinated Bowls

Bowls of this type are characterized by their carinated walls. Only one carinated stone vessel is known from the second millennium southern Levant.

Temple/Stratum	Locus/Description	Material/Object #	Reference
Hazor H 1A LBIIB	L 2113, Holy of Holies	Basalt, H136	Yadin, et al. 1961: CCLXXXIV: 1; CCCXXXI: 4

The large carinated bowl from the Stratum 1A temple at in Area H at Hazor is decorated with an incised band of running spirals. P. Beck noted similarities between this vessel and carinated ceramic bowls dating to MBIIB, and suggested that the stone example originated in the earlier phase of the temple. She also related this carinated basalt bowl to silver bowls of similar form from Byblos, and the spiral motif to objects from Hazor and Syria dating to MBIIB (Beck 1989: 329-330).

A parallel to this bowl was found at Hazor during the 1995 season of renewed excavation at the site. It is part of the the largest anthropomorphic stone sculpture from a Bronze Age context in Israel, unearthed to the right of the entrance of the throne room LBA palace at in Area A (Ben-Tor and Rubiato 1999: 22). The sculpture, which is in the Israel Museum in Jerusalem, depicts a headless figure standing behind and attached to a carinated bowl 30 in (76.2 cm) in diameter with a running spiral relief similar to that on the carinated bowl from Area H (Ben-Tor and Rubiato 1999: 35). Although larger than the carinated bowl found in the Area H temple, this piece of sculpture shows a similar artistic style and may have been produced at the same workshop, perhaps located at the site.[14]

Pedestal Bowls

This type of bowl is characterized by its pedestal foot. Vessels in this category are reminiscent of pedestalled bowls known from Chalcolithic and Early Bronze I contexts, Rowan's Types 4A and B (1998: 150).

Temple/Stratum	Locus/Description	Material/Object #	Reference
Hazor H 1A LBIIB	L 2113, Holy of Holies	Basalt, H117	Yadin, et al. 1961: CCLXXXIV: 2; CCCXXXIV: 4
Deir 'Alla Phase E LBIIB	Room E2, Kitchen	Basalt, 745	Franken 1992: 4-7:22
Megiddo VIIA LBIIB-Iron I	L 2048, In Platform; Traces of 'hematite' grinding	Basalt	Loud 1948: 262.15

[14] This may strengthen Beck's attribution of the carinated bowl from Area H to the "Canaanite Group" of artworks characterized by a combination of Syrian and Egyptian features that were perhaps produced by a local atelier (1989: 338).

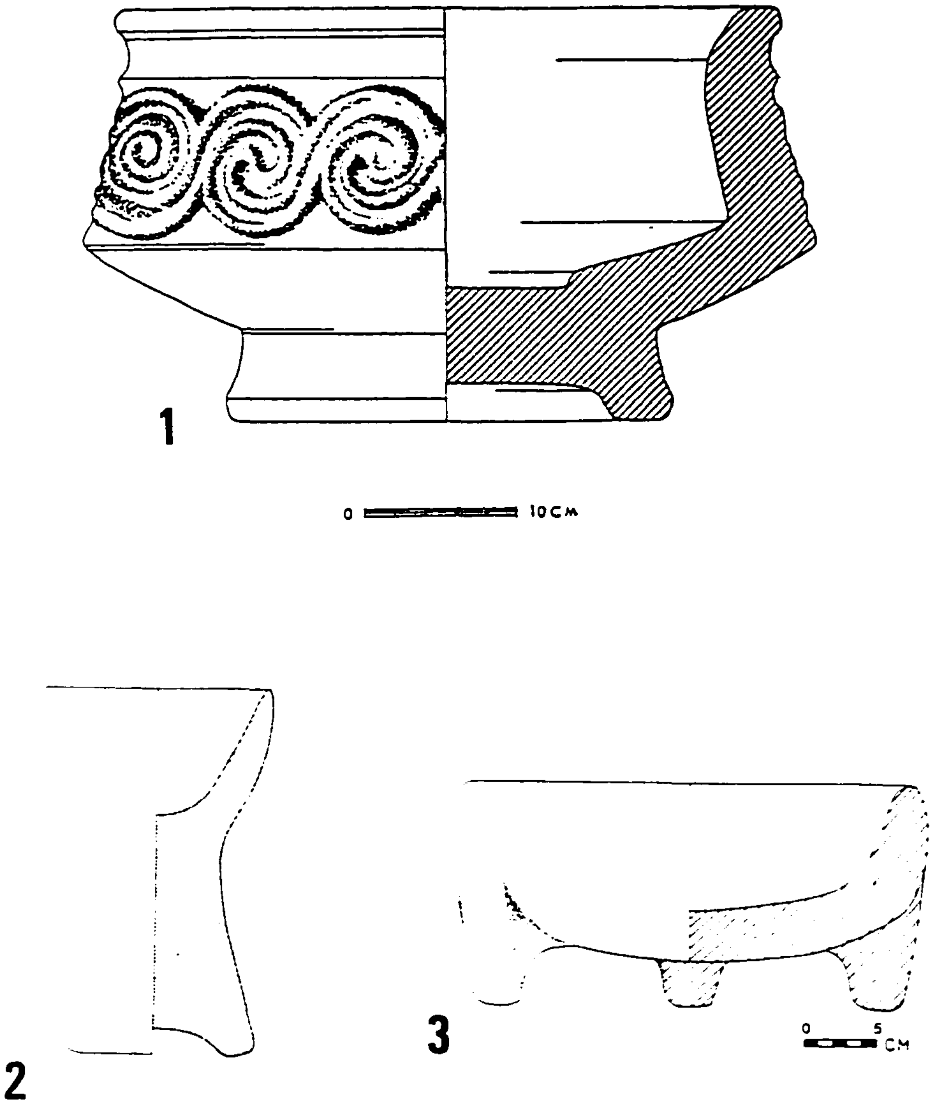

FIGURE 2. Carinated Bowls, Pedestal Bowls and Tripod Bowls. **2.1.** Carinated Bowl, from Yadin et al. 1961: CCLXXXIV: 1; **2.2.** Pedestal Bowl, from Loud 1948: 262.15; **2.3.** Tripod Bowl Type 1, from Stern 1984: 4: 41.

Three of six published pedestal bowls from the second millennium southern Levant were found in MB-LB temple contexts. The others were found in mortuary contexts at Dan and Lachish and in association with the sanctuary at Mt. Ebal (Sparks 1998: 48). Their wide diffusion in ritual contexts suggests that they may have been a specific type of cultic vessel used throughout the region.

Traces of red pigment were found in the example from Temple 2048 at Megiddo (Loud 1948: 262.15), which demonstrates its use as a mortar to grind pigments at some time during its life-history. Its deposition in the platform of the final phase of the temple at Megiddo suggests that it was used to grind pigments in the holiest part of the temple complex. No remains of pigment were reported in the other two examples.

Tripod Bowls

Tripod bowls are vessels standing on three legs (or feet) (K.I. Wright 1992: 77). Tripod bowls became widespread in the southern Levant in MBIIB, were rare in the LBA and flourished again through the Iron Age (Buchholz 1963). The most common type from all periods is Type 1, a vessel with three freestanding feet. Type 2 tripod bowls feature cross-bars connecting each foot to a central stem (Sparks 1998: 49-52); this type seems to have flourished in the Early Iron Age and may be characteristic of Phoenician material culture (Gal 1994: 22*-23*).

Tripod Bowls Type 1: Freestanding Feet

Temple/Stratum	Locus/Description	Material/Object #	Reference
Mevorakh X LBIIA	L 218, Near West Bench and Platform	Limestone	Stern 1984: 4: 41
Hazor C IA LBIIB	L 6130, Outside Sanctuary Entrance	Basalt, C12967	Yadin et al. 1958: LXXXVII: 22

Only two tripod bowls out of some 70 published examples have been found in MB-LB temple and sanctuaries (Sparks 1998: 49-52). Evidence for pecking and pounding in the tripod bowl from the temple at Mevorakh demonstrates its function as a mortar during its life history, although its final deposition on a bench near the temple platform may indicate that it was left as an offering.

Mortar Bowls

The term 'mortar bowl' denotes an intermediate stage between a vessel and a mortar (K.I. Wright 1992: 75). The object still has a rim and base, but the walls are thicker and sometimes irregular and the inner contours do not always follow the outer contours.

Upright Mortar Bowls

Upright mortar bowls are characterized by their straight or convex upright walls. Type 1 upright mortar bowls are characterized by straight walls and a flat base (1A) or a concave underside (1B); Type 2 upright mortar bowls have convex walls with a convex or flattened base (2A), flat base (2B), flat base with concave underside (2C) or ring base (2D) (Sparks 1998: 46).

Upright Mortar Bowls Type 1A: Straight Walls, Flat Base

Temple/Stratum	Locus/Description	Material/Object #	Reference
Hazor H 1A LBIIB	L 2113, Holy of Holies	Basalt, H135	Yadin et al. 1961: CCLXXXIV: 4

Upright Mortar Bowls Type 2A: Convex Walls with Convex or Flattened Base

Temple/Stratum	Locus/Description	Material/Object #	Reference
Timna LBIIB-Iron I	L 104	Limestone. 226/12	Rothenberg 1988: 90.3

Upright Mortar Bowls Type 2B: Convex Walls. Flat Base

Temple/Stratum	Locus/Description	Material/Object #	Reference
Timna III LBIIB-Iron I	L 103/104	Limestone. 248/4	Rothenberg 1988: 90.4
Timna III LBIIB-Iron I	L 104	Red Sandstone. 275/16	Rothenberg 1988: 90.5
Timna II LBIIB-Iron I	L 106	White Sandstone. 258/19	Rothenberg 1988: 91.5
Timna Surface	L 106	White Sandstone. 409/1	Rothenberg 1988: 90.1

Upright Mortar Bowls Type 2C: Convex Walls. Flat Base with Concave Underside

Temple/Stratum	Locus/Description	Material/Object #	Reference
Hazor H 1B LBIIA	L 2156. Pit (*favissa*) in Outer Court	Basalt. H1260/3	Yadin et al. 1961: CCLXXVIII: 4

Everted Mortar Bowls

Like everted bowls. everted mortar bowls are characterized by their everted walls. Everted mortar bowls are feature a convex or flattened base (1). flat base (2). flat base with concave underside (3). disc base (4). concave disc base (5) or ring base (6) (Sparks 1998: 42-46).

Everted Mortar Bowls Type 1: Convex or Flattened Base

Temple/Stratum	Locus/Description	Material/Object #	Reference
Timna Unknown	No provenance	Red Sandstone	Rothenberg 1988: 90.2

Everted Mortar Bowls Type 2: Flat Base

Temple/Stratum	Locus/Description	Material/Object #	Reference
Bet Shean VII LBIIB	L 1089, Southern Outer Courtyard	Quartzite	James and McGovern 1993: 122.2
Hazor H 2 LBI	L 2143, Passage between Hall and Holy of Holies	Basalt, H647	Yadin et al. 1961: CCLXX: 8; CCCXXXIV: 1

Everted Mortar Bowls Type 3: Flat Base with Concave Underside

Temple/Stratum	Locus/Description	Material/Object #	Reference
Hazor H 1B LBIIA	L 2123, Holy of Holies	Basalt, H435/1	Yadin et al. 1961: CCLXXVIII: 5

Everted Mortar Bowls Type 5: Concave Disc Base

Temple/Stratum	Locus/Description	Material/Object #	Reference
Hazor H 2 LBI	L 2133, Holy of Holies upside-down on altar platform	Basalt, H1170	Yadin et al. 1961: CCLXX: 7; CCCXXXIV: 2

Sparks observed that the distribution of everted mortar bowls seems to center at Hazor, where 18 of 41 total objects were found, and suggested that these types of mortar bowls were produced at the site (Sparks 1998: 42-46).

Pedestal Mortar Bowls

Like the pedestal bowls described above, few pedestal mortar bowls are known from the second millennium southern Levant. Two of twelve published examples were found in MB-LB temple contexts.

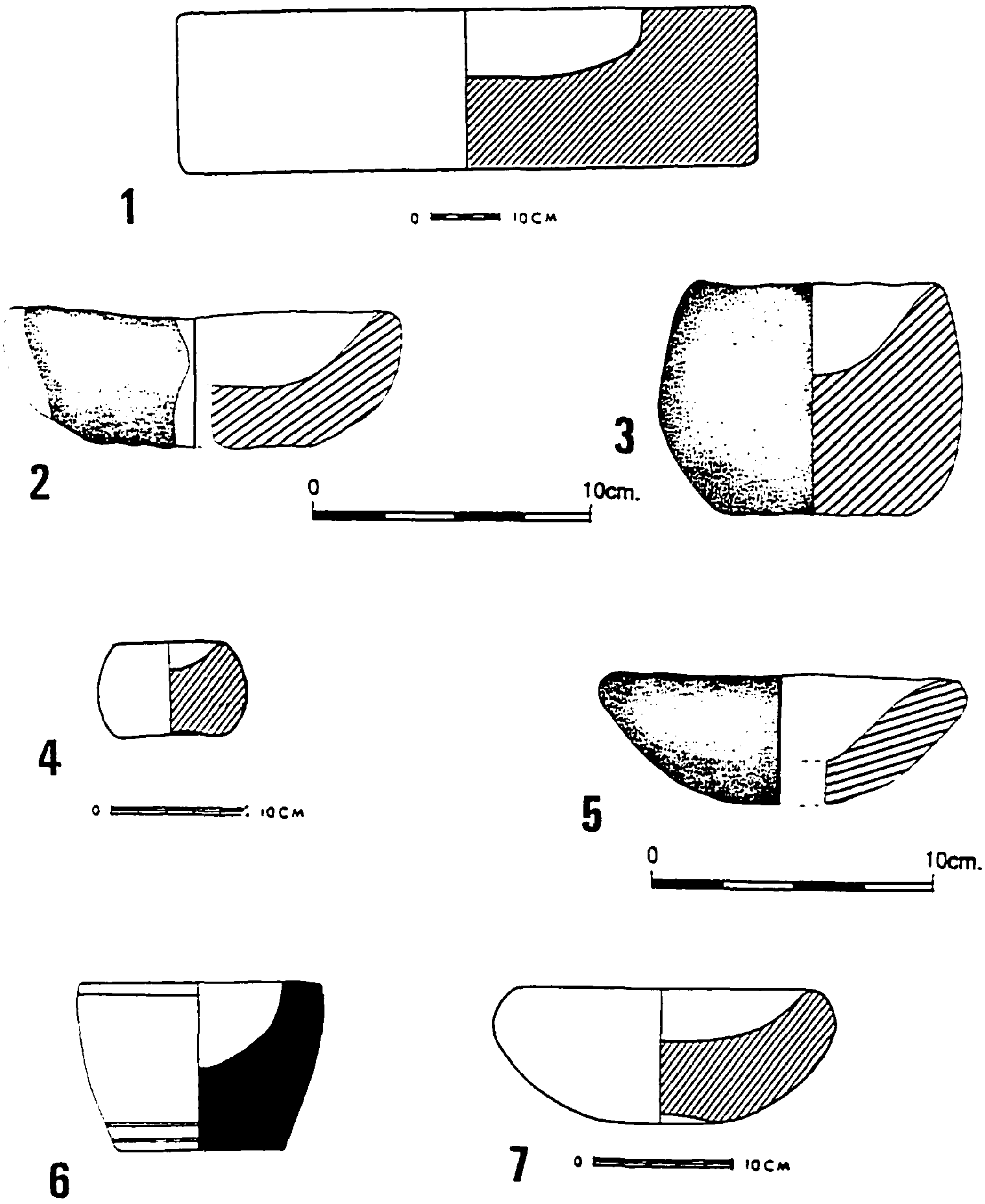

FIGURE 3. Mortar Bowls. **3.1.** Upright Mortar Bowl Type 1A. from Yadin et al. 1961: CCLXXXIV: 4; **3.2.** Upright Mortar Bowl Type 2A. from Rothenberg 1988: 90.3; **3.3.** Upright Mortar Bowl Type 2B. from Rothenberg 1988: 90.1; **3.4.** Upright Mortar Bowl Type 2C. from Yadin et al. 1961: CCLXXVIII: 4. **3.5.** Everted Mortar Bowl Type 1. from Rothenberg 1988: 90.2; **3.6.** Everted Mortar Bowl Type 2. from James and McGovern 1993: 122.2; **3.7.** Everted Mortar Bowl Type 3. from Yadin et al. 1961: CCLXXVIII: 5.

Temple/Stratum	Locus/Description	Material/Object #	Reference
Bet Shean VII LBIIB	L 1105, Northern Outer Courtyard Near Altar	Basalt	James and McGovern 1993: 122.6
Deir 'Alla Phase E LBIIB	*Cella*	Basalt, 389	Franken 1992: 3-9: 19

A. Rowe called the example found in the Stratum VII temple at Bet Shean a "cylindrical basalt offering – or incense-stand" (Rowe 1940: 10); it was associated with ashes, charred substances and some fragments of charred bones. The pedestal mortar bowl from Deir 'Alla, which was found in the *cella*, had a broken rim and evidence of wear inside of it (Franken 1992: 31).

Tripod Mortar Bowls

Unlike the tripod bowls described above, tripod mortar bowls are not further subdivided (1).

Temple/Stratum	Locus/Description	Material/Object #	Reference
Bet Shean VIII LBIIA	L 1310, Under Northern Outer Courtyard	Basalt	James and McGovern 1993: 123.9; pl. 48k

Footed Mortar Bowls with Four Legs

These mortar bowls are a variant of the tripod mortar, but feature four legs (or feet) instead of three. Footed mortar bowls are characterized by four legs and are round in plan view (1), square or rectangular in plan view (2) or have an unidentified plan view (3) (Sparks 1998: 53).

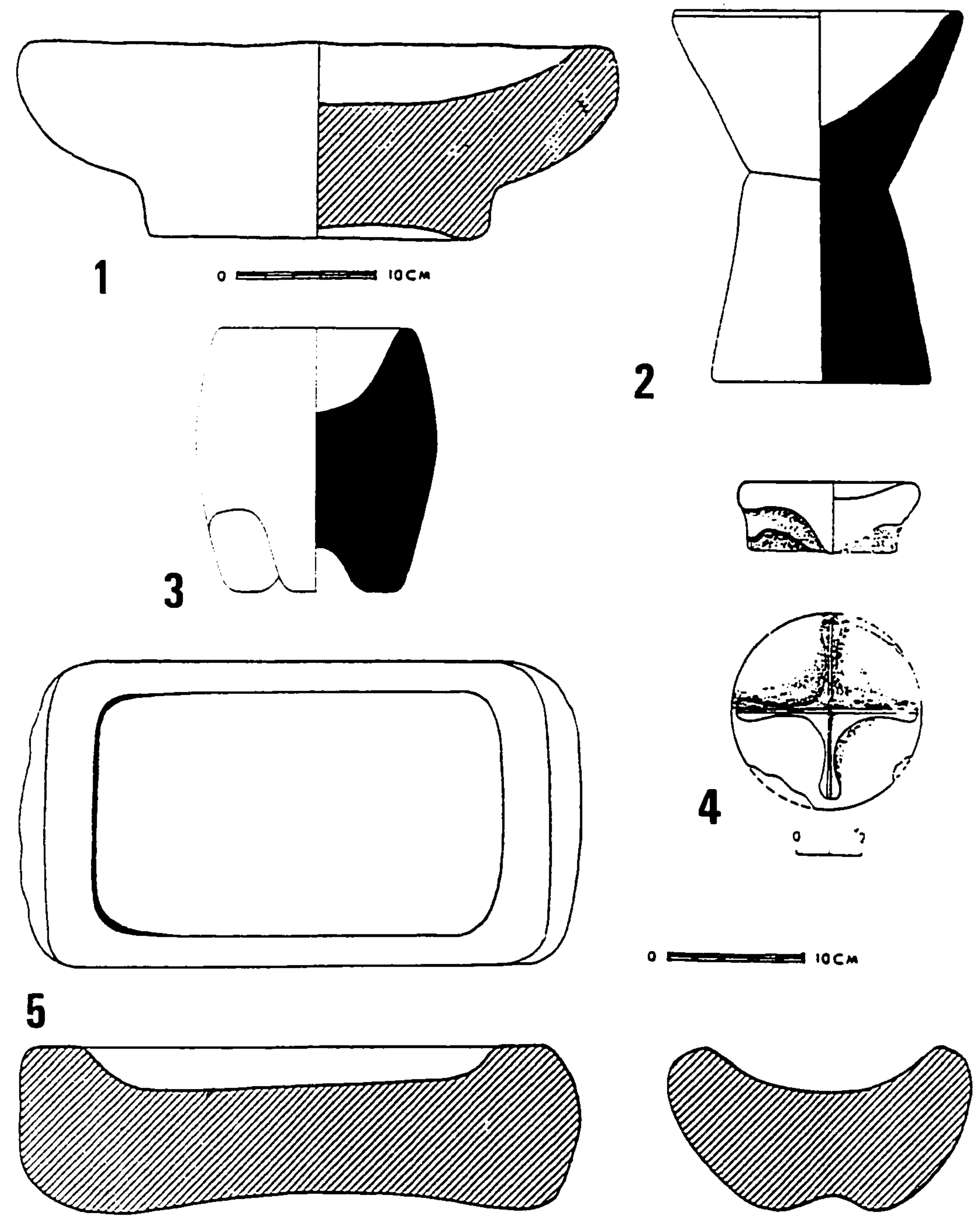

FIGURE 4. Everted Mortar Bowls, Pedestal Mortar Bowls, Tripod Mortar Bowls and Footed Mortar Bowls. **4.1.** Everted Mortar Bowl Type 5, from Yadin et al. 1961: CCLXX: 7; **4.2.** Pedestal Mortar Bowl, from James and McGovern 1993: 122.6; **4.3.** Tripod Mortar Bowl, from James and McGovern 1993: 123.9; **4.4.** Footed Mortar Bowl Type 1, from Yadin et al. 1961: CCLXX: 9; **4.5.** Footed Mortar Bowl Type 2, from Yadin et al. 1961: CCLXXVIII: 8.

Footed Mortar Bowls Type 1: Four Legs, Round in Plan View

Temple/Stratum	Locus/Description	Material/Object #	Reference
Hazor H 2 LBI	L 2133, Holy of Holies	Basalt, H950	Yadin et al. 1961: CCLXX: 9; CCCXXXIV: 6

Footed Mortar Bowls Type 2: Four Legs, Square or Rectangular in Plan View

Temple/Stratum	Locus/Description	Material/Object #	References
Bet Shean VIII LBIIA	L 1304, Portico of Northern Temple Courtyard	Basalt	James and McGovern 1993: 123.3; pl. 48g
Hazor H 1B LBIIA	L 2123, Holy of Holies	Basalt, H583	Yadin et al. 1961: CCLXXVIII: 8; CCCXXXIII: 17

Mortars

Mortars are the lower, stationary components in the grinding and pounding toolkit. They typically feature one single deep cavity in which grinding and pounding activities are accomplished with a pestle or similar tool, and are formally distinguished from vessels by their lack of rim and roughly worked exterior. Physical evidence of pounding or grinding is often visible on their use surfaces, and grinding wear is usually most pronounced on the surface near the opening (K.I. Wright 1992: 65).

Mortars assumed a variety of shapes in the southern Levant during the Bronze Age, from large, roughly worked boulders, to cupmarks cut into bedrock and other stone surfaces, to small portable artifacts used to process materials in small quantities. The few mortars that have been found in MB-LB sacred contexts probably served various utilitarian functions related to the processing of agricultural materials. Only two types of block mortars from second millennium contexts were identified by Sparks: simple mortars (1) and block mortars (2) (1998: 57).

Mortars Type 1: Simple Mortars

Temple/Stratum	Locus/Description	Material/Object #	Reference
Bet Shean VIII LBIIA	L 1108. Under Southeastern Room	Basalt	James and McGovern 1993: 123.11 (describes .10)
Timna LBIIB-Iron I	L 102	White Sandstone. 257/269	Rothenberg 1988: 91.4
Tell el-Hayyat Phase 4. MBIIB	Forecourt	Limestone	Falconer and Magness-Gardiner 1989b: 258

Vessel and Mortar Fragments

Six rim and base sherds of vessels or mortars whose typological designation is uncertain have been published.

Temple/Stratum	Locus/Description	Material/Object #	Reference
Rims Type 2Bi: Everted. Simple Pinched Rim			
Deir 'Alla Phase E LBIIB	*Cella*	Basalt. 399	Franken 1992: 3-9.13
Bases Type 1B: Flat Base With Straight. Everted Sides			
Bet Shean VII LBIIB	L 1085. Below Floor	Basalt	James and McGovern 1993: 123.10 (describes .11)
Bases Type 3: Ring Base			
Bet Shean VIII LBIIA	L 1108. Under Courtyard	Basalt	James and McGovern 1993: 123.4

Bases Type 5: Base with Three or Four Feet

Bet Shean VIII LBIIA	L 1304, Portico of Northern Temple Courtyard	Basalt	James and McGovern 1993: pl. 48i
Bet Shean VIII LBIIA	L 1108, Under Southeastern Room	Basalt	James and McGovern 1993: 123.6
Bet Shean VIII LBIIA	Below floor of L 1068, Altar Room	Basalt	James and McGovern 1993: 123.5

Basins

Large basins and tanks, which appear as either freestanding objects made of stone or as plaster- or stone-lined mudbrick features, have been found in several temples and sanctuaries in the southern Levant. Basins are essentially deep monumental bowls or mortar bowls (Sparks 1998: 56), and probably served as containers for washing, ablutions, divination or other activities involving large quantities of liquids. Stone basins are round (1), oval (2) or rectangular (3) in plan view, and examples of types 2 and 3 have been found in temple contexts.

Basins Type 2: Oval in Plan View

Temple/Stratum	Locus/Description	Material/Object #	Reference
Timna LBIIB-Iron I	L 106, Floor of Sanctuary	White Sandstone, 468/1	Rothenberg 1988: 23.8
Timna LBIIB-Iron I	L 109	White Sandstone, 466/1	Rothenberg 1988: 23.5
Timna LBIIB-Iron I	L 107, Court West of Sanctuary	White Sandstone, 467/1	Rothenberg 1988: 23.7

Basins Type 3: Rectangular in Plan View

Temple/Stratum	Locus/Description	Material/Object #	Reference
Megiddo 2048 VIIB, LBIIA	L 2048, Temple Floor	Basalt?	Loud 1948: Figs. 254, 261

Tables

A typical feature of excavated MB-LB temples and sanctuaries is the stone table, which served a variety of functions depending on its context. Excavated tables found *in situ* range from roughly-worked or well-finished slabs, rectangular or square in plan view, with either flat upper surfaces (Type 1A) or surfaces with basins and smaller depressions (Type 1B), to undressed boulders, round or oval in plan view, with basins and depressions (Type 2). A number of unworked slabs that were found in association with *stelae* in the forecourt of the Phases 5-3 temples at Tell el-Hayyat probably served similar functions, but are not included in the catalogue presented below. Stone tables range in size from < .5 m to the huge example from Area F at Hazor, which is estimated to weigh about five tons (Yadin 1972: 101). All are made of locally available raw materials, which suggests that they were made at or near the sites in which they are found.

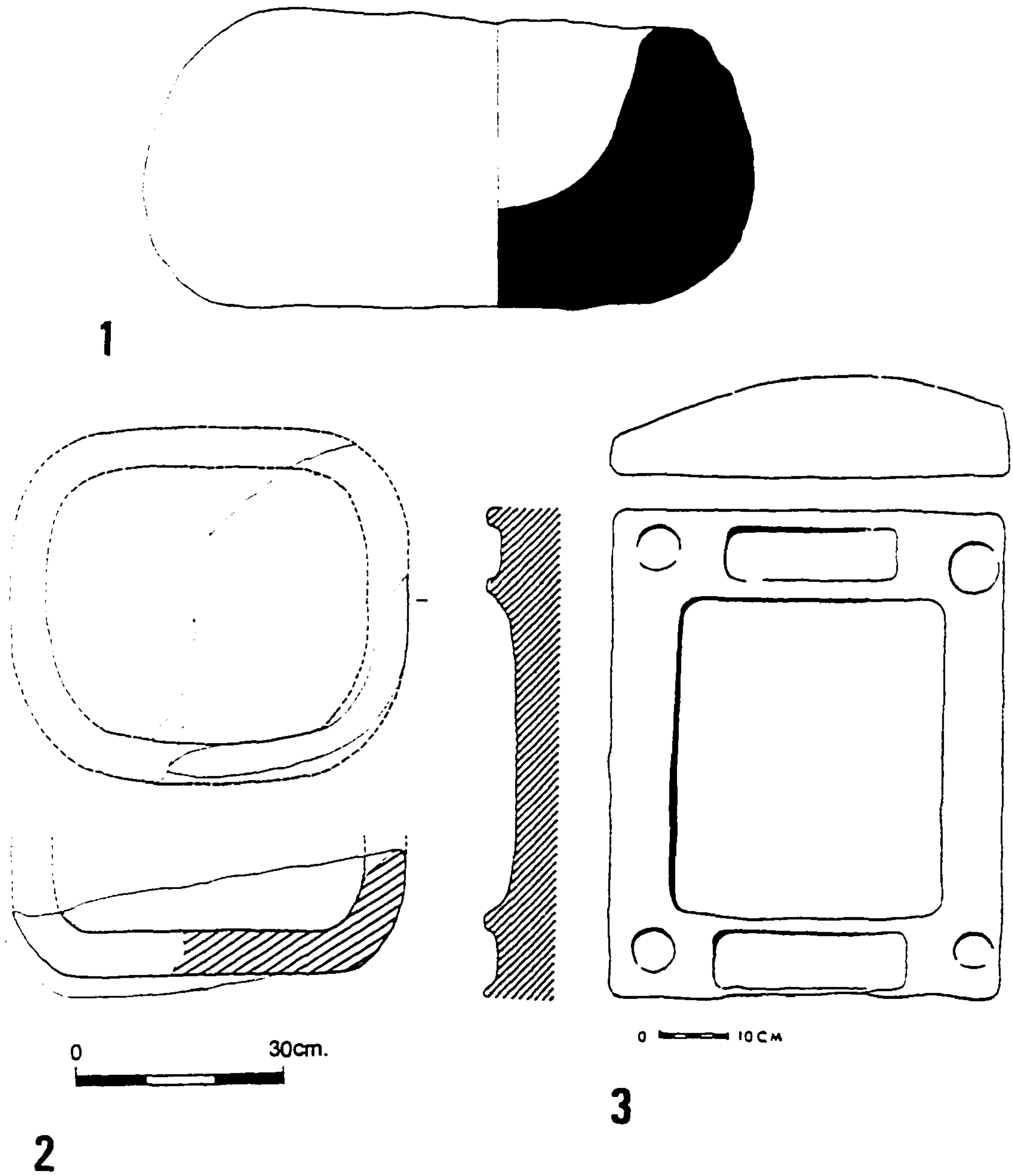

FIGURE 5, Mortars, Basins and Tables. **5.1**, Mortar Type 1, from James and McGovern 1993: 123.11; **5.2**, Basin Type 2, from Rothenberg 1998: 23.7; **5.3**, Table Type 1B, from Yadin et al. 1961: CCLXXXIV: 7.

Surprisingly few of the tables have been published in detail with specific information about their physical attributes. Typically, they appear in plans or photographs *in situ* and are not illustrated in figures. The assemblage from the Area H temples at Hazor is an exception, as the numerous basalt tables prompted a detailed comparative study by P. Beck (1989: 330-334).

Tables Type 1A: Worked Slabs, Square or Rectangular in Plan View

Temple/Stratum	Locus/Description	Material/Object #	Reference
Hazor C 1B LBIIA	L 6136, Sanctuary	Basalt	Yadin et al. 1958: XXXI
Hazor C 1B LBIIA	L 6136, Sanctuary	Basalt	Yadin et al. 1958: XXXI
Hazor C 1A LBIIB	L 6135, Niche in Sanctuary	Basalt	Yadin et al. 1958: CLXXX
Hazor H 3 MBIIC	L 2190, Probable Holy of Holies	Basalt	Yadin et al. 1961: CIV: 3, 4
Hazor H 1B-1A LBIIA-B	L 2119, Obelisk Installation	Basalt	Yadin et al. 1961: CXVII: 6
Hazor H 1A LBIIB	L 2115, Quern Installation	Basalt	Yadin et al. 1961: CXXVII: 2
Hazor H 1A LBIIB	L 2107, Hall	Basalt	Yadin et al. 1961: CXXVII: 1
Bet Shean IXA LBIIA	L 1236, Sacrificial Altar Room	Basalt	Rowe 1927: Plate on 422
Bet Shean IXA LBIIA	L 1234, Inner Sanctuary	Basalt	Rowe 1930: Plate on 18: 1
Megiddo XII-XI MBIIA-B	High Place F	Basalt?	Loud 1948: Figs. 206-207
Kittan IV MBIIB	Courtyard	Basalt	Eisenberg 1977: 79 (not illustrated)
Kittan III LBI	Enclosed Courtyard	Basalt	Eisenberg 1976: 108 (not illustrated)

Tables Type 1B: Worked Slabs, Square or Rectangular in Plan View, with Depressions

Temple/Stratum	Locus/Description	Material/Object #	Reference
Mevorakh VI	Wall 36 in Stratum VI (secondary use)	Limestone	Stern 1984: 31:10
Megiddo VIIB LBIIA	L 2048, Embedded in Temple Floor	Basalt	Loud 1948: Plate on 254
Hazor H 1B LBIIA	L 2126, Entrance to Temple Complex	Basalt	Yadin et al. 1961: CXXIX: 1-2
Hazor H 1B LBIIA	L 2156, Pit (*favissa*) in Outer Court	Basalt, H777	Yadin et al. 1961: CCLXXVIII: 7; CCCXXXII: 4
Hazor H 1A LBIIB	L 2113, Holy of Holies	Basalt, H143	Yadin et al. 1961: CCLXXXIV: 7; CCCXXXII: 1
Hazor H 1A LBIIB	L 2113, Holy of Holies	Basalt, H137	Yadin et al. 1961: CCLXXXIV: 6; CCCXXXII: 3
Hazor H 1A LBIIB	L 2113, Holy of Holies	Basalt, H138	Yadin et al. 1961: CCLXXXIV: 5; CCCXXXII: 6
Hazor H 1A LBIIB	L 2115, Installation in Hall	Basalt, H600	Yadin et al. 1961: CCLXXXIV: 8; CCCXXXII: 2
Hazor H IA LBIIB	Wall 2505, Secondary Use	Basalt, H2118/1	Yadin et al. 1961: CCCXXXIII: 1
Hazor F 1B LBIIA	L 8001, Open Cult Place	Basalt, L8001	Yadin 1972: XXXIX: 1, 2
Timna LBII-Iron I	L 110	White Sandstone, 237/8	Rothenberg 1988: 22.7
Timna LBIIB-Iron I	L 107	White Sandstone, 429/1	Rothenberg 1988: 24.1
Timna LBIIB-Iron I	L 107	White Sandstone, 435/1	Rothenberg 1988: 24.2
Timna LBIIB-Iron I	L 107	White Sandstone, 463/1	Rothenberg 1988: 24.3

Tables Type 2: Boulders, Oval or Round in Plan View, with Depressions

Unlike the Type 1 tables, Type 2 tables were fashioned from natural boulders, and are thus oval or round in plan view. The only two examples possibly associated with MB-LB temples feature multiple depressions.

Temple/Stratum	Locus/Description	Material/Object #	Reference
Nami G2 LBIIB	G2, Main Hall	Basalt	Artzy 1993: Plate on 1096
Lachish Acropolis Temple? LBIIB	Staircase to Judean Palace Fort (Out of Context)	Limestone	Tufnell 1953: 119; Plate 18:2, 5

At Tel Nami, a basalt boulder with a large central depression, two rectangular depressions on the long ends and five small cupmarks along three sides was found in the Area G temple of the LBIIB. A similar object found in an Iron Age II context at Lachish is believed by the excavators to have originated in the LBIIB Acropolis Temple (Ussishkin 1978a: 22).

G. Schumacher, in his early excavations at Megiddo, unearthed two boulders with similarly carved depressions and cupmarks in the entrance to the *Nordburg*, which he believed to be a MB palace (Schumacher 1908: Abb. 47). The larger of the two stood .55 m high, was .8 m across at its largest point and featured three depressions around a central basin (Schumacher 1908: 47a). The smaller table had five depressions around its central basin, and measured .95 x .80 x .46 m. During the course of renewed excavations at the site, the Tel Aviv University team re-excavated these altars and redated the *Nordburg* to one of the later phases of the LBA (Finkelstein, Ussishkin and Halpern 2000: 4). Although the nature of this building is still being investigated, the LBA date is in keeping with the dates of the other excavated tables of this type.

R. Macalister unearthed a similar, roughly dressed boulder table with a central depression and cupmarks at Gezer (Macalister 1912: Figure 234). This boulder table, which appears from the published photograph to be made of limestone, featured a basin nearly 1.6 m across with five small cupmarks around it. The provenance of this table and its date are unknown, and Macalister suggested that it functioned as a basin and the cupmarks were used as soap dishes (!) (Macalister 1912: 40).

D. Ussishkin has demonstrated the ritual use of cupmarks on offering tables and Hittite and neo-Hittite stone monuments in Anatolia (1975). Based on a comparative study, he suggested that these small depressions were used for liquid offerings or libations associated with gates. Cupmarks may also have been used to hold ceramic vessels (Beck 1989: 332) or other objects. Functional differences may account for the multiple types of tables found in MB-LB temple complexes.

Grinding Slabs and Querns

Grinding slabs and querns are the general terms given to the stationary components of stone tool sets used to process substances through grinding and pounding with a handstone, pestle, pounder or other tool. Grinding slabs are formally distinguished from querns by the shape of their grinding surface; grinding slabs have a rectangular grinding surface, which indicates linear grinding motion, while querns have an oval grinding area, indicating rotary grinding (K.I. Wright 1992: 63). These objects are referred to by a variety of terms in ground stone reports, including "lower grinding stones" (Hovers 1996; Milevski 1998; Petit 1999), "quernstones" (Singer-Avitz 1989) and "millstones" (Sass 2000), among others.

Grinding slabs and querns were usually made of locally available materials, including basalt, limestone and sandstone. Vesicular basalt, or basalt with holes that result from the cooling process of fresh lava, seems to have been the most popular raw material for making these tools. Experiments have shown that vesicular basalt makes for an ideal, long-lasting grinding surface because particles are not easily detached (K.I. Wright 1992: 54). Grinding slabs and querns made of limestone and flint need to be pecked or artificially roughened periodically in order to retain a sharp grinding surface.

Temple/Stratum	Locus/Description	Material/Object #	Reference
Hazor H 1A LBIIB	L 2115, Installation in Hall	Basalt	Yadin et al. 1961: CXXVII: 2
Deir 'Alla Phase E LBIIB	*Cella*	Basalt, 466	Franken 1992: 35 (not illustrated)
Bet Shean VIII LBIIB	L 1092, Under Inner Courtyard	Basalt	Rowe 1930: Plate 12, 2
Lachish Acropolis LBIIB	East of *Cella*	Flint, 09127/50	Unpublished
Lachish Acropolis LBIIB	L 3258, Side Entrance to *Cella*	Basalt	Unpublished
Timna	L 101	Red Sandstone, 66/1	Rothenberg 1988: 50.1
Timna LBII-Iron I	L 101	Red Sandstone, 254/3	Rothenberg 1988: 50.2
Timna LBII-Iron I	L 104	Red Sandstone, 266/4	Rothenberg 1988: 50.3
Timna	L 101	Red Sandstone, 295/193	Rothenberg 1988: 50.4
Timna LBII-Iron I	L 104	Red Sandstone, 275/15	Rothenberg 1988: 50.5
Timna LBII-Iron I	L 102	Red Sandstone, 270/100	Rothenberg 1988: 89.1

Timna LBII-Iron I	L 106. 107	Red Sandstone. 214/2	Rothenberg 1988: 89.2
Timna LBII-Iron I	L106. 108	Red Sandstone. 362/16	Rothenberg 1988: 89.3
Timna LBII-Iron I	L 101	Red Sandstone. 295/194	Rothenberg 1988: 89.4
Timna LBII-Iron I	L 106	White Sandstone. 280/90	Rothenberg 1988: 89.5
Timna LBII-Iron I	L 101	Red Sandstone. 203/36	Rothenberg 1988: 89.6
Timna LBII-Iron I	L 101	Red Sandstone. 311/193	Rothenberg 1988: 89.7
Timna LBII-Iron I	L 101	Red Sandstone. 297/8	Rothenberg 1988: 89.8
Timna LBII-Iron I	L 109	Red Sandstone. 314/46	Rothenberg 1988: 89.9
Timna LBII-Iron I	L 109	Red Sandstone. 314/47	Rothenberg 1988: 89.10
Timna LBII-Iron I	L 109	White Sandstone. 334/6	Rothenberg 1988: 89.11
Timna LBII-Iron I	L 104	Red Sandstone. 266/4	Rothenberg 1988: 89.12

Few grinding slabs and querns have been unearthed in MB-LB temples and sanctuaries other than Timna. There are a number of possible explanations for the absence of these otherwise ubiquitous implements in temple complexes in the southern Levant. Grinding slabs and querns may not have been required in the temples. or the need for stone processing equipment was met in other ways (perhaps through the use of more specialized grinding equipment. like stone tables). It is also possible that fragments of grinding slabs and querns were accidentally or purposefully overlooked by temple excavators. or were found in too fragmentary a state to be identified as anything other than stone debris. Grinding slabs and querns from Bronze Age contexts are usually found in fragmentary condition. which makes their identification difficult and their placement into morphologically based typological schemes nearly impossible. Due to the fragmentary state of the grinding slabs and querns included in this study, they are not divided into sub-types.

Palettes

Palettes are small, portable ground stone surfaces upon which a small amount of material can be processed using a pestle or other tool. Examples made of precious materials like alabaster are known from Bronze Age contexts in the southern Levant, but because of their imported material, they are usually considered on their artistic rather than functional merit. Palettes made of locally available materials, usually basalt, are also known from Bronze Age contexts.

Temple/Stratum	Locus/Description	Material/Object #	Reference
Bet Shean VII LBIIB	L 1089, Southern Outer Courtyard	Basalt, 25.11.521	James and McGovern 1993: 25 (not illustrated)

Although no illustration for this object is available, the dimensions of this misplaced object indicate that it was probably a palette.

Handstones

The upper, hand held components of the grinding toolkit are called handstones, a term that reveals their active role in processing activities. They are referred to by many other terms in the literature, among them "upper grinding stones" (Milevski 1998: 64; Petit 1999: 147) and "grinders" (Daviau 1993). Handstones appear in various shapes and sizes in Bronze Age contexts, although the hand-sized 'loaf' shaped handstone seems to have been the most common. Some handstones are nearly as long as the width of the grinding slab with which they were used, indicating operation with two hands.

Handstones were usually made of fine-grained basalt, although examples made of limestone and other materials are known. Non-vesicular basalt was apparently preferable to vesicular basalt for making handstones, since vesicles would quickly get clogged by the material being ground and slow down the grinding process.

Temple/Stratum	Locus/Description	Material/Object #	Reference
Bet Shean IXA LBIIA	L 1241, East of Stepped Altar	Basalt, Penn ID 29-107-485	Unpublished
Bet Shean IXA LBIIA	L 1227, North of Thick Walled Room	Basalt, Penn ID 29-107-479	Unpublished
Bet Shean IXA LBIIA	L 1333, Oven Room	Basalt, Penn ID 29-107-528	Unpublished
Bet Shean VII LBIIB	L 1068, Altar Room	Basalt	James and McGovern 1993: 125.3
Bet Shean VIII LBIIB	L 1092, Under Inner Courtyard	Basalt	Rowe 1930: Plate 12, 2
Bet Shean VIII LBIIB	Below L 1085, Southeastern Room	Basalt	James and McGovern 1993: 126.10
Bet Shean VII LBIIB	L 1371, Western Outer Courtyard	Basalt	James and McGovern 1993: 125.5
Deir 'Alla Phase E LBIIB	*Cella*	Basalt or pumice, 746	Franken 1992: 3-11: 37
Deir 'Alla Phase E LBIIB	Room E3, Storeroom	Basalt, 981	Franken 1992: 4-7: 26
Deir 'Alla Phase E LBIIB	Room E5, Treasury Room	'Black River Pebble,' 1462	Franken 1992: 4-19: 43
Deir 'Alla Phase E LBIIB	Room E7, Storeroom/Shrine	Sandstone, 1307	Franken 1992: 5-4: 9

Deir 'Alla Phase E LBIIB	Room E7. Storeroom/Shrine	Sandstone. 1417	Franken 1992: 84 (not illustrated)
Deir 'Alla Phase E LBIIB	Room E8. Storeroom/Shrine	Sandstone. 1443	Franken 1992: 84 (not illustrated)
Deir 'Alla Phase E LBIIB	Room E9. Storeroom	Red Sandstone. 1286	Franken 1992: 5-12: 3
Deir 'Alla Phase E LBIIB	Room E9. Storeroom	Red Sandstone. 1270	Franken 1992: 5-12: 5
Deir 'Alla Phase E LBIIB	Room E9. Storeroom	Red Sandstone. 1284	Franken 1992: 5-12: 7
Deir 'Alla Phase E LBIIB	Room E9. Storeroom	Red Sandstone. 1283	Franken 1992: 5-12: 8
Deir 'Alla Phase E LBIIB	Room E9. Storeroom	Pink Sandstone. 1285	Franken 1992: 5-12: 6
Deir 'Alla Phase E LBIIB	Room E10. Storeroom	Sandstone. 1310	Franken 1992: 5-16: 11
Deir 'Alla Phase E LBIIB	Room E10. Storeroom	Sandstone. 1311	Franken 1992: 5-16: 12
Deir 'Alla Phase E LBIIB	Room E10. Storeroom	Sandstone. 1314	Franken 1992: 5-16: 13
Deir 'Alla Phase E LBIIB	Room E10. Storeroom	Sandstone. 1316	Franken 1992: 5-16: 14
Lachish Fosse II. LBIIA	House 100	Sandstone	Tufnell et al. 1940: XXIX:20
Lachish Acropolis LBIIB	L 3171. *Favissa* North of *Cella*	Beachrock. 20327/50	Unpublished
Lachish Acropolis LBIIB	L 5063. *Favissa* North of *Cella*	Basalt. 25732/50	Unpublished
Lachish Acropolis LBIIB	L 5063. *Favissa* North of *Cella*	Scoria. 25524/50?	Unpublished

Although quite a few handstones have been reported from MB-LB temples. the actual number if probably much larger. Older publications of temple ground stone assemblages often confused handstones and other small tools with 'weights' (e.g. Rowe 1940). and the published illustrations are too schematic to attribute a function to these objects with certainty.

Pestles

Pestles were usually paired with mortars and used to pound and process agricultural products into a finer texture. Pestles from Bronze Age contexts in the southern Levant were typically made of limestone or fine-grained basalt, for the same reasons that handstones were made from these materials. Ethnographic accounts relate that pestles are also used to process materials on grinding slabs, palettes, the ground and other surfaces in contemporary societies; it is likely that pestles functioned in a variety of activites in antiquity as well. S. Avitzur related that bedouin used wooden pestles with stone mortars in the first half of the 20th century CE in Palestine (Avitzur 1976). Wooden pestles were probably used in the Bronze Age as well.

Reports of ground stone tools from Bronze Age contexts have proposed various typologies for pestles. Since pestles are defined as hand-held stone tools with evidence for pounding or grinding wear on one or more ends, sub-types based on morphological attributes are meaningless in a functional typology. The schematic way in which many of these artifacts are illustrated in publications also makes typological designations difficult. The pestles included in this study are thus not divided into sub-types according to their morphology.

Temple/Stratum	Locus/Description	Material/Object #	Reference
Bet Shean IXA LBIIA	L 1397, Room Above Stepped Altar	Basalt, Penn ID 29-107-463	Unpublished

Bet Shean IXA LBIIA	L 1333, Oven Room	Basalt, Penn ID 29-107-501	Unpublished
Bet Shean IXA LBIIA	L 1232, Behind Altar	Basalt, Penn ID 29-107-478	Unpublished
Bet Shean VII LBIIB	L 1068, Altar Room	Basalt, 25.11.273	James and McGovern 1993: 8 (not illustrated)
Bet Shean VIII LBIIB	Below floor of L 1068, Altar Room	Basalt	James and McGovern 1993: 126.3
Bet Shean VIII LBIIB	Below steps of L 1068, Altar Room, votive deposit	Basalt	James and McGovern 1993: 126.2
Bet Shean VIII LBIIB	Below steps of L 1068, Altar Room, votive deposit	Basalt	James and McGovern 1993: 126.4
Bet Shean VIII LBIIB	Below steps of L 1068, Altar Room, votive deposit	Basalt	James and McGovern 1993: 126.5
Bet Shean VIII LBIIB	L 1092 Western Side: Threshold of VIII temple?	Basalt	James and McGovern 1993: 126.1
Bet Shean VIII LBIIB	Below L 1104, Northern Outer Courtyard	Basalt, 26.9.187	James and McGovern 1993: 21 (not illustrated)
Bet Shean VIII LBIIB	Below L 1104, Northern Outer Courtyard	Basalt, 26.9.186	James and McGovern 1993: 21 (not illustrated)
Hazor H 2 LBI	L 2172, Entrance Room in Court	Basalt, H1164/2	Yadin et al. 1961: CCLXX: 11
Hazor H 2 LBI	L 2133, Holy of Holies	Basalt, H1059/35	Yadin et al. 1961: CCLXX: 12; CCCXXXIV: 23
Hazor H 2 LBI	L 2139, Hall	Basalt, H660	Yadin et al. 1961: CCLXX: 13
Hazor H 2 LBI	L 2172, Entrance Room in Court	Basalt, H1412/8	Yadin et al. 1961: CCLXX: 14; CCCXXXIV: 21
Hazor H 2 LBI	L 2133, Holy of Holies	Basalt, H1171/1	Yadin et al. 1961: CCLXX: 15

Hazor H 2 LBI	L 2130. Room East of Hall	Basalt. H549	Yadin et al. 1961: CCLXX: 16: CCCXXXIV: 8
Hazor H 1B LBIIA	L 2156. Pit (*favissa*) in Outer Court	Basalt. H1202/2	Yadin et al. 1961: CCLXXVIII: 1: CCCXXXIV: 16
Hazor H 1B LBIIA	L 2156. Pit (*favissa*) in Outer Court	Basalt. H1260/1	Yadin et al. 1961: CCLXXVIII: 2
Lachish Fosse II LBIIA	Pit 146 (*favissa*)	Trachyte	Tufnell et al. 1940: XXIX: 18
Lachish Fosse III LBIIB	EIII. *Cella*	Trachyte	Tufnell et al. 1940: XXIX: 19
Lachish Fosse Temple LBA	Temple Area (Unstratified)	Basalt	Tufnell et al. 1940: XXIX: 17
Lachish Acropolis LBIIB	L 3027. *Favissa* south of *cella*	Flint	Unpublished
Deir 'Alla Phase E LBIIB	Room E 4-6. Storerooms	Stone. 1483	Franken 1992: 4-19: 44
Timna LBII-Iron I	L 106	White Sandstone. 469/1	Rothenberg 1988: 23.6
Timna LBII-Iron I	L 109	Unknown. 366/41	Rothenberg 1988: 92.1

Many pestles have been found in areas with clear cultic associations. Pestles that have been uncovered in or near 'holy of holies,' in *favissae* and in a votive deposit indicate their use in activities associated with the cult. The close proximity of many pestles to benches, platforms and altars suggests that some were brought to the temples as offerings. Pestles are also found in areas with evidence for food processing activities, and are occasionally found in association with mortars. The evidence clearly indicates that these tools served a variety of functions in MB-LB temple complexes.

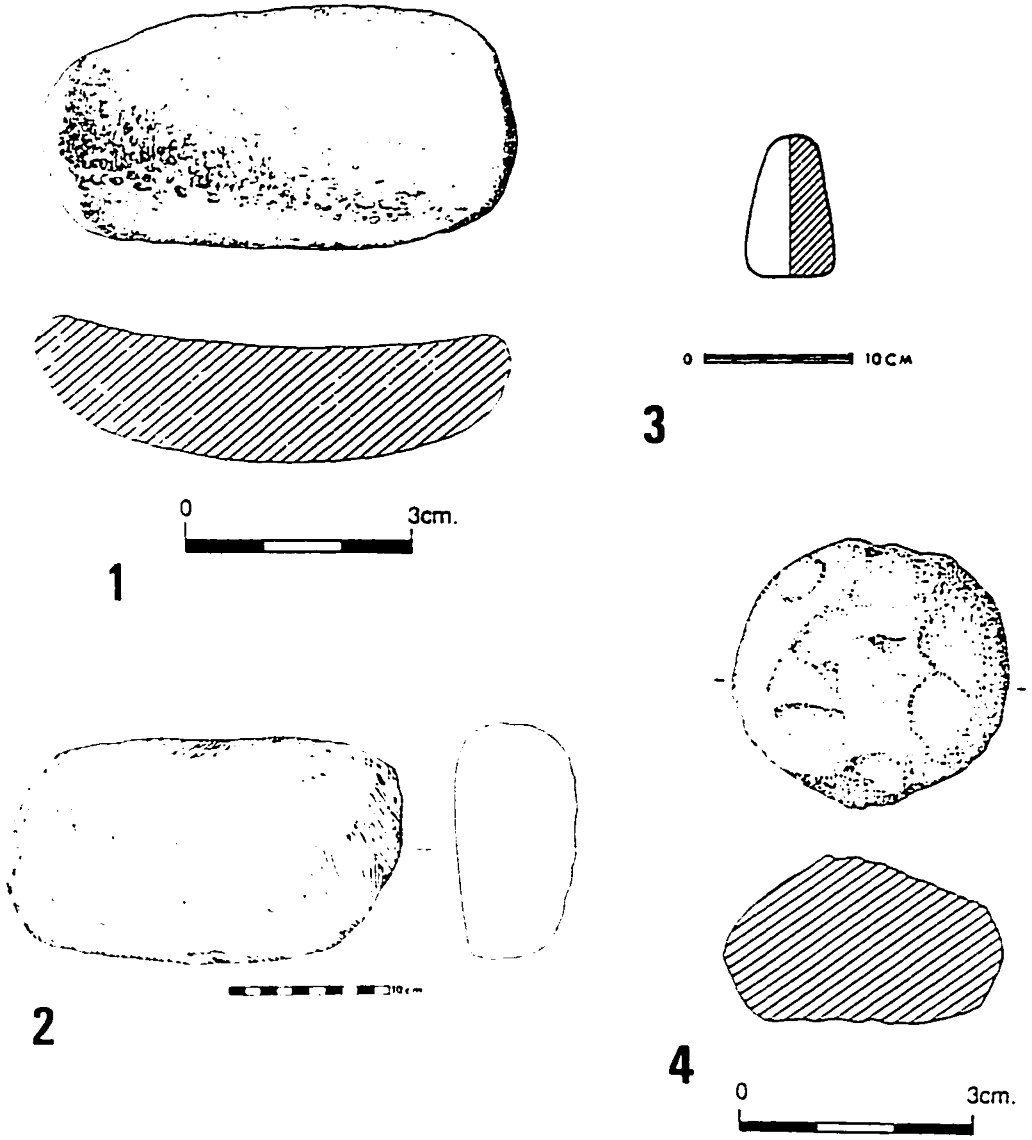

FIGURE 6. Querns. Handstones. Pestles and Hammerstones. **6.1.** Quern, from Rothenberg 1988: 50.1; **6.2.** Handstone, from Franken 1992: 5-16: 14; **6.3.** Pestle, from Yadin et al. 1961: CCLXXVIII: 2; **6.4.** Hammerstone, from Rothenberg 1988: 91.2.

Pounders and Hammerstones

Like pestles, pounders and hammerstones fall into the general category of 'processors,' which refers to their active role in grinding, pounding and other activities. These tools were strategically designed and manufactured for use in specific activities, or were naturally shaped stones that were collected and used with little or no modification. Pounders and hammerstones may have been used with mortars, grinding slabs or querns to pound and pulverize various agricultural products in preparation for consumption or further grinding; they may also have been used in more specialized activities, like metalworking. Pounders and hammerstones from Bronze Age contexts are often made of flint, although examples made of other materials are known. They are among the most ubiquitous stone tool types found in archaeological contexts in the southern Levant, probably because they could be manufactured without a great deal of time investment and were useful in a variety of activities.

Temple/Stratum	Locus/Description	Material/Object #	Reference
Deir 'Alla Phase E LBIIB	Room E1 or E2, Shrine/Kitchen	Flint, 796	Franken 1992: 45 (not illustrated)
Deir 'Alla Phase E LBIIB	Room E10, Storeroom	Flint, 1312	Franken 1992: 5-16: 9
Deir 'Alla Phase E LBIIB	Room E10, Storeroom	Sandstone, 1315	Franken 1992: 5-16: 10
Lachish Acropolis LBIIB	L 3146, *Cella*	Chert, 43123/50	Unpublished
Timna LBII-Iron I	L 104	Red Sandstone, 226/13	Rothenberg 1988: 91.1
Timna LBII-Iron I	L 109	Granite, 368/4	Rothenberg 1988: 91.2

Timna LBII-Iron I	L 109, 110	Limestone, 108/1	Rothenberg 1988: 91.3
Timna LBII-Iron I	L 104	Limestone, 226/11	Rothenberg 1988: 92.2
Timna	Unknown	Unknown	Rothenberg 1988: 92.3
Timna LBII-Iron I	L 105, 106	Unknown, 330/25	Rothenberg 1988: 92.4
Timna LBII-Iron I	L 101	Granite, 254/2	Rothenberg 1988: 92.6

Relatively few pounders and hammerstones have been reported from MB-LB temples and sanctuaries. This may be because they were not used in activities associated with the temples, or because they were overlooked during the course of excavations and not reported.

Perforated Stones

Temple/Stratum	Locus/Description	Material/Object #	Reference
Hazor C 1A LBIIB	Sanctuary	Basalt, C15500 Flywheel?	Yadin et al. 1958: Plate XCII: 21
Hazor H 2 LBI	L 2133, Holy of Holies	Stone, H1054	Yadin et al. 1961: CCLXX: 17
Hazor H 2 LBI	L 2130, Room East of Hall	Basalt, H548	Yadin et al. 1961: CCLXX: 10
Hazor H IB LBIIA	L 2156, Pit (*favissa*) in Outer Court	Basalt, H1261/1	Yadin et al. 1961: CCLXXVIII: 3
Hazor H 1A LBIIB	L 2133, Holy of Holies	Basalt, H215/1	Yadin et al. 1961: CLXXXIV: 3; CCCXXXIV: 7
Hazor H 1A LBIIB	L 2107, Room East of Hall	Basalt, H1449	Yadin et al. 1961: CCLXXXV: 7; CCCXXXIII: 18

Bet Shean VIII LBIIB	L 1108, Under Southeastern Room	Basalt	James and McGovern 1993: 128.6
Bet Shean VIII LBIIB	Below Floor of L 1068, Altar Room	Basalt	James and McGovern 1993: 128.7
Bet Shean VIII LBIIB	L 1108, Under Southeastern Room	Limestone	James and McGovern 1993: 128.8
Lachish Fosse Temple LBA	Temple Area (Unstratified)	Limestone	Tufnell et al. 1940: XXIX: 21

Perforated stones of various shapes, sizes and materials are well known from Bronze Age contexts, but their functions are often difficult to reconstruct. Smaller objects may have been used as loom weights, fishing weights, or digging stick weights, while larger objects may have been associated with pressing or other activities that required heavy weights. The functions of most of the perforated stones found in temple and sanctuary contexts are unclear.

Potter's Wheels

Temple/Stratum	Locus/Description	Material/Object #	Reference
Hazor C 1A LBIIB	L 6225, Potter's Workshop	Basalt, C1200/2	Yadin et al. 1960: CXXVII: 22
Hazor C 1A LBIIB	L 6217, Potter's Workshop	Basalt, C1201	Yadin et al. 1960: CXXVII: 23
Hazor C 1A LBIIB	L 6063, Potter's Workshop	Basalt, C5685	Yadin et al. 1958: LXXXVII: 24
Bet Shean VII LBIIB	L 1088, East of Temple Entrance	Basalt	James and McGovern 1993: 129.1

The earliest potter's wheels found in the southern Levant come from Early Bronze Age contexts (Amiran 1956), and numerous examples have been excavated in MB-LB sites. The association of several potter's wheels, including one complete example (C1200/2), with two LB temples may evidence pottery producing areas connected to the temple complexes. Other evidence for pottery production associated with MB-LB temples has been identified at several sites, and the remains of other craft activities like metalworking are known from a number of cult sites as well.

Roof-Rollers

Temple/Stratum	Locus/Description	Material/Object #	Reference
Hazor H 1A LBIIB	L 2115, Hall	Basalt, H52	Yadin et al. 1961: CCLXXXV: 6; CCCXXXIII: 15
Bet Shean IXA LBIIA	L 1228, Western Outer Courtyard	Basalt, Penn ID 29-107-869	Unpublished

A long, cylindrical basalt object excavated in the Stratum 1A temple in Area H at Hazor was identified by Yadin as a "roof-roller," probably based on comparisons with nearly identical objects made of basalt and limestone known from ethnographic accounts of 20th century CE Palestine. An unpublished example from Bet Shean IXA was also found in a temple context. Like the archaeological examples, ethnographically documented roof-rollers have indentations in both long ends that were attached to some sort of wooden frame. An individual could then easily roll the heavy stone across a flat roof to tamp freshly laid mud and other materials (Avitzur 1976: Figure 357; Hirschfeld 1995: Figure 178).

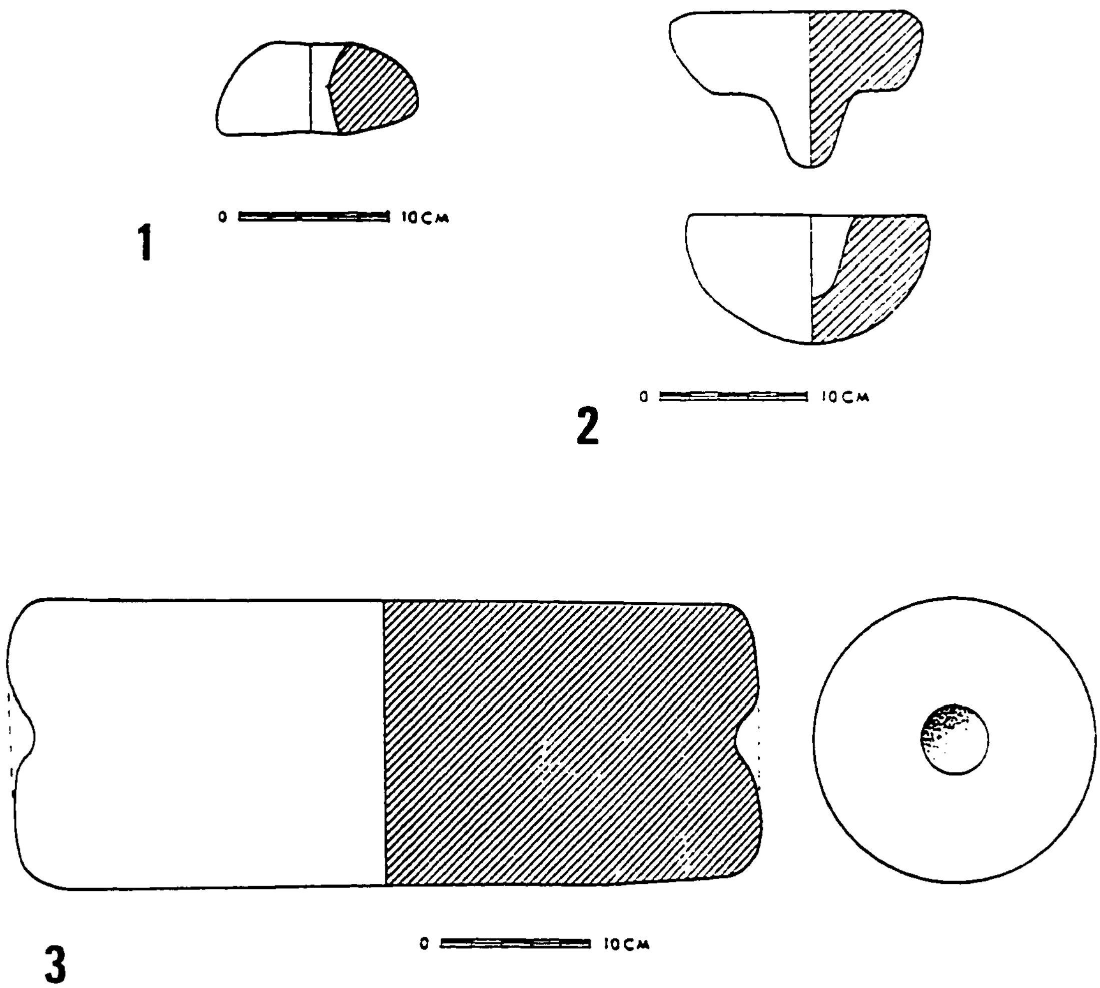

FIGURE 7, Perforated Stones, Potter's Wheels and Roof-Rollers. **7.1**, Perforated Stone, from Yadin et al. 1961: CCLXXVIII: 3; **7.2**, Potter's Wheel, from Yadin et al. 1960: CXXVII: 22; **7.3**, Roof-Roller, from Yadin et al. 1961: CCLXXXV: 6.

Miscellaneous

Several ground stone objects found in MB-LB temple complexes defy easy categorization. Some of these objects may have functioned in temple activities, such as the abrader and shaft straightener found at Bet Shean, and others may be fragments of objects brought to the temples as offerings. The ritual deposition of what appears to be a limestone core from a perforation under the Stratum VII temple at Bet Shean indicates this object's cultic character. Reconstructing the functions of these objects is difficult due to their schematic illustration in published reports.

Temple/Stratum	Locus/Description	Material/Type	Reference
Bet Shean VIII LBIIB	Below Steps of L 1068, Altar Room, votive deposit	Limestone, refuse core from perforation?	James and McGovern 1993: 131.7
Bet Shean VII LBIIB	L 1107, Western Outer Courtyard	Basalt, shaft straightener	James and McGovern 1993: 130.8
Bet Shean VII LBIIB	L 1374, Western Outer Courtyard	Basalt, grooved abrader	James and McGovern 1993: 129.2
Bet Shean VII LBIIB	L 1104, Northern Outer Courtyard	Socket? Potters' wheel base?	James and McGovern 1993: 129.3
Bet Shean VII LBIIB	Below floor of L 1068, Altar Room	Limestone, bored at both ends	James and McGovern 1993: 131.6
Bet Shean VII LBIIB	L 1374, Western Outer Courtyard	Limestone, bored at one end	James and McGovern 1993: 130.4

Conclusion

The ground stone artifacts excavated from MB-LB cultic contexts reflect the range of stone tool types known from this period, with the addition of several forms used for special purposes. Carinated bowls, pedestal bowls and pedestal mortar bowls, basins, tables and perhaps other types of stone tools are found almost exclusively in ritual contexts. Other ground stone tools known from domestic and other contexts, including mortars, grinding slabs and querns, pestles and perforated stones are found in temple and sanctuary assemblages as well.

A number of activities in which these tools played a part can be reconstructed using evidence of stone tool use-wear and object provenance in temple complexes. Chapter 4 presents an analysis of the temples and sanctuaries chosen for inclusion in this study, and demonstrates the functions of various ground stone artifacts in a range of cultic and other activities associated with MB-LB sacred complexes.

Chapter 4

ANALYSIS OF MIDDLE AND LATE BRONZE AGE TEMPLES AND SANCTUARIES

Now that a typology of ground stone artifacts found in MB-LB temples and sanctuaries has been established, it is possible to reconstruct the functions of the artifacts in the catalogue based on their archaeological contexts. This chapter begins with an overview of the history of the southern Levant in the MB-LB and a brief summary of the cult sites that date to this period. It continues with an analysis of the temple complexes chosen for inclusion in this study that focuses on the ground stone artifacts found in them. Each temple analysis concludes with a summary of the reconstructed activities; a synthesis of these conclusions is presented in Chapter 5.

Introduction: Middle Bronze Age

The MBA in the southern Levant witnessed a continuation of the cycle of prosperity and collapse that characterized the preceding Early Bronze Age (*ca.* 3500-2000 BCE); the beginning of the MBA thus marked the beginning of the second urban period in this region. After a period of dislocation and disruption during Early Bronze IV (*ca.* 2300-2000 BCE), during which a large segment of the population left the cities to revert to a life of pastoral nomadism, urban centers reemerged in force throughout the

MBA as much of the population returned to the EBA *tell* sites and established new settlements over much of the region.

The MBA has been called the "zenith of the urban Canaanite era" (Dever 1987a: 149), and is characterized by a radical shift in the distribution, size and character of urban and rural settlements (152). This period witnessed an "increasing socio-political complexity not previously seen in Canaan" (Ilan 1995: 305), which is evidenced by massive fortification systems, monumental public buildings and other hallmarks of city planning. These phenomena bear witness to a relatively stable and locally controlled city-state system that thrived for several hundred years.

Widespread destruction and social dislocation characterized the end of the MBA in the southern Levant, which signaled the end to locally controlled Canaanite city-states. Sites large and small were destroyed beginning perhaps as early as the end of the 17th century (Bunimovitz 1995: 322), in part a result of the campaigns of Egyptian pharaohs into southwest Asia. Some of these destructions may also have resulted from internal Canaanite conflict at the end of the MBA (Bunimovitz 1993: 444). For the remainder of the Bronze Age, the southern Levant would be part of the empire of New Kingdom Egypt, whose political control extended as far north as Syria in the LBA.

This study employs the tripartite chronology for the MBA followed by most archaeologists working in the southern Levant. Thus, 'MBIIA' (*ca.* 2000-1800 BCE) will refer to the some two-hundred year transitional period following EBIV, 'MBIIB' (*ca.* 1800-1650 BCE) the period when the MBA Canaanite culture was reaching its peak, and 'MBIIC' (*ca.* 1650-1500 BCE) the beginning of a period of disruption that characterized the end of the MBA.

Overview: Middle Bronze Age Temples and Sanctuaries

Temples, sanctuaries and other cult areas were constructed for the first time in relatively large numbers and in geographically diverse areas during the MBA. The history of temple building in the region began in the Chalcolithic period (*ca.* 4500-3500 BCE), when the sites at Ein Gedi, Gilat and Ghassul featured the earliest permanent public sanctuaries in the southern Levant (Levy 1995: 235). Common elements between these and the EBA temples unearthed at Megiddo, 'Ai, Arad and other sites show that as early as the Chalcolithic Period "the ancient Canaanite temple was built according to a well-defined architectural concept which had a long-lived tradition and a wide diffusion" (Amiran 1981: 47). This tradition continued to develop during the succeeding MB-LB.

The earliest sanctuaries known from the southern Levant in the second millennium, although few in number, already demonstrate the range of types of cultic spaces that functioned during the MBA. These include: "open-air 'altars,' *stelae*, the symmetrical, direct-axis Syrian or 'Migdal' temples and offering deposits placed in *bothroi* or in or under walls" (Ilan 1995: 313). These sacred spaces were typically regional or village shrines built in unfortified countryside locations (Nakhai 2001: 114). Cultic loci with identifiable architecture dating to the MBIIA have been investigated at Nahariya, Tell el-Hayyat, Megiddo, Kfar Shemaryahu and Bat Yam, and other sacred areas have been identified at Dan and Gezer.

More temples and sanctuaries were constructed in MBIIB, perhaps as part of the general trend toward urbanization in the southern Levant during this time. The surviving MBIIA cult places at Tell el-Hayyat, Nahariya and Megiddo were enlarged and expanded, and new sanctuaries were built at Tell Kittan, Kfar Rupin, Giv'at Sharett, Haror and Aphek.

As the MBA advanced, the investment in institutionalized cult took the form of large planned cultic compounds (Ilan 1995: 314) that featured Syrian-style *migdal* temples. Named for the towers constructed on the fronts of these structures, *migdal* temples are also characterized by their extremely thick walls, which likely supported two or more stories and gave a formidable appearance. Temples of this type were constructed at Megiddo, Pella, Tell Kittan, Tell el-Hayyat and Shechem in MBIIC. Other temples and cult sites were constructed at Hazor, Gezer, Shiloh, Tel el-Far'ah (North) and Ashkelon, and the sanctuary at Nahariya continued to function as well (Dever 1996; Mazar 1992; Nakhai 2001).

Introduction: Late Bronze Age

Although the widespread destruction and abandonment of urban settlements at the end of the MBA altered the character of the Canaanite city-state system, cultural continuity between the MB and LB is clearly evident (Ilan 1995: 315). During the three-hundred year period of the LBA, most of the southern Levant was controlled or at least exploited by the New Kingdom pharaohs. Canaan's material culture "varied in response to Egyptian political and economic initiatives, which, ironically, were often directed toward the larger and more formidable states to the north and east of Canaan" (Leonard 1989: 5). The Amarna Letters sent by the rulers of the Canaanite city-states to the New Kingdom pharaohs vividly portray the "attempts at territorial expansion, border disputes, and ad hoc coalitions" (Bunimovitz 1995: 327) that characterized local politics during those desperate times.

The LBA southern Levant was characterized by a dichotomy: on one hand, Canaanite civilization gradually deteriorated as a result of Egypt's economic exploitation of the region, rivalry between Canaanite city-states and the invasions of semi-nomadic raiders (Mazar 1990: 237) and on the other hand, many signs of prosperity point to further developments in Canaanite culture during this period. Despite its subordination to Egypt, Canaan "maintained its independence in the realms of material and spiritual culture, reaching the zenith of Canaanite creativity in the fields of religion, literature, and art (Gonen 1992: 211).

The end of the LBA and the transition to the Iron Age in the southern Levant witnessed "the gradual collapse of the LB Canaanite culture and its eventual replacement by an ethnically mixed population ..." (Dever 1992: 18). New nations were established in the Early Iron Age that founded neighboring kingdoms in the region (Mazar 1990: 259), and the city-state system that characterized the Bronze Age came to an end.

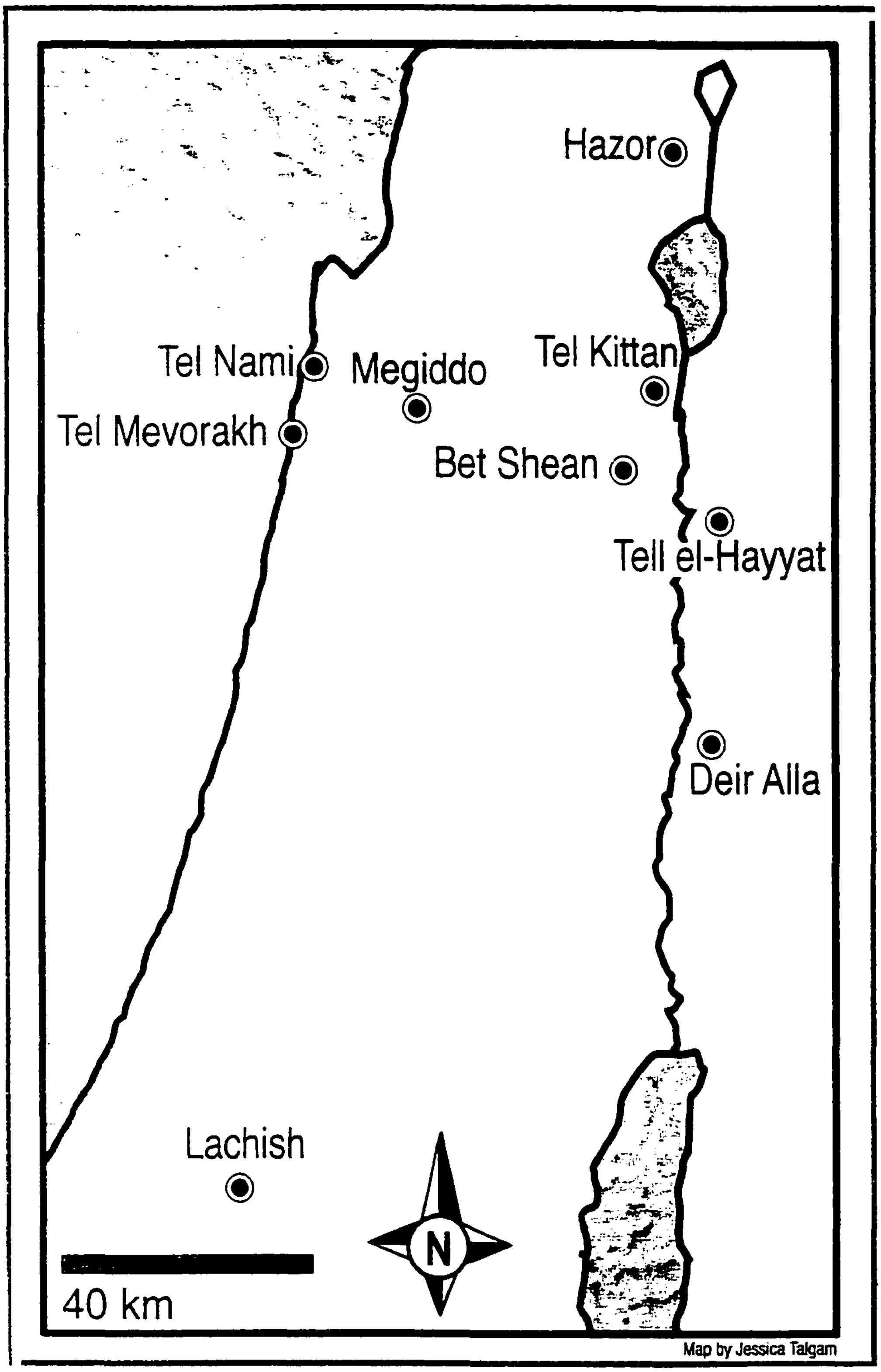

FIGURE 8. Map of Middle and Late Bronze Age Temple and Sanctuary Sites.

Overview: Late Bronze Age Temples and Sanctuaries

The proliferation of temples and sanctuaries in LB urban and village sites may be explained as evidence of Canaanite prosperity. S. Bunimovitz suggested, however, that the large number of LBA temples evidenced both the prosperity and decline of this period:

> "temples ... uncovered in the main urban centers should not be interpreted as symbols of localized prosperity, but as evidence for conspicuous consumption aimed at maintaining power relations and social order within an economically impoverished and socially unstable country" (1994: 9-10).

In addition, Egyptian governors residing in the region probably exploited the temples and sanctuaries as sites for tax collection and other economic activities (Nakhai 2001: 156.).

Several MBA temples and sanctuaries were renovated and continued to be used in LBIA (*ca.* 1500-1450 BCE) and beyond, including the *migdal* temples at Megiddo, Shechem and Pella, and the temples and cult sites at Hazor, Tel Mor, Tell Kittan, Gezer, Nahariya and Shiloh. A new *migdal* temple was built in Area A at Hazor in LBI (Bonfil 1997: 85), and new sanctuaries were constructed at Bet Shean and Deir 'Alla.

More cultic spaces were built during a period of consolidation and renewal in LBIB (*ca.* 1450-1400 BCE) (Nakhai 1997: 172), including temples at Lachish, Tel Mevorakh, Abu Hawam, Shechem and Bet Shean. The temples at Hazor and Megiddo were renovated, and several other cult sites from the preceding period continued to function. Many of these temples were enlarged in LBIIA (*ca.* 1400-1300 BCE), and a new sanctuary in Area C and several other cult places were founded at Hazor.

LBIIB (*ca.* 1300-1200 BCE) witnessed the doubling of the number of cult sites from the preceding period (Nakhai 1997: 172). Canaanite temples with Egyptian elements stood in Bet Shean, on the Lachish Acropolis, at Abu Hawam, Aphek and Ashdod, and perhaps at Ashkelon, Jaffa, Jerusalem and Gaza. The Areas H and C temples at Hazor continued to function, as did Temple 2048 at Megiddo. Sanctuaries were also in use at Deir 'Alla, Tel Nami and Timna at the end of the LBA (Mazar 1992).

The temples and sanctuaries analyzed below are presented according to their geographical region, and roughly north to south. Temples complexes considered below were unearthed at Hazor, Tel Nami, Megiddo, Tel Mor, Tell Kittan, Bet Shean, Tell el-Hayyat, Deir 'Alla and Lachish.

Upper Galilee

Hazor

Tel Hazor, in northern Galilee, is one of the largest sites with Bronze and Iron Age remains in the southern Levant. Situated 14 km north of the Sea of Galilee and eight km west of Lake Huleh, the site had a 30 a acropolis and a lower city of about 170 a at the height of its occupation. Hazor was first excavated under the direction of Y. Yadin of the Institute of Archaeology at the Hebrew University from 1955-1958 and again in 1968. Current excavation at the site began in 1990 under the direction of A. Ben-Tor of the Institute of Archaeology at the Hebrew University. Yadin's team uncovered a number of temples and cult places in both the acropolis and lower city dating from MBIIC to LBIIB

(Yadin 1993: 595). Another temple in Area A was partially excavated by the renewed excavation team in recent seasons (Ben-Tor 1999: 272-273).

The earliest settlement on Hazor's acropolis dates to the early third millennium BCE. The lower city was founded in MBIIB, and grew to be one of the largest city-states in the southern Levant soon after. Aspects of the art and architecture at Hazor have more northern affinities during the MB-LB, the art tending more toward Syrian, Mesopotamian and Anatolian iconography (Bienkowski 1987: 53). Although the current excavations have uncovered more Egyptian artifacts than did Yadin's, Hazor seems to have been "outside the arc of effective Egyptian control" (Bienkowski 1987: 58) during the LBA.

Area C 'Stelae Temple,' Stratum IB (LBIIA)

The sanctuary in Area C was investigated in 1955 and 1956, and was the first Bronze Age cultic area to be excavated at Hazor. The sanctuary, which consisted of a small broadroom built on the inner slope of the MBA rampart, was in use for two phases during LBII. The Stratum IB sanctuary measured 4.75 m north to south and 3.40 m east to west, and featured a semicircular niche in its back wall about one m in diameter. Benches of unhewn stones, averaging 40 cm in width and 45 cm in height, lined the walls. Artifactual remains from this phase included ceramic vessels and a pair of bronze cymbals in a bronze bowl. Two well-dressed basalt slabs were found near the northern wall inside the sanctuary that may have been used as offertory tables (Yadin 1972: 67-69). Yadin noted that offertory vessels were found in the shrine of this phase, but did not mention any objects found in close proximity to the tables (Yadin et al. 1958: 84).

The two tables appear on the plans for Area C Stratum 1B (Yadin et al. 1960: CCVIII) but were illustrated in only one photographic plate (Yadin et al. 1958: Plate XXXI, 5). The tables lay end to end in an east-west direction near the northern wall of the sanctuary; based on the published plans, the westernmost slab measured approximately .80 x .25 x .17 m and the easternmost .50 x .25 x .20 m. There are no apparent basins, channels or cupmarks on the surfaces of these slabs. Given the absence of similar ashlar blocks in the architecture of this sanctuary, the two slabs must have been brought for a specific purpose, probably for the placement of offerings.

Summary: Stratum 1B

The use of ground stone equipment in the Stratum 1B sanctuary is limited to two tables found near the northern interior wall. Although the excavators did not report any remains of offerings on these tables or in direct association, offertory vessels were found on the floor of this rather small sanctuary.

Stratum 1A (LBIIB)

The Stratum 1B sanctuary in Area C was destroyed and rebuilt in Stratum 1A: it was slightly enlarged in its second phase, and the niche stood at a higher level than the floor (Yadin et al. 1958: 86). A row of basalt *stelae* measuring 22-65 cm in height stood in the niche; one of them was decorated with a relief depicting two upraised arms under a symbol of the lunar deity. A basalt statue of a seated male, a lion orthostat, a "roughly-finished basalt slab" (Yadin et al. 1958: 90) and other artifacts were found in association with the *stelae* in the niche. The basalt slab,* which Yadin believed to have functioned as an offertory table, measured about .75 x .25 x .16 m based on the published plan (Yadin et al. 1958: Plate CLXXX). Heaps of pottery were found lying on a diagonal from the table towards the floor of the sanctuary (Yadin 1975: 44). The table has a relatively smooth and flat upper surface with no evidence of grinding wear and its location in front of the row of *stelae* supports its function as a table for offerings.

Portable stone artifacts found in the sanctuary consisted of two or perhaps three anthropomorphic figurines, a macehead and a perforated basalt stone with one smooth side that may have been a flywheel (C15500) (Yadin et al. 1958: Plate XCII: 21). One basalt tripod bowl (C12967) was found in front of the entrance to the sanctuary in L 6130 (Yadin et al. 1958: Plate LXXXVII: 22).

A number of other buildings constructed around central courtyards were excavated in the vicinity of the sanctuary. Yadin believed that they were connected with "the temple, its cult or its function" (Yadin 1975: 49). Notable among the remains in the nearby rooms were several potter's wheels, including a complete set (C1200/2) and two upper halves (C1201, C5685) (Yadin et al. 1960: Plate CXXVII: 22, 23; Yadin et al. 1958: Plate LXXXVII: 24), and other evidence for pottery production. A mask and a bronze standard plated with silver and decorated with a snake goddess relief were also found in the area (Yadin 1993: 596).

Conclusion: Area C Temples

Ground stone artifacts found in direct association with the Stratum 1B and 1A sanctuaries in Area C included three tables, a perforated disc and a tripod bowl, all made of basalt. The small finds found in the vicinity of the tables, as well as their proximity to the object (s) of worship in the niches, support their function as surfaces for the placement of offerings. The function of the tripod bowl is unclear, since its exact provenance in front of the entrance to the sanctuary is unknown; it may have been brought to the sanctuary as an offering, as may have the flywheel. The potter's wheels may have been used in ceramic production activities associated with the sanctuary, perhaps even to make offering vessels (as in the Stratum 2 temple in Area H, below). Evidence for the cultic character of the ceramic workshops is limited to the presence of a mask and a silver plated bronze standard, however.

Area H 'Orthostat' Temples

The series of temples constructed in Area H in the lower city at Hazor contained perhaps the richest assemblage of second millennium cultic stone artifacts in the southern Levant. At least four consecutive temples functioned in Area H from the MBIIC through LBIIB, when the final temple was destroyed in a conflagration in the 13th century (Yadin 1975: 99).

Architectural aspects of the temples are not described here in great detail; instead, particular attention is given to the many installations and built features found in the four temple complexes with associated ground stone artifacts. All stone objects from Area H included in this study are made of basalt, and all plans, plates and other illustrations are published in Yadin et al. 1961.

Stratum 3 (MBIIC)

The earliest phase of the temple in Area H was constructed in MBIIC. It is known only from stretches of wall protruding from under the remains of the later Stratum IB temple, making its plan incomplete and in some cases conjectural (Yadin 1972: 75). It is clear that the Stratum 3 temple was a broadroom structure measuring 19.75 x 18 m and divided into two main parts. The northern part (L 2175), which lay under the area that later became known as the 'holy of holies,' or the most sacred area, consisted of a single room measuring 8.9 x 13.5 m (Ben-Tor 1989: 218). Three rooms (or a main room and two towers) stood in the southern part of the building, and an open paved courtyard lay to the south of the temple structure. Poorly understood walls were found at the end of the pavement some 30 m south of the temple façade (Ben-Tor 1989: 219-220). The MBIIC pottery assemblage included bowls, kraters, cooking pots, jugs, storage jars, baking trays, lamps, stands and miniature votive bowls. A zoomorphic vessel was found in the remains of the Stratum 3 temple, as were a storage jar with a scarab seal impression and a bowl with snake applique. Other finds included a stone gaming board, a bronze crescent, a beaten gold plaque, a bronze knife, bone inlay, a miniature faience bowl and a possible sandstone figurine (Ben-Tor 1989: 220-223).

A rectangular basalt table was found in L 2190, the holy of holies, in association with two smaller dressed basalt stones with round projections. Yadin suggested that the latter two were pillar capitals (Ben-Tor 1989: 218), but gave no interpretation for the function of the table, which does not appear to be a column base. Based on the published photographic plates (Plate CIV: 3, 4) the table measured approximately 1.25 x 1 x .15 m. The beaten gold plaque was found in association with these three stone objects.

Summary: Stratum 3

It is impossible to reconstruct activity areas in any detail in the Stratum 3 temple, since only small areas were probed from above the later structures. Given its location in the holy of holies and its direct association with the gold plaque, the prize find from the Stratum 3 temple, the table probably functioned as a surface for offerings. No other evidence for altars, benches or other built features used for the placement of offerings was identified in this temple.

Stratum 2 (LBI)

Much more is known about the architecture, installations and artifacts associated with the Stratum 2 temple in Area H (**Figure 9**). This LBI temple complex consisted of a bipartite structure that followed the same lines as its predecessor, and a new courtyard complex to its south that featured various rooms and installations. The northernmost room in the temple structure, L 2133, was identical in size to the holy of holies of the Stratum 3 temple. A niche, which was partially enclosed by a thin partition wall, was built into the rear wall of the room. A rectangular stone installation measuring 1.2 x 1.5 m that probably served as an altar stood to the west of the niche. An everted mortar bowl

(H1170) was found lying upside-down on a ledge built along the southern side of the altar (Plate CCLXX: 7). Broad plastered ledges, or benches, stood along the northern wall of the room, and sherds of pottery vessels were found in their vicinity (Ben-Tor 1989: 227). In addition to the everted mortar bowl, ground stone artifacts found in L 2133 included a footed mortar bowl (H950), two pestles (H1059/35, H1171/1) and a perforated stone of unknown material (H1054) (Plate CCLXX: 9, 12, 15, 17).

The southern half of the structure (L 2139) was divided into three small rooms. An everted mortar bowl (H647) found in the threshold between the rooms (Plate CCLXX: 8) was interpreted as a door socket by the excavators (Yadin 1972: 80). A pestle (H660) was found in the center of L 2139, and a perforated stone (H548) and a pestle (H549) were found in the eastern partition (L 2130) (Plate CCLXX: 13, 10, 16). A layer of ashes 15 cm thick containing organic matter was also found in the eastern partition (Yadin 1972: 80).

The courtyard area south of the temple included a paved closed court with a number of associated installations that adjoined the temple (L 2149) and an open space to its south (L 2170). A gate-house flanked by stone altars (or perhaps column bases) joined the two areas. This broadroom structure (L2169) measured 1.6 x 5.2 m and had a threshold of three basalt steps. Just beyond the gate-house and before the closed court stood another broadroom (L 2172) that measured 6.5 x 2.4 m. A small rectangular installation that Yadin believed to be an altar stood in this room in front of a bench built

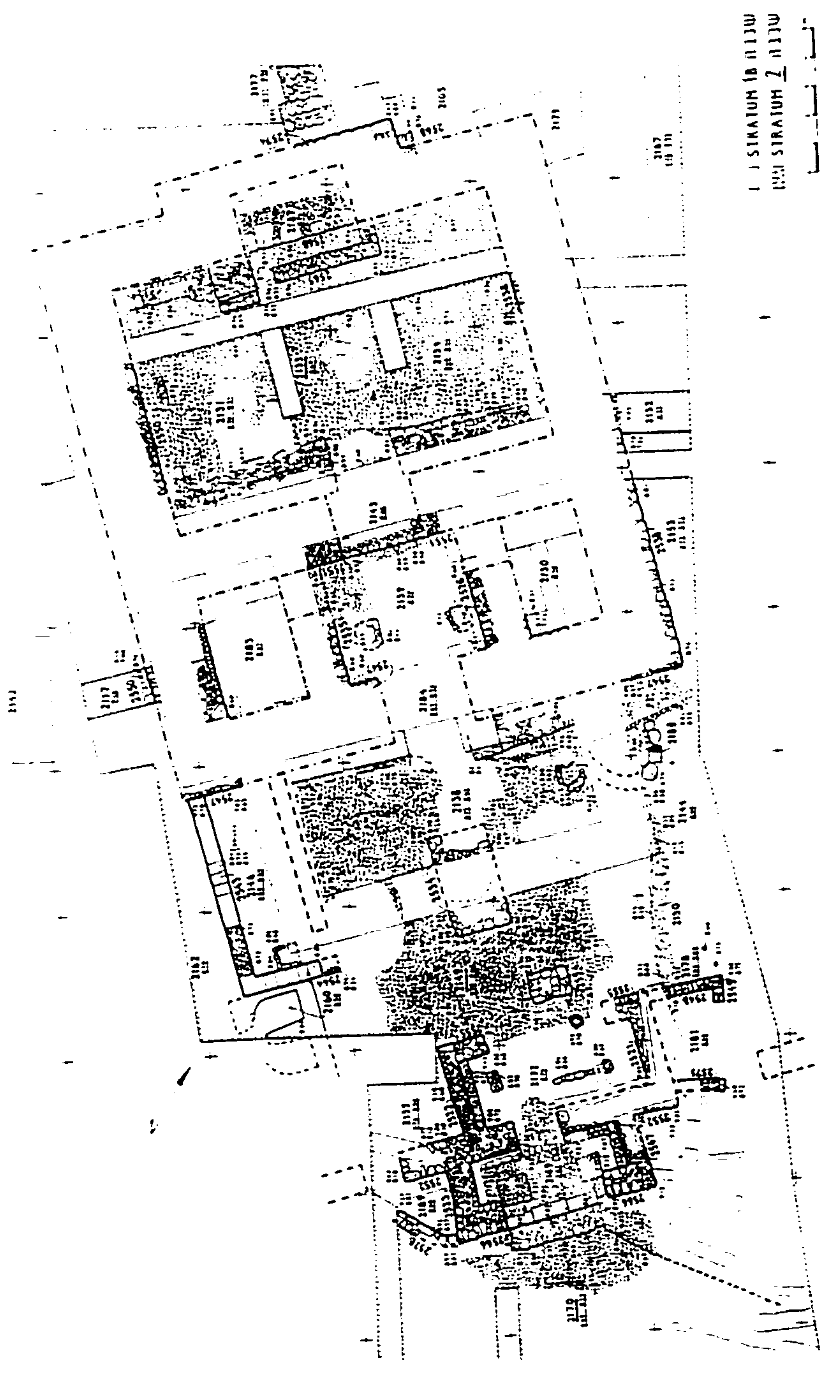

FIGURE 9, Plan of Hazor Area H Stratum 2, from Ben-Tor, ed. 1989: Plan XXXVIII.

along its western wall (Ben-Tor 1989: 229). Circular and rectangular courses of stones that may have been vessel stands were found in association with the 'altar' (Yadin 1972: 81). Two pestles (H1164/2, H1412/8) were the only artifacts reported from this room (Plate CCLXX: 11, 14); no associated pottery was published.

Two more rectangular stone structures believed to have functioned as altars, L 2534 and L 2554, stood in front of the temple in the closed court; L 2534 measured 3.4 x 2 x .3 m and L 2554 measured approximately 1 x 1.5 m based on published plans. Quantities of ash, animal bones and sherds were found in this area, especially in a one-m circle on the floor between them. A drainage channel partly constructed of three discarded ceramic stands ran beneath the Stratum 2 court in the vicinity of the altars. Other installations in the closed court included a pottery kiln that contained twenty miniature bowls and five larger ones and a *favissa* with many ceramic sherds, a liver model with an Akkadian inscription and a bronze plaque of a male figure (Ben-Tor 1989: 228-229).

Summary: Stratum 2

Ground stone tools functioned in several contexts in the temple and its outer courts already in Stratum 2. The mortar bowl found upside-down on the altar in the holy of holies was probably brought to the temple as an offering. The mortars and pestles found in association with charred organic remains in the southern half of the temple suggest that the processing of grain or other agricultural materials was carried out just beyond the holy of holies. Two pestles found between the gate-house and closed court in association with what might have been an altar (L 2172) may have also been left as offerings.

Stratum 1B (LBIIA)

The temple was rebuilt again in LBIIA directly upon the ruins of the two earlier temples, but on a different plan (**Figure 10**). The main innovation was the addition of a room to the front of the building, which made the Stratum 1B temple a tripartite structure consisting of a holy of holies, a hall and a porch (according to the excavators' biblically-oriented terminology) (Ben-Tor 1989: 240). The holy of holies (L 2123) measured 8 x 13.3 m and had walls 2.1 m thick. A niche some 2.1 m in depth was built into the rear wall of the temple, and orthostats, which may have originated in the earlier temples, lined the walls (Yadin 1993: 598). A pit (L 2157) 3.6-m deep and .7 m in diameter (Yadin 1972: 84) was built into the floor in the center of the room; it contained a headless basalt statue and fragments of a basalt bowl° (not illustrated). An everted mortar bowl (H435/1) and a footed mortar bowl (H583) were found on the floor of the holy of holies, along with many ceramic sherds and small finds (Plate CCLXXVIII: 5, 8).

South of the holy of holies stood the hall (L 2129), which measured 5.8 x 5 m. A stairwell may have occupied the area to the west of the hall, and a room devoid of artifacts stood to its east (Ben-Tor 1989: 245). South of L 2129 stood the porch, which was found completely destroyed. Pit 2140, which was cut through the porch wall and floor into the earlier levels, contained an orthostat carved into the likeness of a lion. It

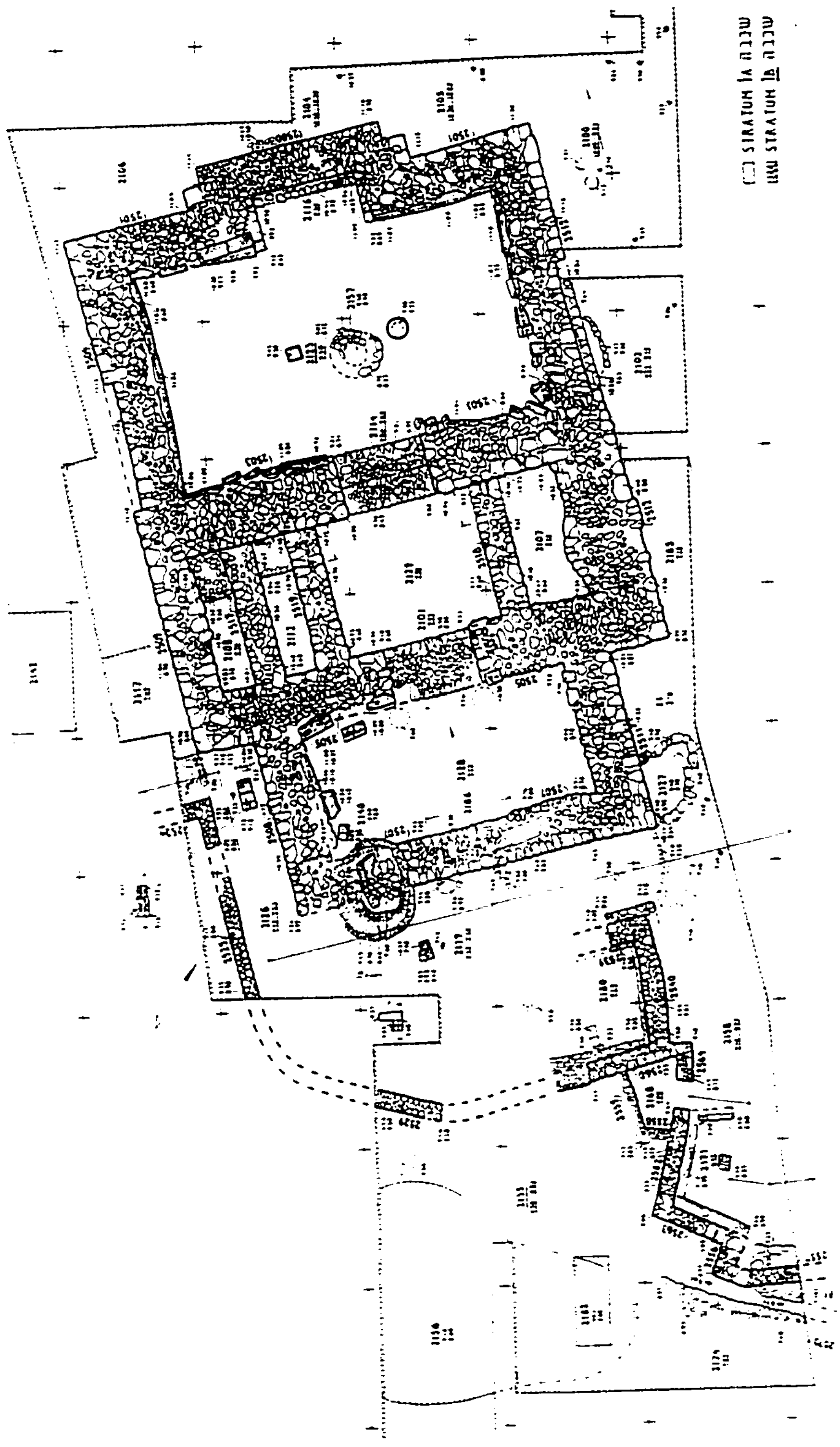

FIGURE 10, Plan of Hazor Area H Stratum 1B, from Ben-Tor, ed. 1989: Plan XXXIX.

probably originally stood in the eastern jamb of the main entrance to the temple (Ben-Tor 1989: 246).

The character of the space in front of the temple changed in Stratum 1B, and featured an open space, structures associated with the approach to the temple and the temple's open court. A huge 1.4-m deep pit (L 2156) occupied much of the open space (L 2135) in front of the temple; it measured 7.5 x 10 m in diameter at its maximum, and cut into the previous levels considerably. This *favissa* contained many broken and disused artifacts, including a huge quantity of bowls, goblets, stands and decorated sherds (Ben-Tor 1989: 247). Ground stone artifacts found in this *favissa* included two pestles (H1202/2, H1260/1), a perforated stone (H1261/1), an upright mortar bowl (called a 'socket') (H1260/3), a broken plate (H1045/1) and a broken table (H777) (Plate CCLXXVIII: 1, 2, 3, 4, 6, 7). The pit also contained a pillar base and "two large round basalt stones" (Ben-Tor 1989: 247) that are not illustrated.

In the center of the open court (L 2119), just west of the main entrance to the temple, stood an installation with a miniature basalt obelisk and a basalt table. The obelisk was preserved to a height of .9 m and measured .35 x .35 m at its base. The table, which was set on a base of fieldstones, measured .5 x .35 x.15 m (Plate CXVII: 6). A fragment of another headless statue that probably stood on the basalt bull figure discovered in L 2140 was found .3 m east of the table. Other artifacts found in the vicinity of the obelisk and table installation included the legs of a ceramic figure, the arm of a bronze male figure, sherds and other small finds (Ben-Tor 1989: 248).

Near the western entrance to the temple complex, outside the western wall of the porch (L 2126) stood a table with a deep depression on its upper surface standing on a base of fieldstones. This table is only illustrated in photographic plates (Plate CXXIX, 1-2). Yadin suggested that this 'libation basin' might have been used in a ritual connected with entering or exiting the temple. It is very similar to tables found in the holy of holies and hall of the Stratum 1A temple, which supports an earlier origin for the stone objects found in Stratum 1A (Yadin 1972: 86).

Summary: Stratum 1B

Ground stone tools were found in fairly diverse contexts in the Stratum 1B temple complex. In the holy of holies, fragments of a basalt bowl were found in pit 2157 in association with one of three stone male statues unearthed in Area H. The bowl's association with the statue, and its fragmentary condition, suggests that it was intentionally deposited as a sort of funerary offering. An everted mortar bowl and a footed mortar bowl were found on the floor of the holy of holies. The absence of pestles in association with these stone bowls, as well as their provenance in the holy of holies, suggests that they were left as offerings. The stone implements found in the *favissa* in the courtyard (L 2157) may have been part of the temple's cultic equipment; the fragmentary condition of the larger objects suggests that they were disposed of in this ritual pit when they were broken. Smaller stone artifacts found in the *favissa*, which included pestles and a perforated stone, may have been ritually discarded for other reasons.

Many *stelae* installations known from the southern Levant feature stone tables, basins or other stone objects in association, and the obelisk installation found in the courtyard is no exception. The provenance of this installation, and the association of fragmentary objects of a ritual nature with it, indicate that this table was used for the placement of offerings. The table with a deep depression found by the entrance to the temple complex might have functioned in rituals associated with entering and leaving the temple, as Yadin suggested.

Stratum IA (LBIIB)

After the destruction of the Stratum IB temple, another structure that essentially followed the earlier tripartite plan was constructed in LBIIB (**Figure 11**). The holy of holies, Locus 2113, featured a niche in its rear wall concealed by a new partition wall, and low benches about .3 m high stood along the walls. Silos were found in the southeastern and southwestern corners of the room; the latter contained burnt material and numerous ceramic vessels, especially bowls. The third basalt male statue was found nearby (Ben-Tor 1989: 258).

A collection of very well preserved stone equipment was found lying on and embedded in the floor of the holy of holies (**Figure 12**), some or all of which may have functioned in the previous temples as well.[15] A large basalt object called an incense

[15] See above, and Beck 1989.

FIGURE 11, Plan of Hazor Area H Stratum 1A, from Ben-Tor, ed. 1989: Plan XL.

altar*°[16] by the excavators (H134/1) that has stylistic affinities with an object from the Stratum IXA temple at Bet Shean (below) was found one m south of the niche (Plate CCCXXXI: 1-3); near it stood an upright mortar bowl* (called a 'basin' by its excavators) (H 135) and to its south the carinated bowl* with spiral decoration (called a 'krater') (H136) (Plate CCLXXXIV: 4, 1). Three tables* with depressions and cupmarks of various sizes were also found in the vicinity (H 138, H137, H143) (Plate CCLXXXIV: 5, 6, 7), along with groups of stones "on which the libation tables were probably based" (Ben-Tor 1989: 258). Remains of charred wood were found around table H143, which suggest that it was supported by a wooden frame (Yadin 1972: 93). A pedestal bowl (called a 'chalice' by the excavators) (H117) and a perforated stone (H215/1) were also found on the floor (Plate CCLXXXIV: 2, 3). "Other fragments of worked basalt were also found in the debris in the middle of the holy of holies" (Ben-Tor 1989: 258), but the nature and function of the worked basalt pieces are not easily discerned from the published photographs (Plates CXXII: 1-2).

Bowls, goblets, lamps, cooking pots, juglets and other ceramic vessels were found on the floor of the holy of holies; most of the ceramic finds were concentrated in the northeastern corner near the benches and in the southwestern corner near the silo (Ben-Tor 1989: 258). Two enormous ceramic kraters were also found near the center of the room. A bronze bull figurine and a bronze female figurine were found near the incense altar, and a peg-type bronze figurine was found in the northeastern corner near the benches. Other small finds from L 2113 included two pins, a scepter, beads, cylinder

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[16] Yadin noted the remains of burning visible on its top flat side (1972: 92).

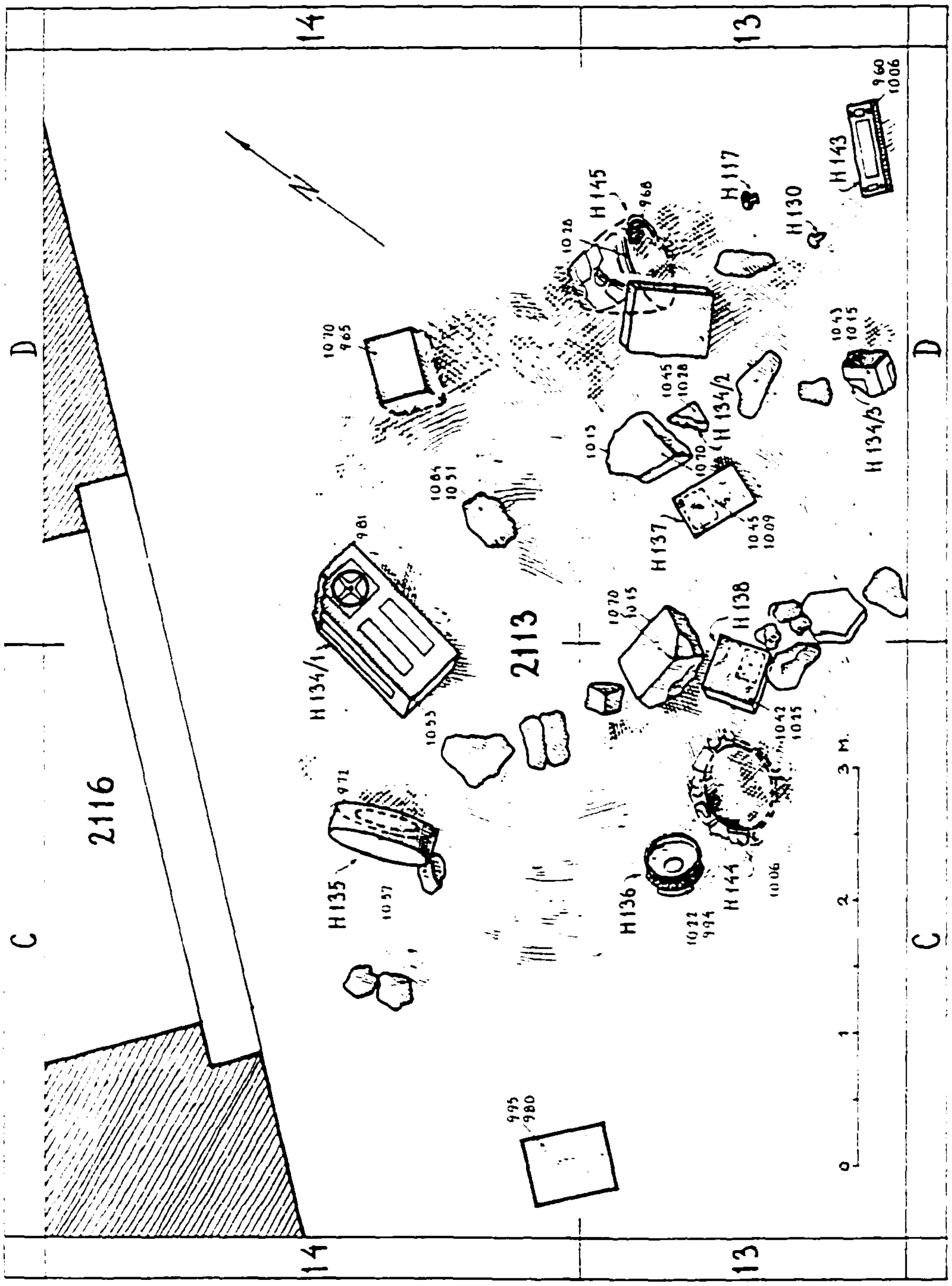

FIGURE 12, Plan of Ground Stone Objects in Stratum IA Holy of Holies, from Ben-Tor, ed. 1989: Figure 6.

seals, bone plaques, stone pommels and a scarab of Amenhotep III (Ben-Tor 1989: 258-259).

The room to the south of the holy of holies, the hall, was similar in layout to the hall of the Stratum 1B temple. The central part of the room (L 2115) contained a 2.5 m long installation consisting of a quern and a table laid end-to-end (Plate CXXVII: 2) and a row of stones reaching the threshold between the hall and the holy of holies. A few m east of this installation in L 2107 stood another table measuring 1 x .5 x .3 m (Plate CXXVII: 1) and a large perforated stone (H1449) (Plate CCLXXXV: 7). A table similar to those found in the holy of holies (H600) was also found in this area. A basalt roller* (H52) was found to the south of this area in debris about .3 m above floor level in L 2115, which supports its function as a roof-roller (Plate CCLXXXV: 6). A Mycenean bull figurine and two engraved bone plaques were found east of L 2115, in L 2107 (Ben-Tor 1989: 262).

The porch (L 2118) of the Stratum 1A temple was found mostly destroyed. The remains of a rectangular stone structure measuring 2 x 1.2 m and similar in appearance to the 'altars' in the Stratum 2 courtyard stood in the center of the porch. Another basalt table (H2118/1) was found reused as an orthostat in Wall 2505 of the porch (Plate CCCXXXIII: 1). In the courtyard, the obelisk and table installation first erected in Stratum 1B continued to function, although the base of the installation was not raised to the height of the pavement and thus projected only about .5 m above floor level (Ben-Tor 1989: 263).

Summary: Stratum 1A

The diverse collection of ground stone artifacts found in the holy of holies and hall of the Stratum 1A temple is unique among second millennium BCE temples in the southern Levant.[17] The diverse tables and 'altars' found in the Stratum 1A holy of holies are especially interesting pieces of cultic equipment that, upon physical examination, were seen to have functioned in diverse activities.

H 135, an upright mortar bowl, had no evidence for grinding or pounding wear on its interior and was probably used as a container for liquids or solid materials. H 138, a table with one deep and one shallow depression of similar dimensions, also lacked clear evidence of wear resulting from grinding or pounding activities. Two channels carved along the edge of the shallow depression may demonstrate the use of this table in activities involving liquids. H 137, which features one deep depression, one shallow depression and a flat area on its surface, exhibited some evidence for grinding wear in its shallow half. Likewise, H 143 had clear evidence of grinding in its central depression, and may have been used to process various materials for use in the cult. Wear marks in the small cupmarks and depressions along this table's edges did not indicate processing activities, and may instead have been used to hold ceramic vessels or other objects.

H 600, which was found in the Stratum 1A hall, has a rougher finish than the other tables both in its basin and on its base, and may feature some evidence for pounding in its interior. The complete lack of pestles or other processors in close proximity to the tables that may have been used in processing activities may be irrelevant, since most if

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[17] Beck (1989) has shown that many of these stone objects were carved in Syria.

not all of these tables functioned in earlier phases of the temple (which had pestles) and many of them seem to have been multifunctional.

The intact quern installation in the hall of the Stratum 1A temple is unique among second millennium temples in the southern Levant. No pestles or handstones were found in association with this quern, and other artifacts and installations found in the hall do little to shed light on its function. Its form is typical of Bronze and Iron Age querns from the region, which were generally used to grind grain and other agricultural products for consumption. If this was indeed the function of this quern installation, grain or other products may have been processed for use in temple activities, perhaps those directly associated with the holy of holies.

Conclusions: Area H Temples

A number of activities associated with the four temples in Area H can be reconstructed from the well-preserved installations and artifacts. Direct evidence for the use of ground stone implements in the cult of Stratum 3-1A is demonstrated by their provenance in the holy of holies of all temples and their ritual disposal in *favissa* 2156 and pit 2157. Tables were used for the placement of offerings in the holy of holies of the Stratum 3 temple, in front of the obelisk of Stratum 1B and 1A, and in the holy of holies of Stratum 1A. Alternately, some of the tables may have served as bases for statues, as P. Beck suggested for the installation that incorporated table H2126/1 (Beck 1989: 333). Tables with deep depressions probably functioned in activities involving liquids at the entrance to the Stratum 1B temple complex and in the holy of holies in Stratum 1A.

Stone vessels and mortar bowls of various types were found in several contexts in the temples of Strata 2-1A. The upside-down bowl deposited on the altar in the Stratum 2 holy of holies was probably brought to the temple as an offering or a container for offerings, as were the bowls unearthed in the holy of holies of Stratum 1B. The ritual interment of a broken bowl in the pit of the Stratum 1B holy of holies along with a headless statue demonstrates the ritual character of this vessel. A mortar bowl and plate, both found in fragmentary condition, were also ritually deposited in *favissa* 2156. The large carinated bowl of Stratum 1A, which featured no evidence for its use in processing activities in its interior, probably served as a container for either liquids or solid materials. It may have been part of the temple's cultic equipment as early as MBIIC.

Pestles were found in the Area H temples in several contexts. Two pestles found in the *favissa* of Stratum 1B were probably part of the temple's cultic equipment, and were ritually discarded when they were no longer needed. The location of two pestles in association with an everted mortar bowl in the Stratum 2 hall and a pile of organic material may point to their use in the processing of grain or other agricultural products to bring into the holy of holies as offerings. Two pestles found in association with a possible altar in the Stratum 2 court may have been brought to the temple as offerings as well.

The quern found in an installation in the Stratum 1A hall likewise suggests processing activities in close proximity to the holy of holies. It is the only quern or grinding slab uncovered *in situ* in a sacred context in Bronze Age Hazor. The roof-roller found in debris above the Stratum 1A temple demonstrates that at least the final phase of the temple had a flat roof. It is difficult to attribute a function to the various perforated stone objects found in the Area H temples, although the four excavated examples cluster around the holy of holies of Stratum 2 and 1A and the *favissa* in 1B. The smaller examples may have been left in the temples as offerings; too few were uncovered to suggest textile manufacturing or other activities in association with the temples.

Area F, Stratum 3-1B (MBIIC-LBIIB)

Excavations in Area F at Hazor revealed a massive, but poorly preserved, structure identified by Yadin as a double temple dating to MBIIC. The network of tunnels and tombs below the Stratum 3 complex indicates instead that this structure was a palace (Yadin 1975: 70-71). In Stratum 2, Yadin identified a small poorly preserved structure as a square temple similar in form to the mortuary installation at the Amman Airport and the Mt. Gerizim structure (Yadin 1972: 98-99). It is more likely that these remains were part of the rebuilding of the palace, however (Mazar 1992: 183).

What prompted excavations in Area F, and in part served as the basis for the cultic attribution given to this area, was a huge basalt block (L 8001) found projecting from the soil (Yadin et al. 1960: XXXIX: 1, 2), which Yadin identified as an altar. It measured 2.4 x .85 x 1.2 m and weighed approximately five tons (Yadin 1975: 59). There were two large depressions on its top surface; one side had a rectangular ten-cm deep depression with three cupmarks, and the other side a rectangular 35-cm depression that formed a basin. The two halves were divided by a thin partition with a narrow passage carved in it, perhaps to allow liquids to flow between the two halves (Yadin

1972: 100-101). The table was found resting on a base of supporting stones like the tables found in the Stratum IB and 1A temples in Area H. Yadin believed that the altar was used to slaughter and sacrifice animals (1975: 59), a function supported by the relatively large surface of the table (in comparison to the others from MB-LB Hazor) and the various depressions and channels on its surface.

In Stratum IB, the table stood in an open cultic area, or 'High Place,' according to Yadin (Yadin et al. 1960: 132). A paved piazza ascended to a stone platform on the west side of the altar, and several installations in the area may have served cultic functions. A quantity of cattle bones was found in the vicinity of the altar, along with *kernoi*, cup-and-saucers, stands and bowls. An alabaster goblet was found a bit further away from the altar in niche 8011, which was associated with an elevated platform (L 8019) where a cooking pot, a baking tray, a bull's skull and an everted bowl (F133/2) (Yadin et al. 1960: CXLIX: 6) were found (Yadin 1972: 101).

Summary: Area F

The evidence suggests that the monumental table was part of an open cultic area in Stratum 1B. The remains of cattle bones and cultic vessels, as well as the physical details of the table itself, support the use of this table for butchering animals for offerings or other sacred purposes. Although this table may have been associated with earlier cultic complexes in Area F, the existence of earlier temples in this area has not been proven.

Conclusion: Hazor

The tradition of using tables of various types in sacred contexts began as early as MBIIC at Hazor, when a table functioned in the holy of holies in the Stratum 3 temple in Area H. The tables found in Areas C, H and F were used in multiple activities, which is evident from the physical characteristics of the tables and aspects of the installations and artifacts associated with them. The only other type of ground stone artifact found in quantity in the three cultic areas discussed is the basalt vessel. One example was found in proximity to the Area C sanctuary of Stratum 1B, and numerous examples were recovered from the temples in Area H. Like the tables, the basalt vessels may have been multifunctional; some were found in ritual deposits, some in direct association with altars and the most holy part of the temples and some in association with pestles and organic remains. The large and diverse ground stone assemblage excavated in the Area H temples clearly demonstrate that these artifacts served important functions in the MBIIC-LBIIB cult at Hazor.

Northern Mediterranean Coast

Tel Nami

Tel Nami, which is located on a peninsula about 15 km south of Haifa on Israel's northern Mediterranean coast, was an important anchorage site from MBIIA-LBII. A. Ronen and Y. Olami surveyed the site in the 1960s, and a short excavation was conducted by M. Dothan, M. Raban and N. Flemming in 1975. From 1985 to the present, a multidisciplinary study under the direction of M. Artzy of Haifa University has been undertaken at Tel Nami and some 100 m away at Nami East (Artzy 1993: 1095).

Level G2 (LBIIB)

A 13th century sanctuary was revealed on the summit of Tel Nami in Area G consisting of a central open area with associated buildings. Details of the sanctuary's architecture have not yet been published, but the published artifactual material demonstrates the cultic nature of the area. Among the ceramic artifacts are a *kernos*, incense burners and a seven-spouted lamp; metal artifacts include silver and gold jewelery and bronze weapons with Aegean affinities. Conical cups and pumice, which have cultic associations in the Minoan world, were also found (Artzy 1995: 22-23). Scrap metal, metal working tools and parts of crucibles found in and around the sanctuary suggest metalworking associated with the temple complex (Artzy 1995: 23).

Although numerous small ground stone objects were found in the sanctuary (M. Artzy, personal communication), one object is particularly significant: a boulder table* featuring a basin surrounded by five cupmarks and two small rectangular depressions on its upper surface.[18] This table was found off of its base, a large pedestal with a depression on its surface that fit the contours of the table. Ceramic artifacts, including a *kernos*, were found underneath of it (Artzy 1991: 197; Artzy 1993: Plate on 1096).

[18] Description and measurements of the table from Tel Nami are included here courtesy of M. Artzy.

Conclusion: Tel Nami

The table is the only Type 2 table found *in situ* in an MB-LB sanctuary in the southern Levant. The arrangement of depressions on its surface most closely resembles that of table H143 from Area H at Hazor; the two tables are quite different in overall form, however. The location of this table near the exact center of the sanctuary at Tel Nami supports its cultic function, and the basin on its upper surface with no evidence for grinding or pounding wear suggests that it was used in activities involving liquids. The direct association with cultic artifacts, especially a *kernos*, underscores the table's cultic character.

Jezreel Valley

Megiddo

Strategically located at the point where Nahal 'Iron enters the Jezreel Valley, along the Via Maris, the 15 a mound at Megiddo was the site of important Bronze and Iron Age settlements. Excavations at Megiddo have been numerous and extensive, beginning with G. Schumacher's work at the site from 1903-1905 on behalf of the German Society for Oriental Research. Schumacher reached MBII occupation levels in places, and bedrock in others, as he dug a 20-25 m-wide trench north-south across the mound (Aharoni 1993: 1004).

Large-scale excavations were renewed by the Oriental Institute of the University of Chicago from 1925-1939, under the successive directorship of J.H. Breasted, C.S.

Fisher, P.L.O. Guy and G. Loud. These excavations produced a series of successive temples in Area BB, the remains of which were published by the Oriental Institute. Y. Yadin excavated again for five seasons in the 1960s and 1970s, focusing mainly on the Iron Age II remains (Aharoni 1993: 1004-1005). A Tel Aviv University team, led by I. Finkelstein, D. Ussishkin and B. Halpern, reinitiated excavations at the site in 1992.

The earliest temples constructed in Area BB at Megiddo date to Early Bronze III: this sacred area included a round round platform with at least one earlier phase and three broadroom temples (Aharoni 1993: 1006-1008). The cultic character of this area was retained in Stratum XIV, when cult room 4040 was constructed on the remains of the EBIII sacred area.

Cult Room 4040C and High Place D, Stratum XIIIB-A (MBIIA)

Phase C of cult room 4040, which consisted of two irregularly shaped rooms, is dated to MBIIA (Kempinski 1989: 178). Artifactual remains found in High Place D, located just to the south of 4040, are indicative of an open cult area. Decorated cultic vessels in this assemblage included a vessel with a 'water-carriers' motif; other finds include five female figurines and a silver crescent (Kempinski 1989: 180).

High Place F, Stratum XII-XI (MBIIA-B)

High Place F is the name given the second phase of High Place D. A small room measuring 5.5 x 3 m was constructed on this traditionally sacred spot, and a number of stone *stelae*, measuring about one m in height, stood in the vicinity. Comparisons have been made between this structure and the Obelisk Temple at Byblos (Kempinski 1989: 178-180). A large stone table, measuring approximately 2 x 1 m based on published plans, lay to the east of the structure (Loud 1948: Figs. 206, 207). Artifactual remains from this area and the earlier High Place D originated in an area containing 'mixed debris' whose cultic character went unrecognized by the Chicago team. More female figurines may be attributed to Phase F of the High Place, and figurines from both D and F are connected to figurine groups from Nahariya and Byblos (Kempinski 1989: 180).

Summary: Stratum XIII-XI

The only stone object attributable to the cultic areas of the MBIIA-B is the large stone table associated with High Place F. The table was only published in photographic plates (Loud 1948: Figs. 206, 207), making an assessment of its physical character difficult. It seems to resemble the large table found in Area F at Hazor, and may have been used as a table for slaughtering animals like the Hazor example. Alternately, it may have been used as a table for the placement of offerings, a function supported by its proximity to *stelae*.

Temple 2048, Stratum X (MBIIC)

Once a subject of great debate (Dunayevsky and Kempinski 1973: Epstein 1965: Gonen 1987), the earliest phase of Temple 2048 is generally believed to date to MBIIC.[19]

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[19] R. Gonen has shown, however, that the ceramic evidence points to an early LBI date for the first temple (1987: 86); in addition, R. Bonfil's redating of the first phase of the Area A *migdal* temple at Hazor from MBIIC to LBI (1997) may suggest a later date for Megiddo Temple 2048.

Constructed on the remains of the traditional cult area, the earliest temple consisted of a single longroom measuring 21.5 x 16.5 m with 4 m-thick walls. The temple's only interior feature was a niche built into the rear wall directly across from the entrance. Two cells flanked the broad open entrance room in this phase (Kempinski 1989: 182).

Stratum IX - VIII (LBIA-B)

Temple 2048 continued to function in LBIA much as it had in its preceding phase. Minor renovations are evidenced by a tower built to the right of the temple entrance, but not bonded to it. The tower apparently collapsed soon after it was built, and two parallel nonmatching towers were constructed in Stratum VIII (Epstein 1965: 214-215). Repairs were made in the rear of the temple during this phase, although the original niche continued to be used (Kempinski 1989: 182).

Stratum VIIB (LBIIA)

Some changes were made to Temple 2048 in its next phase, which dates to LBIIA. Repairs were made to the right tower at the temple entrance, the niche in the temple's rear wall was covered by a narrow platform, and a new enclosure wall closed the temple area to the west (Kempinski 1989: 183). A collection of stone objects was found on the floor of the Stratum VIIB temple, including "a 'bath,' a smooth flat slab or 'table' with cuplike depressions, one circular and six squared basalt blocks, another circular piece and a drain, both of limestone" (Loud 1948: 105). These objects are shown only in photographic plates (most clearly in Loud 1948: Fig. 254), and do not seem to be illustrated anywhere else. All objects were embedded in the floor except for possibly the six squared basalt blocks. A steatite scarab, several beads, and a collection of bronze objects including tools, weapons, a bowl, a pin and a possible mirror were found on the temple floor as well (Loud 1948: 159).

Stratum VIIA (LBIIB-Early Iron Age)

The Stratum VIIB temple suffered a major destruction and was succeeded by a new temple built in the twelfth century. The nature of the architecture and ceramic vessels demonstrates that Stratum VIIA was at least founded in the LBA, although it continued into the Early Iron Age (Gonen 1987: 96). The platform in the rear of the temple was enlarged and three Egyptian statues from the Middle Kingdom were buried in it (Loud 1948: Plates 265-266). A basalt pedestal bowl with traces of red pigment was found in the platform (Loud 1948: Figure 262.15), and a hoard of objects including gold jewelry, beads made of metals and precious stones and gold fragments was found in the platform wall (Loud 1948: 159). An unusual stone installation forming a vertical socket stood to the left of the temple's entrance in Stratum VIIA. From the photographic plate, it is possible to see a number of small cupmarks on the surface of one of the two stones that formed this installation (Loud 1948: Figure 260). I. Singer speculated that this socket might have supported the statue of Ramses VI (1988-89: Note 12).

Conclusion: Megiddo

There are many difficulties involved in assessing the material remains of the MB-LB cult at Megiddo. The excavators' misunderstanding of the cultic nature of area BB between the EBA and the founding of Temple 2048 resulted in complex stratigraphical problems still not completely resolved. Few artifacts can be confidently assigned to the cult places dated to MBIIA-B, and the objects attributed to the various phases of Temple 2048 are likewise difficult to distinguish. Although the Stratum VIIB temple contained a number of large stone objects that likely functioned in the cult, the only portable ground stone artifact attributable to Temple 2048 is the pedestal bowl found in the Stratum VIIA platform. The remains of red pigment in the bowl attest to its use as a mortar for grinding pigments in the context of the temple.

Several tables functioned in Area BB from MBIIB through perhaps the Early Iron Age. A large stone block found in High Place F with *stelae* probably functioned as a table for offerings or for butchering animals. The collection of stone objects found in the Stratum VIIB temple included a Type 1B table with cupmarks and a number of basalt blocks whose physical characteristics are unknown. A Type 2 basin made of limestone is the only one of its type to be found *in situ* in a second millennium temple in the southern Levant: its form and its provenance in the main temple hall suggests its use in cultic activities involving liquids. All of the stone objects from this LBIIA temple may have functioned in earlier phases of the temple as well (Epstein 1965: 214). An unusual socket for a door post or statue at the entrance to the Stratum VIIA temple with cupmarks on its upper surface may have played a role in activities related to entering and leaving Temple 2048.

Sharon Plain

Tel Mevorakh

A small, one dunam mound located on the Mediterranean coast between the Sharon Plain and the Carmel, Tel Mevorakh was settled from the MBA through the Persian Period and was later used as a cemetery. E. Stern directed four seasons of excavation at the site from 1973 to 1976 for the Institute of Archaeology at Hebrew University. During the Late Bronze Age, the entire site was apparently occupied by a series of sanctuaries, which remained in use from the 15^{th} to 13^{th} centuries (Stratum XI-IX) (Stern 1993: 1031-1033).

Stratum XI (LBIB)

The earliest temple at Tel Mevorakh consisted of a single hall measuring 10 x 5 m with .60 m thick walls made of mudbrick to their foundations. Its entrance was not preserved but was probably located in the southern wall. In the northwest corner stood a rectangular plastered platform with five steps leading up to it from the east. The imprint of a small wooden column may be evidence for a canopy that once covered the holy of holies. The bottom half of a storage jar was embedded in the floor south of the altar. Lower platforms and benches were found along the long walls with vessels still resting on them; the ceramics primarily included open vessel forms (Stern 1984: Figure II). The few non-ceramic finds from this early temple included beads and a bronze arrowhead that were found on and around the altar (Stern 1984: 24-25).

Three installations were apparently added in a later phase of this building: an empty pit about .5 m deep, a group of four large enigmatic stones partially embedded in the floor and a probable pillar base (Stern 1984: 5-6). Stone-paved courtyards were identified to the south and west of the temple, but most of the outer area was left unexcavated (Stern 1993: 1033).

Stratum X (LBIIA)

The temple was rebuilt in Stratum X on the same general plan as the earlier temple, but with numerous internal changes. Unlike the Stratum XI temple, the X temple was built of stone. The platform and steps from Stratum XI were rebuilt and enclosed by a new stone wall, and a new bench was built along the northern wall. Ceramic finds on the greatly-expanded platform included bowls, votives, lamps, chalices, a jar and a krater; small finds included weapons, beads, game pieces, jewelry, cylinder seals, a snake figurine and two cymbals (Stern 1984: 7). A small room paved with stone built to the west of the platform contained a stone silo (Stern 1984: 7). Stone-paved courtyards similar in nature to those from Stratum XI surrounded the temple (Stern 1984: 8). The only ground stone object reported from this temple was a limestone tripod bowl* that was found south of the platform on the west bench in the sanctuary (Stern 1984: Fig. 4:41).

Stratum IX (LBIIB)

Very little is known of the Stratum IX temple due to poor preservation: only parts of the northern, western and eastern walls remained. Based on the large stones that formed the foundation, Stern believed that this might have been the largest in the series of three LBA temples (Stern 1984: 28). Stern admitted that his attribution of these badly preserved foundations to a temple was based on the continuity of sacred architecture seen at other sites (1984: 8).

Conclusion: Tel Mevorakh

The only ground stone artifact found *in situ* in the temples at Tel Mevorakh was a limestone tripod bowl that was found in the Stratum X temple in L 218, close to the west bench south of the platform (Stern 1984: 27). Evidence for its use as a mortar during its life history was noted upon physical examination of the bowl. Its provenance on a bench close to the platform inside the temple suggests that it was left as an offering: no pestles or other ground stone equipment that may have been used with this mortar in processing activities were found in any phase of the temple.

A limestone table found in secondary use as a building stone in Wall 36 of Stratum VI may have functioned in one or more of the temples (Stern 1984: Fig. 31: 10). Based on comparisons between this table and those excavated from the Area H temples at Hazor, Stern concluded that the Mevorakh table must have had a cultic function (Stern 1984: 27). The top of the table featured an incised circle bisected by a straight line, and a deep depression carved on one side of the circle.

Some conclusions about the nature of the cult practiced in the temple at Tel Mevorakh can be drawn from the architectural and artifactual evidence, as well as the nature of the site itself. The central activity that took place in the small sanctuary was the presentation of offerings, which is evidenced by the large amounts of open pottery forms and other artifacts found lying on the benches and platforms. The limestone tripod bowl was probably brought to the temple as an offering or a container for offerings as well. The lack of evidence for domestic architecture may support the function of the temples as roadside shrines, as has been suggested by Stern and others (Stern 1977: 91).

It is possible that the table found in secondary use was part of the cultic equipment of the Stratum XI temple. The installation consisting of four stones partially embedded in the floor of the Stratum XI temple, which measured approximately .6 x .6 m, probably served as the base for this table.[20] Although no scale for the table is given (Stern 1984: Plate 31:10), it was probably no larger than the base of four stones embedded in the temple floor.

Jordan Valley

Tell Kittan

Tell Kittan is located on a strategic hilltop on the west bank of the Jordan River, about 12 km north of Bet Shean. The ancient site occupied about 1.5 a on the hill's summit and 2.3 a at its foot. Five seasons of excavation were carried out at the site under the direction of E. Eisenberg on behalf of the Israel Department of Antiquities and

[20] As in the Stratum 1B and 1A temples in Area H and the Stratum 1 Cult Place in Area F at Hazor.

Museums from 1975-1978. Ten settlement layers dating from the Chalcolithic to Mamluk period were identified, and the site apparently reached its greatest size and prosperity in EBI. After a long gap in settlement, it was resettled in MBIIA (Eisenberg 1977: 77-78).

Stratum V (MBIIB)

The earliest sacred area at Tell Kittan was founded in the center of the site in MBIIB. Surrounded by houses, this 5.5 x 6.9 m sanctuary consisted of a single hall built of mudbrick on a foundation of river stones. Two *antae* and two freestanding stone column bases flanked the entrance (Eisenberg 1993: 880). Interior built features included low mudbrick benches that stood along the walls and four stone slabs that probably served as column bases. No "offering vessels" were found on the floor of the temple, and the excavator did not specify which MBIIB vessels dated this structure (Eisenberg 1977: 78).

About five m in front of the temple, in the courtyard, stood a row of eight *stelae* made of river pebbles with three small pits between them. A *stele* depicting a naked female figure stood in the middle of the row; her hands support her breasts and details of her facial features and hair can be discerned. A cooking pot was found at the foot of this statue (Eisenberg 1976: 107), and two larger *stelae* stood behind the row of eight (Eisenberg 1993: 880). Poorly preserved residential units that contained finds characteristic of MBIIB surrounded the temple, including infant jar burials (Eisenberg 1993: 880).

Stratum IV (MBIIB)

A much larger temple complex was built around the remains of the first in the next phase of MBIIB, covering and protecting the earlier temple and the *stelae* in its courtyard. This rectangular building measured 14.3 x 11.5 m and had very thick walls of unfired mudbrick on a stone foundation (Eisenberg 1993: 880). No remains from the interior of this temple were reported.

Numerous installations functioned in the Stratum IV courtyard. A semicircular mudbrick bench stood to the eastern façade of the temple, and numerous hearths containing animal bones were found between the bench and the temple wall. Near the northern corner of the wall two basalt bases and one flat basalt slab were found: Eisenberg suggested that the bases served as pedestals for *stelae* and the slab was used as a offering table. The nature and dimensions of the basalt table are impossible to reconstruct from the published plan (Eisenberg 1977: 79). Four figurines roughly carved of stone were found in the vicinity of the bases and slab. Building remains found at the southern edge of the mound indicate that the Stratum IV temple stood in the center of a fortified area that covered most of the site (Eisenberg 1993: 881).

Stratum III (LBI)

After the destruction of the final MBA settlement at Tell Kittan, the site was resettled in LBI and a new temple erected on the same spot as the previous temples. Built on an entirely different plan from the Stratum V and IV structures, this temple complex included a large hall with two small rooms in the south and an enclosed courtyard in the east. The floor of the hall was damaged by later burials, but many temple artifacts were preserved along the hall's southern wall and in the two adjacent rooms (Eisenberg 1993: 881). Many vessels, including juglets, bowls, chalices and goblets were recovered from the temple. Faience beads, semi-precious stones and silver pendants were found in the some of the bowls, and a long bronze knife was uncovered in one of the auxiliary rooms (Eisenberg 1977: 80).

Between the courtyard and the area to the east a circular structure 2 m in diameter and built of small pebbles was found filled with ashes. The excavator suggested that this was an open cult place, but it is not clear if its construction was contemporary with the final temple (Eisenberg 1977: 80). A basalt table measuring approximately 1.8 x .5 m was found in the enclosed courtyard (Eisenberg 1976: 108) along with several layers of sherds from discarded vessels and two basalt bowls° (Eisenberg 1977: 80). An object (seen in a photographic plate) that appears to be an intact simple mortar (Eisenberg 1976: 108) is probably one of the two 'bowls.' The site was abandoned suddenly sometime during LBI, and the temple was never rebuilt.

Conclusion: Tell Kittan

According to the preliminary reports, very few ground stone objects were recovered from the series of temples at Tell Kittan. The flat slab between the two bases in the Stratum IV courtyard may have been used as an offering table, a function perhaps supported by its proximity to several roughly carved anthropomorphic figurines. The table found in the courtyard of the Stratum III temple probably served as an offering table as well. The function of the two 'bowls' is more difficult to reconstruct, as they were not illustrated or described in detail in the reports. They may have been used in food processing or other activities associated with the temple, although no pestles or other grinding equipment were reported. Alternately, they may have been brought to the temple as offerings and discarded along with the heaps of ceramic sherds found in the Stratum III courtyard.

Bet Shean

Bet Shean, located at the junction of two important routes on the west bank of the Jordan River in antiquity, was inhabited almost continuously from the Late Neolithic to the Early Arab periods. The earliest remains on the ten a *tell* date to the Bronze Age, and the lower city was first settled in the Roman period. The site was first excavated between 1921 and 1933 by the Museum of Archaeology and Anthropology at the University of Pennsylvania, directed by C.S. Fisher, A. Rowe and G.M. FitzGerald. Y. Yadin and S. Geva conducted a short season of excavation at the site in 1983 on behalf of the Institute of Archaeology at the Hebrew University. A. Mazar of the Hebrew University directed excavations at the site again from 1989-1996. Temples dating to the LB and Early Iron Ages were excavated by the University of Pennsylvania team and by the excavations directed by Mazar (Mazar 1993a: 214-215).

R3 Temple (Pre-stratum IX) LBIA

Discovered by A. Mazar and the Hebrew University team during renewed excavations at the site in 1989, the R3 temple is the earliest in a series of temple complexes built on the same spot for the following five hundred years (Mazar 1993a: 216). A mudbrick building measuring about 15 x 12 m, the temple was a modest tripartite structure consisting of a porch, main hall and holy of holies in its first phase. The main hall of the temple, which measured 7.3 x 5.6 m, featured plastered benches along its eastern, southern and northern walls. The western half of the hall, which was hidden behind a partition wall, may have been a treasury. On the eastern face of this partition wall was a bench with a raised platform into which a cylindrical stone about .5 m in height was sunk. The holy of holies is probably to be found in the 7.8 x 3.2 m trapezoidal chamber, which had plastered benches along its walls and a double bench with a plastered depression at its western end. Two narrow rooms to the west of the temple may have also been part of the temenos: the northernmost room contained plastered benches around a central depression, and small round cylindrical stands (Mazar 1993a: 216; Mazar 1993b: 611-612).

The temple was apparently abandoned when its walls began to collapse, and no "especially interesting" finds were left behind (Mazar 1993a: 216). Mazar noted that the floor of the temple was devoid of finds save sherds, two scarabs and a fragment of a bronze statuette (Mazar 1993b: 614). No ground stone artifacts from this recently excavated temple have been reported.

Stratum R2 (IXB) LBIB

According to Mazar, the temple complex attributed by A. Rowe to the reign of Thutmosis III was first constructed in LBIB (Mazar's Stratum IXB). The preceding R3 temple was leveled by an artificial fill and a new cultic area that consisted mainly of an open courtyard was built on top (Mazar 1993a: 216). A beaten earth floor was laid over fallen bricks from the area occupied by the former entrance porch, and a large pit containing organic material, animal bones and ash was dug into the northwestern part of the main hall. A basalt stone floor found north of the temple covered by ash and bones probably belongs to the same phase (Mazar 1993b: 614).

Distinguishing between the LBIB and LBIIA phases of the temple precinct at Bet Shean is difficult without final publication of the results of the Hebrew University excavations. Architecture and artifacts from Stratum IXB and IXA are thus discussed together here, with the understanding that some artifacts and installations may be attributable to either phase.

Stratum IXA Temple (LBIIA)

The Stratum IXA temple (**Figure 13**) was originally excavated by the University of Pennsylvania team under the direction of A. Rowe, who dated it to the time of Thutmosis III. Mazar has redated this temple to the fourteenth century based on his more recent excavation of the site. The temple was a rebuilding of the previous Stratum IXB temple, and consisted of a central courtyard with a number of rooms and installations around it (Mazar 1993a: 216).

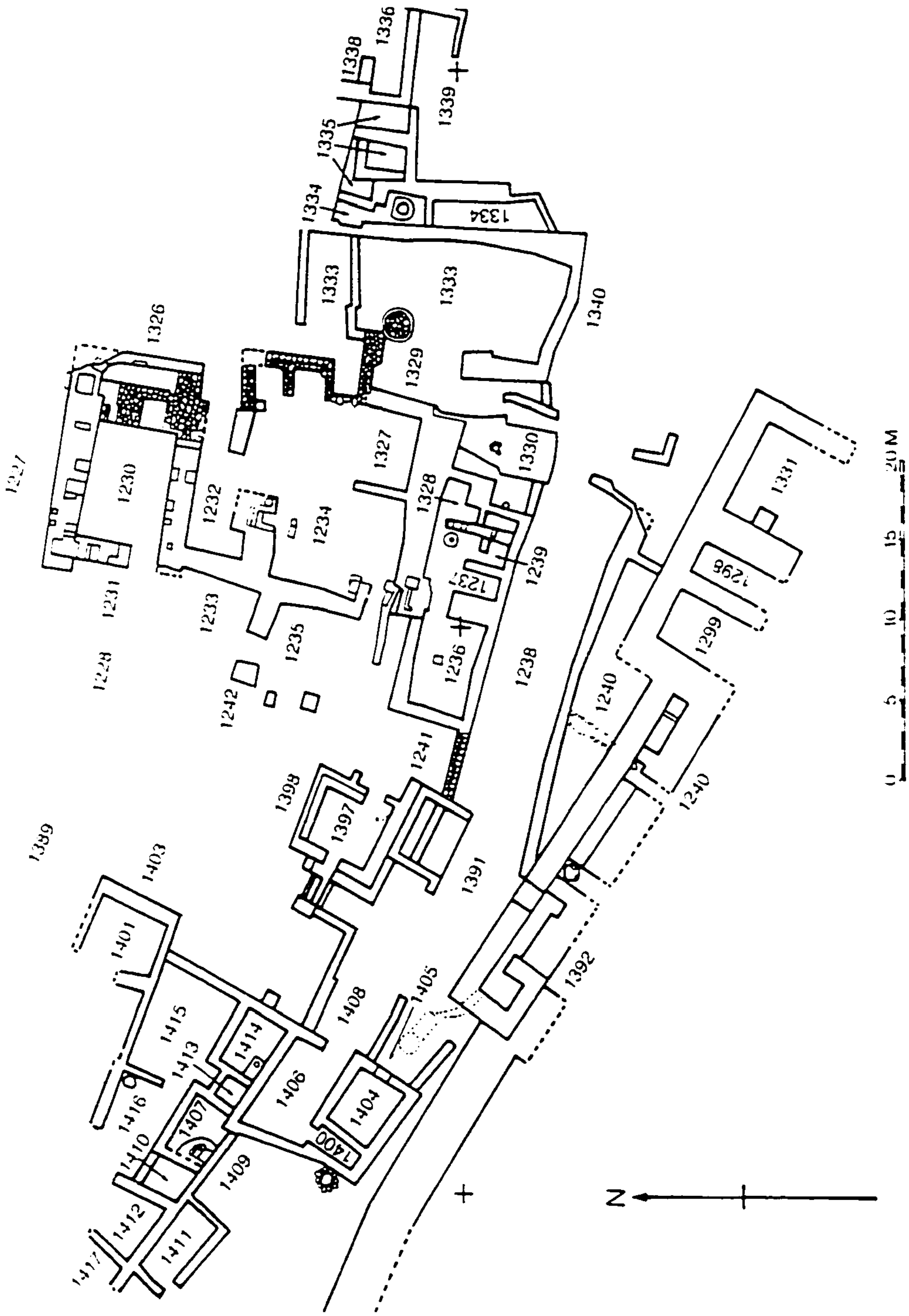

FIGURE 13, Plan of Bet Shean IXA, from McGovern 1995: Map 4.

The most significant find from this temple complex was the Mekal Stele, a monument dedicated by the Egyptian official Pa-Re-em-Heb in memory of his father Amen-ep (Mazar 1993a: 216). It is important for its mention of the 'lord of Bet Shean' and because it demonstrates Egyptian presence at the site in LBIIA. A number of ground stone artifacts were found in various contexts in the temple complex, although very few of them have been published.[21] The main architectural components of the complex are discussed below, but special attention is paid to installations with associated ground stone artifacts.

The inner sanctuary room (L 1234), or holy of holies, was located at the center of the complex; it measured 14 m north to south. The focus of this room, and apparently its only built feature, was an altar area that consisted of three mudbrick steps and a platform with a stone vessel or mortar° embedded in it (Rowe 1930: 11) and a separate stone table standing in front of it (Rowe 1930: Plate 18: 1). Rowe believed that the vessel or mortar was used as a receptacle for blood offerings, and the stone table in front of it a surface for cooked meat offerings (Rowe 1927: 419). The stone table was actually an installation consisting of two separate pieces of stone with a maximum height of 12 in (33 cm) (Rowe 1929: Plate on 82). Other measurements could not be determined from the published plates.

The altar area was surrounded figurine and a gold-covered bronze male figurine, scarabs and scaraboids, a ceramic cult stand and zoomorphic vessel, a steatite jewelry

[21] Only a few objects from this temple are illustrated in Rowe 1940. Unpublished ground stone objects are held by the University of Pennsylvania Museum of Archaeology and Anthropology and are presented here courtesy of the Museum. The Museum's identification number follows the unpublished objects.

mold, a Hittite bronze dagger, an ivory cosmetic pot, jewelry and other objects were found in L 1234 in the vicinity of the mudbrick altar (Rowe 1930: 11). Another altar,° in the form of a small basalt stand with by various sacred objects either brought to the temple as offerings or used in cultic activities (Rowe 1927: 416). A pottery female paneled sides and knobbed ends, was also found in this room: it has stylistic affinities with the incense altar (H134/1) from the Stratum 1A temple in Area H Hazor (Rowe 1940: Plate LXIXA: 1, 2). Just behind the altar area, in L1232, a basalt pestle* (29-107-478) was uncovered.

Just south of the inner sanctuary lay the sacrificial altar room (L 1236), which was actually a complex of rooms and installations. A mudbrick platform, or 'altar,' was found in the room, along with a socket that Rowe speculated once held a peg for tethering sacrificial animals. Two horns of a bull, perhaps a sacrificial victim, were found against the south side of the altar (Rowe 1930: 11), and a rectangular basalt table was found nearby (Rowe 1927: 423). The table is illustrated only in a photographic plate with no scale (Rowe 1927: Plate on 422), but it appears to measure about 1 x .5 x .20 m. A basalt plate was the only other ground stone object found in this room (29-107-372).

The southern corridor of the temple ran east west just south of the sacrificial altar room. In the northeast portion of it (L 1330) stood a low mudbrick platform with an installation consisting of a .5 m high *stele* on a base of unhewn stones (total height 2.5 ft [.78 m]) and a basalt bowl° (29-107-402?) 1.2 m southwest of it (Rowe 1928: Plate on 148). Rowe theorized that a channel once connected the two that would have allowed blood libations poured over the *stele* to flow into the 'libation bowl' (Rowe 1928: 147).

He also believed that this installation was a remnant of a former open cult area that was later incorporated into the temple complex of Stratum IXA (Rowe 1928: 147-149).

In the western part of the corridor stood the great stepped altar[22] that measured 5.13 m wide and 3.61 m deep (Rowe 1930: 13). A small *stele* (called a 'baetyl') measuring 26 cm in height (Rowe 1930: 13) was found behind it in L 1397 (Rowe 1940: Plate LXIXA, 3). Just north of the steps was L 1397, a room with low benches that was re-excavated by Mazar. Rowe apparently missed the remains of a circular pit with animal bones and ash that may have been used to as a roasting pit. It is similar to the large oven on the eastern side of the complex in L 1329 that was excavated by Rowe (Mazar 1993b: 616). The only other feature mentioned is a sloping socket in the southeast corner where Rowe believed a guard dog may have been tethered to a peg (Rowe 1930: 13). A pestle* (29-107-463) was the only ground stone artifact recovered from this room.

South of this corridor stood a complex on the border of the southern edge of the *tell*. L 1331 yielded one of the prize finds of the excavation: a large basalt relief depicting lions and dogs. Two basalt plates (29-107-392; 29-107-430) were found in association with this relief.

A large open courtyard was located to the west of the inner sanctuary. Among the installations found in this courtyard was a socket for a pole upon which carcasses of sacred animals may have been suspended after slaughter; Rowe's vivid reconstruction was apparently based on the bull collarbone, bronze dagger and heavy bronze pendant

[22] Mazar believes this was a staircase to the roof (1993a: Plan on 216).

with a lion leaping on a bull found nearby. Three low mudbrick platforms (L 1242) also found in the courtyard may have served as sacrificial tables (Rowe 1930: 13). Other finds from the courtyard included a shallow basalt dish° with traces of red colouring still in it (not illustrated) and chunks of yellow ochre (Rowe 1929: 40). A single handstone* was found in the southern part of the open courtyard, in L 1241 (29-107-485) and a roof-roller* (29-107-869) was found in L 1228 in the northern part of the courtyard.

North of the inner sanctuary (L 1230) stood a well-built room with thick walls. Rowe uncovered another socket on its eastern wall that may once have supported a wooden pole. A quantity of basalt weights was reported from this room (Rowe 1930: 14). A handstone* (29-107-479) was found just north of this structure, in L 1227.

Southeast of this room, and east of the inner sanctuary, stood a complex (L 1329, L 1333) that featured an oven some 2-m in diameter (Rowe 1930: 13-14). The oven contained pieces of bronze wire, ashes, horns, charred bones and a piece of a female figurine (Rowe 1930: 13). Ground stone artifacts found in the vicinity of the oven included "dishes, corn-mills, and grinders of basalt"° (not illustrated) (Rowe 1929: 43), that may include a pestle* (29-107-501), a handstone* (29-107-528) and a plate* (29-107-449).

Summary: Stratum IXA

The diverse assemblage of ground stone artifacts and their provenance suggest some of the activities associated with the Stratum IXA temple. Unfortunately, many of the stone objects mentioned in Rowe's preliminary and final reports were not illustrated, and not all of the unpublished material was available for physical assessment. It is possible however, to reconstruct the functions of some of the ground stone implements based on Rowe's descriptions.

Stone tables and vessels/mortars were found in direct association with several built features used in the temple cult. The basalt table installation found in front of the mudbrick altar in the inner sanctuary was probably used as an offering table, as the small finds found in close association to it attest. The mortar bowl embedded in the mudbrick altar is a unique *in situ* feature among the MB-LB temples; its ritual character is evidenced by its direct association with the altar, table and numerous artifacts of a cultic nature. Whether it functioned as a mortar or a container for liquids is unknown, as the object was apparently not saved. The table found in the sacrifical altar room was also probably used as an offering table, although it is difficult to reconstruct the provenance of objects found in association with it.

The vessel or mortar found in front of a *stele* set into the mudbrick platform in the corridor clearly served a cultic purpose. The association of stone containers with *stelae* is known in the southern Levant from at least the fifth millennium BCE; ceramic vessels are also found in association with *stelae* in MB-LB cult sites. Although physical evidence for the function of this object is unavailable, it may have been used as a container for liquids.

A basalt dish of unknown type with the remains of red pigment in it as well as the pieces of yellow ochre found separately attest to pigment processing activities associated with the open courtyard. No pestles or other processing equipment was found in close association with the basalt dish.

The association of several pieces of stone processing equipment with two ovens in the temple complex provides compelling evidence for food preparation activities. The large oven excavated by Rowe had "dishes. corn-mills. and grinders of basalt" (1929: 43) in association. although the objects were not published and their forms are unknown. They could include. however. an unpublished pestle. handstone and plate assigned to L 1333. Bread may have been prepared and baked in this area for use in the temple cult. The same function may also be attributed to L 1397. where Mazar excavated an oven missed by Rowe. A pestle was found in association with the latter oven.

A roof-roller found in the open courtyard. which is similar in form and dimensions to other Bronze and Iron Age examples (including the roof-roller from the Stratum 1A temple in Area H at Hazor). may have been used on one or more of the roofed rooms in the temple complex. Its attribution to the Stratum IXA temple is not completely secure however. and its exact provenance is unknown.

Stratum VIII -VII Temples (LBIIB)

Rowe published the results of his excavations of the later 'Amenophis III' temple more completely than he did the Stratum IXA temple. but unresolved issues about the nature of the LBII settlement at Bet Shean led F.W. James and P.E. McGovern to reanalyze and publish the results of Rowe's excavations (1993). James and McGovern have shown that the Stratum VII temple ascribed by Rowe to Amenophis III actually dates to the thirteenth century and was probably a rebuilding of an earlier, Stratum VIII, temple. The nature of the Stratum VIII temple is not entirely clear, and the artifacts and installations attributed by James and McGovern to Strata VIII and VII are described together below according to the temple's main architectural features in Stratum VII. All of the artifact illustrations mentioned below are published in James and McGovern 1993.

Oriented north-south, the Stratum VII temple (**Figure 14**) was built on a tripartite plan consisting of an entrance hall, a main hall and an inner room like the earlier R3 temple (Mazar 1993a: 217). Rooms stood to the south of this main temple structure, and open spaces to the north and west served the cult as well. The plan of the Stratum VII temple complex is quite different from that of the preceding Stratum IXA.

The altar room (L 1068) was a narrow space measuring 11.5 x 2.7 m that was approached via a stairwell from the inner courtyard. The only built feature in L 1068 was a shallow bin that measured .8 x 1.0 m built along the northern wall. Rowe believed the 'upper altar' that would have originally occupied this room was cleared away and moved to the Level VI temple (James and McGovern 1993: 6). Artifacts from the altar room were found either on or under the floor; objects found under the floor were attributed to the Stratum VIII temple phase (James and McGovern 1993: 6-7). Among the objects found on the floor of the altar room were open and closed ceramic vessels, stands, jewelry, beads, tools, weapons, gold fragments, a scarab, a pestle (not illustrated) and a basalt handstone (Figure 125.3) (James and McGovern 1993: 7-8). Objects found under the floor of L 1068 included a similarly rich assemblage, with the addition of a copper-base female figurine and a miniature basalt throne (James and McGovern 1993: 9-10).

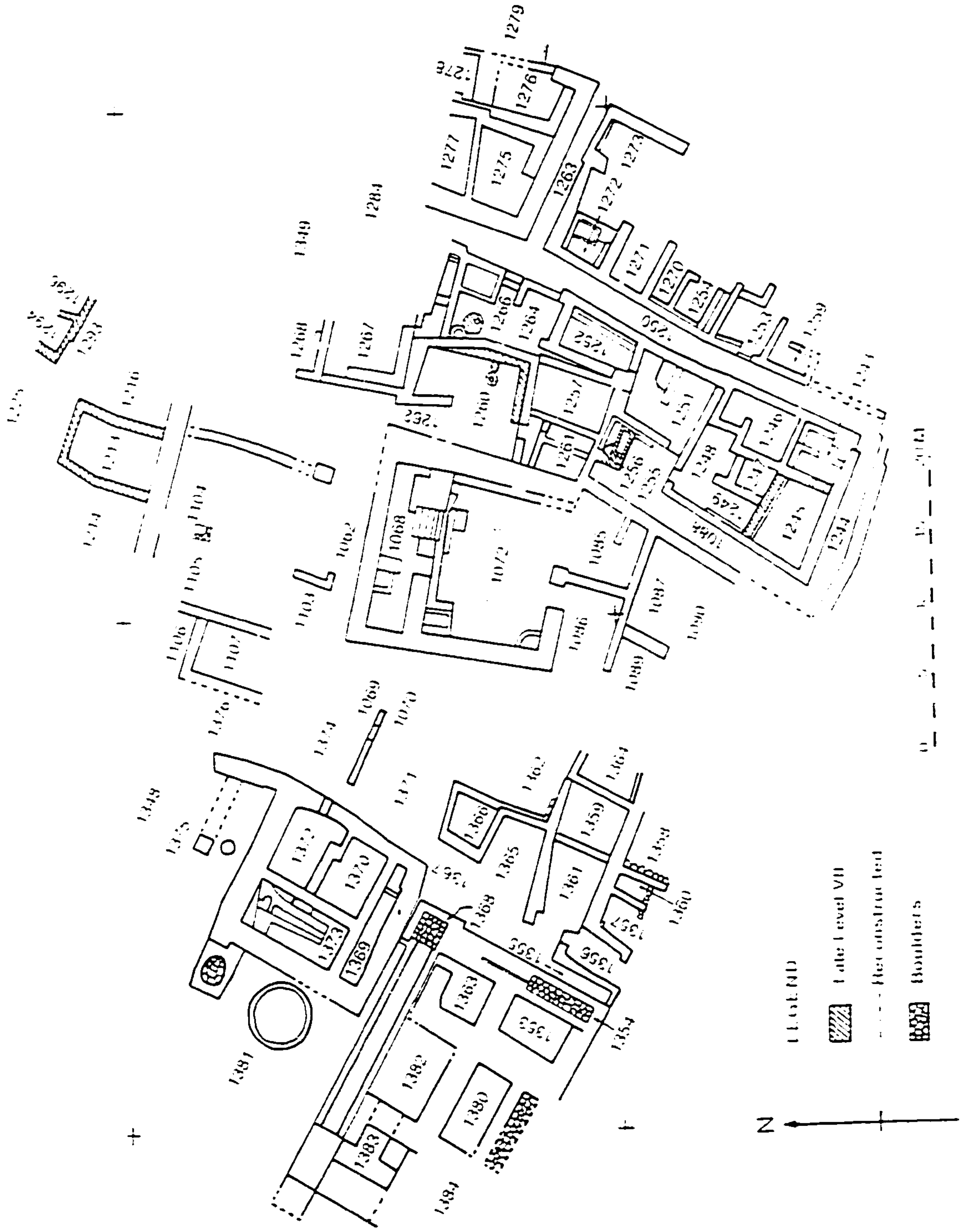

FIGURE 14, Plan of Bet Shean Stratum VII. From James and McGovern 1993: Map 1.

Stone objects found under the floor included a fragment of a footed basalt bowl (Figure 123.5), a basalt pestle (Figure 126.3), a basalt perforated stone (Figure 128.7), a limestone object bored at both ends° (Figure 131.6) and a spherical piece of limestone° (not illustrated) (James and McGovern 1993: 10).

A large assemblage of objects was also found under the flight of steps between the altar room and the inner courtyard. The nature of the artifacts, which included many beads, jewelry, pieces of gold and other small precious objects, and their location under the Stratum VII stairs, led James and McGovern to attribute this assemblage to a votive deposit (James and McGovern 1993: 6-7). Three basalt pestles (Figures 126.2, 126.4, 126.5), a fragment of 'red stone'° (not illustrated) and a limestone refuse core from a perforation (Figure 131.7) were the stone objects included in the votive deposit. L 1092, which may correspond to the entrance to the altar room in Stratum VIII, produced one basalt pestle (Figure 126.1).

The inner courtyard of the temple complex (L 1072) was located just south of the altar room; it was a trapezoidal space that narrowed from 10.8 m wide on its northern end to 9.5 m on its southern end, with an eight m-long eastern wall and a 7.6 m-long western wall. Interior features included a bench that ran along the northern and eastern walls, a rectangular bin that measured about 1.6 x 0.8 m in the northwestern corner and a curved bin with a diameter of 1.2 m in the southwestern corner. A mudbrick platform that measured 1.4 x 0.8 m and probably served as an altar abutted the eastern base of the stairway leading between the inner courtyard and the altar room; an ivory Hathor 'clapper' and pieces of gold foil overlay and faience were found in association with this altar (James and McGovern 1993: 12-13). Other artifacts from the inner courtyard included many pottery sherds and beads, small objects of faience, ivory, alabaster, copper and other materials, and a limestone *stele* depicting a female deity. The only ground stone artifact recovered from the floor was one oblong piece of 'marble'° (not illustrated) whose nature is unknown (James and McGovern 1993: 13-14).

A basalt quern with a handstone lying on top of it was found underneath the inner courtyard of Stratum VII in association with an oven attributed to Stratum VIII (L 1092). These implements are illustrated in a single photographic plate without a scale (Rowe 1930: Plate 12, 2). James and McGovern noted that this was the only 'grinder' found in the context of the temple (192-193) and reconstructed its use in activities related the preparation of food and offerings (242).

Locus 1085 was a small room located southeast of the inner courtyard that measured about 5 m from north to south with a 4-m long southern wall and a 5.6-m long northern wall. A small bin that was left unexcavated by Rowe was built into the southwestern corner of this room. Artifacts found on the floor included ceramic sherds, two female figurines, a fragment of a cobra figurine, beads, jewelry, scarabs and a seal (James and McGovern 1993: 15). A base sherd of a vessel or mortar (Figure 123.10) and a handstone (Figure 126.10), both made of basalt, were found below Locus 1085 in Level VIII (James and McGovern 1993: 16).

L 1108 was a large, poorly defined locus attributed to Stratum VIII by James and McGovern and located underneath L 1085 (1993: 15). This locus contained "an enormous quantity of pottery and animal remains" (James and McGovern 1993: 15) as well as figurine heads, ceramic stand fragments, jewelry, copper implements and many other objects. Stone objects from L 1108 included a basalt or diorite plate (Figure 123.1), a simple basalt mortar (Figure 123.11), a sherd of a basalt ring base vessel (Figure 123.4), a sherd of a basalt footed vessel (Figure 123.6) and two perforated stones, one of limestone (Figure 128.8) and one of basalt (Figure 128.6) (James and McGovern 1993: 16-17).

The room just west of L 1085, the entrance hall, was designated L 1086. The entrance hall was bounded by walls on its northern, eastern, and southern sides, and opened on its western side to the western outer courtyard (James and McGovern 1993: 17). A basalt plate (Figure 121.7) was found in the entrance hall along with pottery sherds, pendants, a steatite spindle whorl and other objects (James and McGovern 1993: 18).

The northernmost extent of the Stratum VIII-VII cult complex was the northern outer courtyard, an open area of about 10 x 13 m defined by wall segments on its northern, eastern and western sides and the back wall of the temple on its southern side (James and McGovern 1993: 18). A rectangular stone structure measuring 1.2 x 0.8 m stood 10.75 m north of the temple (Rowe 1940: 10) in the northern outer courtyard; the large quantity of ash and burnt animal remains attests to its function as an altar for burnt sacrifices.

Numerous artifacts were found in this area and attributed to the courtyards of either Stratum VIII or VII. A basalt pedestal mortar bowl* (Figure 122.6) was found near the altar, and many miniature ceramic vessels, fragments of zoomorphic vessels, figurines, jewelry and other special objects were found in association (James and McGovern 1993: 18-20). Other ground stone objects found in the northern outer courtyard included a basalt everted bowl (Figure 121.5), a basalt tripod mortar bowl (Figure 123.9; pl. 48k) and a unique basalt object with an intentionally flattened top that may have been a socle or a potter's wheel base* (Figure 129.3). A basalt footed mortar bowl (Figure 123.3; pl. 48g) and a basalt everted mortar bowl (Pl. 48l) may have been associated with the Stratum VIII portico: other stone objects attributed to Stratum VIII include two basalt pestles (not illustrated) (James and McGovern 1993: 21).

The western outer courtyard comprised a large area with partial walls, rooms and perhaps an entrance to the Stratum VII temple complex. Objects found in the Stratum VII courtyard were sparse compared to the rest of the complex, but included fragments of stands and figurines, a hieratic ostracon, jewelry, and a few other special objects. Stone artifacts included a basalt plate (Figure 121.10), a basalt shaft straightener (Figure 130.8), a basalt 'grinder'° (not illustrated, but probably a handstone), a basalt handstone fragment (Figure 125.5), a basalt grooved abrader (Figure 129.2) and a limestone fragment bored at one end (Figure 130.4) (James and McGovern 1993: 22-24).

The southern outer courtyard consisted of spaces partially defined by walls and an open space to the south. Locus 1089, just southwest of the entrance hall, yielded numerous interesting finds, including a fragment from the Mekal Stele, cobra and female figurines, beads, pendants, arrowheads and other objects. Among the assemblage were a basalt plate (Figure 121.6), a quartzite everted mortar bowl (Figure 122.2) and a basalt palette (not illustrated). Upper L 1089 also contained numerous figurine fragments and other objects, among them a basalt everted bowl (Figure 122.8; Plate 48m) (James and McGovern 1993: 24-25). A potter's wheel was found in L 1088 (Figure 129.1) just east of the southern outer courtyard area; its association with the temple is not secure.

Summary: Stratum VIII-VII

Despite many changes to the layout and character of the Stratum VIII-VII temples, the tradition of using a variety of ground stone implements in temple activities was retained. No stone tables similar to those used in the Stratum IXA temple were found in the succeeding temples however, and it is possible that any large stone objects were reused in the succeeding Stratum VI temple (James and McGovern 1993: 6).

James and McGovern noted that mortars, pestles and 'grinders' (a term that apparently refers to handstones) were about equally distributed between temple and residential contexts in Levels VII and VIII, and saw this as evidence for various 'craft activities' carried out in the temple complex (1993: 243). The function of some of these implements as food processing equipment, containers and votive offerings made by craftsmen is also suggested.

The interment of several ground stone artifacts, among them three pestles, in a votive deposit below the Level VII steps in the altar room is a unique feature in the MB-LB temples included in this study. The association of these pestles with a large assemblage of small, votive objects attests to their ritual character. A cultic function may also be assigned to the pestle and handstone found on the floor of the Stratum VII altar room. These objects may have been brought to this room as offerings, as no evidence for vessels, mortars or other stone processing equipment was found in close association.

A variety of stone vessels and mortars were found in the Stratum VIII-VII temples, and they seem to cluster in the southern rooms of the complex. Although the exact function of L 1085 is unknown, the nature of the artifacts found in this locus suggest its use as a storeroom or treasury room. Other vessels and mortars were found in the outer courtyards, and some were found in association with pestles and handstones. The pedestal mortar bowl found in close proximity to the altar in the northern outer courtyard probably functioned in cultic activities in this area; perhaps it was used to present offerings, on analogy with the ceramic stands found in the temple complex (James and McGovern 1993: 192).

The quern with a handstone still found lying on it under the Stratum VII inner courtyard in association with an oven suggests food processing and baking in connection with the Stratum VIII temple. No evidence for ovens was found in the temple complex of Stratum VII.

Two stone tools likely used to straighten and finish various materials were found in the western outer courtyard. This shaft straightener and grooved abrader may evidence minor craft or processing activities in the western courtyard. Fragments of bone and ivory were also reported from the western courtyard (James and McGovern 1993: 22-24).

Stone tools may also have been used to process pigments in the Stratum VIII-VII temples as in the preceding IXA temple. In their brief survey of the Stratum VIII-VII ground stone assemblage, James and McGovern stated that "traces of a red deposit.

possibly hematite or a pigment, were noted inside two mortars" (1993: 192), but do not mention in which mortars these pigments were found. It is not possible to know for sure whether this statement refers to vessels/mortars found in the temple complex or in the residential areas.

Conclusion: Bet Shean

Ground stone tools functioned in numerous activities in the LBA temple cult at Bet Shean. Similarities between the ground stone assemblages in the IXA temple and the VIII-VII temples bear witness to continuity in specialized temple activities at the site. The cultic character of some implements is demonstrated by their provenance in and around altars and platforms, in a *stele* installation in Stratum IXA, and in a votive deposit below the Stratum VII altar room steps. The use of ground stone tools in other activities not directly related to the temple cult was also evident. Numerous stone processing implements were associated with both temples, and several were found in association with ovens; these were likely used to process grain or other agricultural products for use in the temple or for baking bread. There is evidence for pigment processing in vessels and mortars in IXA and perhaps in VIII-VII, and perhaps evidence for pottery production in VII.

There were clear changes in the city plan of Bet Shean between Stratum IXA and Stratum VIII-VII that were evident in both the temple complexes and residential areas. Despite these changes, cultic continuity between the IXA and VIII-VII complexes is evident; the steps to the altar room in the Stratum VII temple, for example, were built directly over the stepped altar of the Stratum IXA temple (James and McGovern 1993: 5). James and McGovern have demonstrated that Stratum VIII-VII Bet Shean was an Egyptian garrison, with a city plan similar to sites in New Kingdom Egypt and in LB/Iron I sites in southern Palestine and Sinai with a strong Egyptian presence (James and McGovern 1993: 4). Changes in city plan demonstrate "how an Late Bronze Palestinian city-state might be transformed into an Egyptian military base" (5).

Tell el-Hayyat

Tell el-Hayyat was a small, unfortified village settlement of about .5 ha located 2 km east of the Jordan River. The earliest evidence for settlement at the site dates to Early Bronze IV, and the site was abandoned at the end of MBA. A series of temples occupied much of the site from MBIIA through MBIIC. S. Falconer and B. Magness-Gardiner of the University of Arizona conducted three seasons of excavation at Tell el-Hayyat from 1982 to 1985 (Falconer and Magness-Gardiner 1993: 591).

Phase 5 (MBIIA)

A square temple measuring 7.6 x 7.6 m with 70 cm-thick walls built of earth and mudbrick with no foundations was built at Tell el-Hayyat in MBIIA. Built features inside the temple included a mudbrick platform in the northeastern corner that may have served as an altar or surface for offerings, a mudbrick curb that lined the base of the south wall and several shallow depressions in the floor that may have been used as jar stands

(Falconer and Magness-Gardiner 1989b: 256). A miniature oxhide ingot was found on the floor of this temple (Falconer and Magness-Gardiner 1989a: 344).

A packed earth wall enclosed the temple precinct, which included the temple and a courtyard. One m-high limestone *stele* and several associated flat stones (perhaps three) were found in the northeastern corner of the temple forecourt (Falconer and Magness-Gardiner 1989b: 256). An anthropomorphic copper-alloy figurine found in the courtyard was similar in form to the figurine in a limestone mold found outside the temple enclosure (Falconer and Magness-Gardiner 1989a: 344).

Phase 4 (MBIIA)

A more elaborate temple building measuring 8 x 8 m was constructed on the site of the first temple in a later phase of MBIIA (Falconer and Magness-Gardiner 1989b: 256). Unlike the earlier temple, this structure was built on a solid mudbrick foundation and featured decorative offsets and insets on three sides of its exterior walls. Mudbrick benches stood along the interior walls of the temple and a mudbrick platform, or altar, was rebuilt in the northeastern corner and a jar was embedded in it. A shallow depression in the center of the room might have held a stone pedestal like the one found *in situ* in phase 2 (Falconer and Magness-Gardiner 1989b: 258). A second miniature oxhide ingot was found in the brickwork of the altar (Falconer and Magness-Gardiner 1989a: 344).

In the forecourt, six m-high river stones stood just north of the temple entrance (Magness-Gardiner and Falconer 1994: 138). Each *stele* had an associated flat stone lying at its base that the excavators believed may have been used for the placement of offerings. Evidence for metalworking in the temple and forecourt is evidenced by stone molds, ceramic crucibles and lumps of metal (Falconer and Magness-Gardiner 1989b: 259), as well as the presence of two copper-alloy zoomorphic figurines (Falconer and Magness-Gardiner 1989a: 343). Bronze points were also found in the phase 4 temple forecourt (Falconer and Magness-Gardiner 1989a: 340), as well as unspecified tools and jewelry (Falconer and Magness-Gardiner 1993: 592). Although associated with both contexts, more cooking, storage and serving vessels were found in the courtyard than in the temple building itself (Magness-Gardiner and Falconer 1994: Fig. 10). The only portable ground stone object associated with this temple was a possible limestone mortar (called a 'socket' or 'basin') that stood in the forecourt in front of the entrance (Falconer and Magness-Gardiner 1989b: 258). Its exact nature, as well as the nature of the flat stones placed in front of the *stelae*, is unknown.

Phase 3 (MBIIB)

The temple was rebuilt again in MBIIB using a single course of stone foundation placed directly on top of the earlier mudbrick walls. Later activities damaged two of the walls of the phase 3 temple, and remains of the southern wall suggest that the exterior buttresses were slightly enlarged from those of phase 4. A central depression in the floor that may have contained a pedestal base was the only interior feature of the temple of this phase (Falconer and Magness-Gardiner 1989b: 258).

The forecourt was enlarged in phase 3, perhaps to accommodate a new alignment of *stelae* and associated flat stones constructed in an arc before the entrance (Magness-

Gardiner and Falconer 1994: 139). The number of flat stones associated with the *stelae* was not reported, and the published plans indicate as many as seven (Magness-Gardiner and Falconer 1994: Figure 5). A small limestone mold for casting tanged instruments found in the forecourt may evidence metalworking in this phase (Falconer and Magness-Gardiner 1989b: 258). Pottery types found in the temple and courtyard included cooking pots, large jars with incised decoration and dipper juglets (Falconer and Magness-Gardiner 1993: 592).

Phase 2 (MBIIC)

The fourth and final phase of the temple at Tell el-Hayyat exhibited radical changes in form from the previous three. The temple structure was enlarged to 11 x 10 m, and a 1.5 m subfoundation level supported a five-course stone foundation for a mudbrick superstructure (Falconer and Magness-Gardiner 1989a: 342). Remains of painted plaster were found in both the interior and exterior walls. The only interior featured was a plastered niche built into the rear wall, although the excavators noted that the phase 2 temple was disturbed by later pits that may have destroyed any platforms or benches (Falconer and Magness-Gardiner 1989b: 259).

The only feature in the courtyard was a basalt pedestal set into the plastered surface (Falconer and Magness-Gardiner 1993: 592). A votive deposit containing a lamp and miniature bowls was buried just inside the entry to the temple (Falconer and Magness-Gardiner 1989a: 342). The enlarged enclosure wall was linked to the temple by three stone walls that may have supported a tower or superstructure (Falconer and

Magness-Gardiner 1989b: 259). Phase 2 pottery sherds found in the temple complex included a high proportion of disc and ring bases in addition to necked bowls and a few pieces of chocolate-on-white ware (Falconer and Magness-Gardiner 1993: 592).

The excavators noted "no clear examples of divergent trends in temple and domestic pottery deposition" (Magness-Gardiner and Falconer 1994: 149), which suggests that numerous activities related to cooking, food storage and presentation took place in the context of the temple. As in domestic areas, storage vessels dominated the temple assemblages in phases 5, 4 and 3. Serving vessels were found in greater quantity in temple interiors than in courtyards, and cooking vessels were found in greater quantity in courtyards than in interiors (Magness-Gardiner and Falconer 1994: Fig. 10). The fauna from phases 5 through 2 show that over 90% of the bones in the forecourt came from sheep and goats, as did 80% of the bones in the temple interiors; only 60% sheep and goat bones were found in domestic contexts (Falconer and Magness-Gardiner 1989a: 343). Fruits, especially figs, were found in greater abundance in the temple complexes than in the domestic areas, followed by cereals and legumes (Magness-Gardiner and Falconer 1994: 146-147).

Conclusion: Tell el-Hayyat

Most of the material remains of the temples at Tell el-Hayyat have not yet been published in detail, which makes it difficult to reconstruct activities involving the use of ground stone tools at the site. A perforated object° (called a loom weight), a stone bowl,°

a disc° and a sphere° are known to have been found in at least one of the temple's phases, although it is not clear which one (Magness-Gardiner and Falconer 1994: Table 8).

The temples from phases 5-3 featured as many as sixteen flat stone slabs associated with *stelae* in courtyard installations. Although the exact nature of these slabs is unknown, tables found in association with *stelae* at other temple sites usually functioned as offering tables, and the same function can be attributed to these slabs. The nature of the limestone mortar found in the phase 4 courtyard is also unclear, although its position in front of the entrance to the temple may indicate a function related to entering or leaving the temple complex. No *stelae* or other ground stone objects were found in the vicinity of this mortar.

Deir 'Alla

Deir 'Alla is a 250 by 200 m tell in the eastern Jordan Valley, situated about five km from the Jordan River close to where the Zerqa River enters the Jordan Valley. N. Glueck conducted surface explorations at the site in 1942, and a team from the Netherlands led by H.J. Franken of the University of Leiden conducted the first excavations there from 1960-1964. Excavations were reinitiated in 1967 in order to unearth the LBA temple complex. Exploration of the site was continued in 1976, 1978, 1979, 1982, 1984 and 1987 by a joint expedition of the University of Leiden and the Department of Antiquities of Jordan, and since 1980 by Yarmouk University in Irbid, Jordan. M.M. Ibrahim, H.J. Franken and G. van der Kooij were the directors of these excavation projects (van der Kooij 1993: 338-339).

Franken's early excavations revealed a sanctuary with associated rooms located on the northern edge of the *tell*. The sanctuary was first constructed early in the LBA, and was rebuilt several times over the course of the following four centuries. Much more is known about the final, Phase E sanctuary and associated rooms, which were destroyed by a devastating earthquake (van der Kooij and Ibrahim 1989: 77-78), than the earlier complexes.

Phase E (LBIIB)

In the last phase of the LBA, the cultic complex at Deir 'Alla consisted of a *cella* with associated rooms on its eastern and western sides. The earliest phase of the *cella* was constructed on an artificial terrace that rose seven m above the surrounding plain. Only 15 m of the length of the poorly preserved sanctuary has been excavated (van der Kooij 1993: 339). A hoard of objects found along the northern wall inside the *cella* led the excavators to suggest that a podium once stood there (Franken 1992: 26). Objects found in the sanctuary include a faience vase inscribed with Egyptian Queen Tawesret's name and pottery shrines (van der Kooij 1993: 339). Pottery finds from the sanctuary and its destruction debris on the slope include bowls, lamps, chalices, goblets, fenestrated pots and a *kernos*, and other small finds consisted of cylinder seals, beads, amulets, incised bones and objects of faience and alabaster (Franken 1992: 164-165).

Several ground stone artifacts were recovered from the *cella* and its destruction debris on the slope, including a basalt pedestal mortar bowl* (389), a basalt everted rim sherd (399), a basalt or pumice handstone (746) and a basalt 'quern' fragment (466)

(Franken 1992: Figures 3-9:19; 3-9:13; 3-11:37; not illustrated). The exact nature and form of the 'quern' fragment is unknown, as no illustrated objects called 'querns' by the excavator were included in the final publication.[23]

Parts of six different rooms, numbered E1-6, were excavated a few m to the east of the *cella*. A small niche was built east of the entrance of E1; the presence of numerous ceramic vessels and objects of a cultic nature led the excavators to conclude that this room was used as a shrine (Franken 1992: 38). Based mainly on its associated ceramic vessels, which included bowls, jugs, juglets and other forms, E2 is believed to have been a kitchen. A pedestal bowl (745) was also found inside (Franken 1992: Figure 4-7: 22). A flint hammerstone (796) and a slate polishing stone° (997) originated in either E1 or E2 (not illustrated). E3, which probably functioned as a storeroom, contained a basalt handstone (981) in addition to bowls, lamps, juglets and other ceramic vessels (Franken 1992: Figure 4-7: 26).

Twelve clay tablets were found in treasury rooms E4-6; three were incised with a script as yet undeciphered, and the rest were incised with small dots. Other objects found in this area include cylinder seals, scarabs, Mycenean pottery, bronze armor plates and beads (van der Kooij 1993: 339). Stone artifacts from E4-6 include a 'black river pebble' handstone (1462) and a possible stone pestle (1483) (Franken 1992: Figure 4-19: 43, 44).

Parts of eight different rooms were excavated west of the *cella*; based on their location and contents, Franken reconstructed their function as temple storerooms (Franken 1992: 163). A stone platform and mudbrick bench found in rooms E7 and E8

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[23] It is classified as a grinding slab or quern in the typology in Chapter 3.

may indicate a ritual purpose for this room (Franken 1992: 74-79). Three handstones were found in these rooms (1307, 1417, 1443), along with a relatively large number of vessels for cooking and storing foods (Franken 1992: Figure 5-4: 19; latter two not illustrated). E9 contained five handstones (1286, 1270, 1284, 1283, 1285), in addition to bowls, jars, cooking pots and other ceramic vessels (Franken 1992: Figure 5-12: 3, 5, 7, 8, 6). E10 contained two flint hammerstones (1312, 1315) and four sandstone handstones (1310, 1311, 1314, and 1316) (Franken 1992: Figure 5-16: 9, 10, 11, 12, 13, 14). The architecture of the remaining rooms E11-14 is not well understood.

Conclusion: Deir 'Alla

Activities carried out in the *cella* itself are impossible to reconstruct, given the poor preservation of this room and its associated installations and artifacts. The only two ground stone objects found *in situ* in the *cella* were a bowl and pedestal bowl, while a handstone and a quern fragment were found in the destruction debris of the sanctuary on the slope of the *tell*. The bowls found in the *cella* may have served a cultic function, like the other pedestal bowls and pedestal mortar bowls found in MB-LB temples and sanctuaries. A large assemblage ground stone tools of a utilitarian nature, especially handstones, were found in the rooms east and west of the sanctuary that are believed to have functioned as temple storerooms. These objects may have been used in food processing activities associated with the sanctuary, a function supported by the large corpus of utilitarian-type ceramic vessels in association.

Judean Hills

Lachish

Lachish is a 31 a *tell* located on the edge of the Nahal Lachish in the Judean Hills of southern Israel along an ancient trade route. Identified with biblical Lachish, the site was first excavated by a British expedition directed by J.L. Starkey from 1932 to 1938; the excavations were discontinued after Starkey's untimely death. Excavations were renewed by Y. Aharoni in 1966 on behalf of the Institute of Archaeology at Hebrew University and in 1968 on behalf of Institute of Archaeology at Tel Aviv University. The current excavation and publication project was initiated in 1973 under the direction of D. Ussishkin of the Institute of Archaeology at Tel Aviv University (Ussishkin 1993: 898).

The British team uncovered a series of three temples in the abandoned MBA fosse near the mound's northwest corner. These temples, which were given the name 'Fosse Temples I-III,' contained a rich assemblage of elite and imported objects and an unusual architectural plan. The renewed excavation team led by Ussishkin unearthed the remains of another temple on the Acropolis that functioned after Fosse Temple III fell into disuse.

Fosse Temple I (LBI)

The earliest Bronze Age temple at Lachish consisted of a main hall (DI) that measured 10 x 5 m and two auxiliary rooms (AI and BI). The walls of the complex were built of rough stones set into mortar (Tufnell et al. 1940: 36). Two doorways in the long walls permitted direct entrance into the main hall, but the visitor was forced to turn at a ninety-degree angle to face the cultic focal point, a mudbrick platform built along the southern wall that was probably an altar (Mazar 1992: 179). The platform measured .30 x .60 x .30 m and three mudbrick projections extended out from it into the room. Two large jars set into the floor in front of the altar may have been used to hold liquids, although bones found inside one of them may indicate other functions as well. A niche was built into the southeast corner of the rear platform that may have been used to store lamps, as in the niches of temples II and III (Tufnell et al. 1940: 38). The only other built feature in DI was a single mudbrick bench that ran along the western wall of the sanctuary (Tufnell et al. 1940: 39). The excavators noted that many sherds were recovered from the sanctuary, along with small finds of gold and a bronze male figurine.

Room AI, was located on the north side of the sanctuary, adjoining the latter's northern wall. It measured 3.3 x 3 m and was only accessible from outside the sanctuary. Room BI was an annex built on the west wall of the sanctuary that measured 3.2 x 2.1 m. No built features were uncovered in either room (Tufnell et al. 1940: 39) and no artifacts were found in them (Tufnell et al. 1940: 88). Several pits, or *favissae*, contemporary with temple I were investigated outside the sanctuary. Pit 258, located just west of room AI, contained a limestone pivot° (Tufnell et al. 1940: XXIX: 23). The excavators reconstructed its use as a potters' wheel, but its shape and raw material do not conform to those of other known examples dating to the second millennium BCE.

Fosse Temple II (LBIIA)

Fosse Temple II was built directly on the demolished remains of temple I. It was constructed along the same lines as the first temple, although the entire building was enlarged: hall (DII) was nearly doubled in area to 10.4 x 10 m (Tufnell et al. 1940: 37). A new platform built of rough stones instead of mudbrick measuring 3.5 x .65 x .25 m was built upon the remains of the earlier altar. Only one projection was built onto the front of the new platform. A new niche built on the platform's west side still contained lamps. A hearth containing ashes and an inverted bowl was built into the floor about one m north of the altar (Tufnell et al. 1940: 39). Benches built in two and three tiers lined the western, eastern and northern walls, and many bowls were found *in situ* on their surfaces (Tufnell et al. 1940: 40).

Room A1 was rebuilt and doubled in width, and seems to have functioned as an entrance hall. A new room (FII) measuring 5.8 x 5.2 m was built onto the southern wall of the sanctuary; benches stood in the room during one of its phases (Tufnell et al. 1940: 37). More *favissae* were in use around the temple II complex, especially in the area to its east and south. One of the *favissae* attributed to temple II, Pit 146, contained a trachyte pestle (XXIX: 18), as well as jewelry, a scarab and numerous pottery sherds.

Fosse Temple III (LBIIB)

The best preserved of the three superimposed temples was Fosse Temple III, which was buried under layers of eroded earth from the slope of the mound following its destruction at the end of the LBA (Ussishkin 1993: 900). The plan of the previous temple was adopted with few changes, but for the addition of another room (EIII) on the southern side of the sanctuary that measured 4.2 x 4.5 m (Tufnell et al. 1940: 38). The altar area featured two phases of construction: in the first, a white plastered platform 2.25

x 2.5 x .60 m was partly recessed in the back wall, and in the second, a mudbrick altar with three small steps was built against the front of the plastered platform and another niche was built on its west side. A ceramic stand stood to the left of the altar, and a large pottery bin to the right. Offering benches lined the eastern, northern and western walls. Three cupboards were built into the eastern wall of the sanctuary, one of which contained 35 bowls (Tufnell et al. 1940: 42). A hearth with two depressions was built into the floor at the base of the altar, above the hearth of temple II (Tufnell et al. 1940: 41).

Numerous artifacts were found on and around the platform of temple III, including objects made of ivory, glass, faience and alabaster, as well as scarabs, cylinder seals and beads. A great profusion of pottery was found all over the sanctuary (Tufnell et al. 1940: 42). A trachyte pestle (XXIX: 19) was the only ground stone object reported from inside the temple III complex; it was found in EIII in association with beads, jewelry, decorated ivory fragments, cylinder seals, a scarab, an ostrich egg and other precious objects.

Outside of the temple complex stood several auxiliary structures, including House 100. This structure contained a sandstone handstone (XXIX: 20), alabaster vessels, scarabs, an Astarte plaque figurine and other objects. The only other ground stone objects attributed to temple III are of unclear provenience; these include a basalt pestle, a limestone perforated stone (XXIX: 17, 21) and a 'stone rubber,'[9] probably a pestle, now in the Rockefeller Museum (Field #3278; Museum #35.2926).

Conclusion: Fosse Temples I-III

Relatively few ground stone objects were reported from the British excavations in the Fosse Temples. It is likely that more were excavated than were reported, since a number of 'small finds' from the Fosse Temples were not published. The preface to the report of the Fosse Temples noted that "about one-quarter of the total number of pottery forms is here presented, the remainder, ranging from the Early Bronze Age to the Persian period, has still to be dealt with. There are, in addition, about five hundred scarabs and many other small artifacts" (Tufnell et al. 1940: 10).

Worth noting are the ground stone implements that were found in the *favissae* in use during the lifespan of the three temples. It is possible that these items were either used in the context of the cult, perhaps with grinding slabs and querns that were not recovered, recorded or published by the British team, or were brought to the temple as offerings and then ritually discarded in the pits. The location of a pestle in EIII in association with many small finds of a cultic nature may support its function as an offering.

Given their location outside the city walls, it has been suggested that the Fosse Temples were not used by the inhabitants of Lachish. They may have served as roadside sanctuaries visited by travelers, similar to the sanctuaries unearthed at Tel Mevorakh, Tell Kittan and at several other sites. If this is the case, the nature of the ground stone assemblage from the Fosse Temples is in keeping with that of other MB-LB nonurban sanctuaries, which feature few stone artifacts in comparison to temples that stood in urban centers.

Acropolis Temple (LBIIB)

The Lachish Acropolis, or Summit, Temple was located in the center of the LBA city at Lachish, on the top of the *tell*. A corner of this structure was first exposed in 1937, when Starkey cut a trial trench outside and adjoining the northwest corner of the Iron Age Judean palace-fort (Starkey 1937: 238-239). In this trench, the British team found a thick destruction layer with ceramic material contemporary with the latest Fosse Temple; also discovered in this probe was part of an octagonal stone column shaft and a dressed stone slab, fragments of gold leaf and faience (Ussishkin 1978: 10). Only during Tel Aviv University's excavations at the site from 1975-1977 was the monumental building revealed and identified as a temple dating to the final LBA occupation of the site (Clamer and Ussishkin 1977: 71; Ussishkin 1978: 11).

The building was poorly preserved and its contents looted in antiquity, prior to its destruction by fire (Ussishkin 1978: 12). Nonetheless, much of the temple's plan was reconstructed and numerous artifacts were recorded.[24] The temple was built of mudbrick on stone foundations, and consisted of a *cella*, a central hall measuring about 16.5 x 13.2 m, an antechamber and additional rooms along its sides or entirely surrounding it (Clamer and Ussishkin 1977: 73). A small probe trench underneath the temple revealed that it was built on a ruined structure with the same orientation; the excavators believe that it may be the remains of an earlier, 13th century, temple (Ussishkin 1978: 10).

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[24] The ground stone objects below are included here courtesy of Professor D. Ussishkin. C. Clamer assisted me in understanding the MB-LB stratigraphy of Area P. Stone types were identified by Dr. Y. Goren.

The central hall (L 3146) was found in better condition than either the *cella* or the antechamber. Several features were preserved in the hall: a monumental staircase of stone slabs flanked by parapets that led to the raised *cella*, the bases of three decorative columns found *in situ* attached to the eastern wall by means of plastered brick piers, and an installation in the northeastern corner with stone walls preserved to a height of 1.10 m that was probably container (Ussishkin 1978: 14-16). Botanical remains from the hall included a large concentration of wheat, which was found near the staircase (Ussishkin 1978: 21). Remains of beams of cedar of Lebanon and painted plaster fragments hint at aspects of the construction and decoration of the hall's interior. One sandstone object*° (31171/50?) and a chert pounder* (43123/50) were found in the hall.

In the northern wall of the hall stood a well-made doorway, which entered into one of the subsidiary rooms of the temple (L 3161). One of several stone slabs with incised graffiti found in the temple complex was found in L 3161: it depicted a standing god holding a lance with both hands (Ussishkin 1978: 18). Ground stone tools from this area includes a basalt grinding slab* in two pieces and a rim fragment of a basalt vessel.*

It is not possible at present to reconstruct the findspots of most of the artifacts described in the preliminary reports. Ceramic finds from the temple include small bowls, cup-and-saucers, cooking pots, storage jars and at least twelve Mycenean sherds. A red-painted rim of a bowl was found in the main hall with an as-yet undeciphered proto-Canaanite inscription painted on it. Small finds included fragments of alabaster, faience, ivory, gold foil, gesso with textile imprints, and a painted ostrich egg, as well as beads, pendants, a scarab, a bronze chisel, a painted stone lid and pieces of oxidized iron.

Figural art includes the incised slabs mentioned above as well as the 'Lady Godiva' plaque, a thin gold sheet portraying a naked goddess standing on a horse that was torn into strips. Floral remains from the temple in addition to the pile of wheat include seeds of barley, grapes and vetch, and olive stones (Ussishkin 1978: 19-21).

Large numbers of sherds were found in pits that may have been *favissae* located to the south of and adjacent to the *cella* (Ussishkin 1978: 18). A flint pestle* was found in association with numerous Mycenean vessels in one of the pits (L 3027) located south of the *cella*. A fragment of a beachrock handstone* (20327/50) was found in a nearby pit (L 3171); a basalt handstone* (25732/50) and a scoria handstone* (25524/50?) were found in L 5063, a pit located north of the *cella*. A flint grinding slab* (09127/50) found on a surface to the east of the *cella* may have been associated with this poorly preserved room.

Conclusion: Acropolis Temple

Although the assemblage of ground stone tools recovered from the Acropolis Temple is fairly small, the tool types represented and their provenance provide suggest some possible functions. As in the *favissae* attached to the Fosse Temples, the interred ground stone objects consisted of small processing implements (a pestle and three handstones). These objects may have been used with the grinding slabs found in the temple complex and ritually disposed of in the pits when they were no longer needed, or could have been remains of offerings brought to the temple.

The ground stone objects found in the hall, which included an uncertain sandstone object and a pounder, do not shed much light on activities carried out in this room. Although the association of a pile of wheat and various other botanical remains with a bin and numerous bowls evidences the use and storage of grain in the hall, there is no direct evidence for the use of ground stone implements in grain processing activities. The grinding slabs recovered from the northern room and a surface possibly attached to the *cella* may bear witness to food processing activities in these rooms, although the poor preservation of these areas makes any reconstructions difficult.

Conclusion: Lachish

It is difficult to assess the use of ground stone tools in the Fosse Temples and the Acropolis Temple at Lachish due to the incomplete publication of the excavated material. Most of the ground stone objects found in both temple sites are small processing implements, including pestles, handstones and pounders. The interment of several of these objects in *favissae* connected to both temples demonstrates their cultic character. Two grinding slabs found in the Acropolis Temple may demonstrate the processing of grain or other products here for storage and use in the temple hall, although this reconstruction is tentative. Future publication of the material from Lachish will allow more a more certain reconstruction of activities associated with ground stone tools in these temple complexes.

Conclusions

This analysis of ground stone tools and their relationships between other artifacts and installations in MB-LB temples and sanctuaries has permitted the reconstruction of a number of diverse activities in temple contexts. Among them are cultic activities that involved intentional burial, the presentation of offerings, the use of liquids, rituals performed at temple entrances, and activities that involved the processing of various materials, including agricultural products and pigments. This chapter has shown how much can be known of temple activities using the contemporary archaeological material, specifically the excavated ground stone assemblage, without relying on textual and later archaeological evidence.

Chapter 5, the conclusion, includes a summary of the activities reconstructed in this chapter. Supporting evidence for the use of ground stone equipment in various activities is provided by similar artifacts found in other MB-LB cult sites. The use of ground stone tools in various activities related to the temple cult will be discussed, as will implements used in domestic- or industrial-type activities.

Chapter 5

CONCLUSIONS

This dissertation succeeded in reconstructing some of the activities associated with a sample of the excavated MB-LB temples complexes in the southern Levant through an analysis of the ground stone artifacts found within them. It has demonstrated how an overlooked artifact class can be used to reconstruct activities in isolation of textual and later archaeological material. and suggested some ways by which ground stone tools can be used to investigate a variety of ancient phenomena.

Although this study was negatively impacted by the state of the publication and the physical availability of the ground stone material. a patterning in the associations between certain ground stone artifacts and built features and installations with a cultic character has been demonstrated using the available sources. This research also identified some specific types of ground stone tools found exclusively or almost exclusively in ritual contexts. It has also shown that some activities associated with MB-LB temple complexes were domestic or industrial in character. This overview of the results of this study will highlight some general conclusions about ground stone tools in temple contexts. and briefly survey the reconstructed activities in which stone tools played a part.

Overview

Some general observations about the nature of the ground stone tools found in temples and sanctuaries are appropriate. First of all, ground stone tools were found in every temple and sanctuary analyzed in this study, and they include the range of types known from other MB-LB contexts. The functions of these implements, although not always self-evident or possible to reconstruct, are similar to the functions of ground stone implements found in non-temple contexts. The use of ground stone tools in domestic- and industrial-type activities associated with the temples demonstrates the variety of activities carried out in these sacred complexes.

Several types of stone artifacts, including the carinated bowl from Hazor Area H and the pedestal bowls found at Hazor, Deir 'Alla and Megiddo, were found only in ritual contexts. This may support the idea of an industry related to the Bronze Age temple cult that was required to manufacture certain artifacts. Other stone vessel forms, such as the tripod bowl or mortar, were rarely found in temple contexts. Tables were a necessary part of temple equipment, and different types were found in nearly every temple included in this study. Basins found in several temples and sanctuaries also served important ritual functions.

The stone assemblages excavated from urban temples are much larger and more diverse than those unearthed in small village sites with temples. It is perhaps counterintuitive that more stone implements have been found in large cities like Hazor and Bet Shean than in the small village or roadside sanctuaries at Tel Mevorakh, Tell el-Hayyat and other sites. It is usually assumed that the local nonurban population living in the surrounding villages used these rural sanctuaries. and these people may not have had access to elite and imported objects. One might suppose that these worshippers brought gifts and offerings of grain and other agricultural products. and perhaps utilitarian ground stone implements. because these materials were familiar and available. This is not borne out by the data. however. as very few utilitarian tools have been unearthed from small village sanctuaries.

In the past. researchers have puzzled over the presence of ground stone tools in cultic areas. and usually concluded that these implements were used to process grain for sacred meals or for similar purposes. None have gone beyond simplistic assessments based on tool morphology to identify specific activities associated with this equipment. This study has shown that these temple artifacts warrant their own analyses. since they allow for the identification of specific activities related to the Canaanite temple cult that might otherwise be overlooked.

Ground Stone Tools in Cultic Activities

The cultic character of certain ground stone implements is demonstrated by their association with features. installations and artifacts that functioned directly in the cult. Ground stone tools are found in five discrete cultic loci: in ritual deposits. associated with *stelae*. built into installations with altars. platforms and niches. associated with the use of liquids in temple structures. and at the entrances to temple buildings and complexes.

Ground Stone Tools in Ritual Deposits

Types of ritual deposits found in MB-LB temple complexes include *favissae*, votive deposits and statue burials. Artifacts deposited in these sacred pits served a cultic function, although each burial context may indicate a different ritual activity. *Favissae* were repositories for cultic refuse, and are found containing objects that were no longer useful or needed in the cult. Offerings to the deity or deities of the temple were made in votive deposits. Statues of deities and kings were ritually buried for other reasons. Ussishkin has shown that the ritual burial of gate-lions and royal statues was "motivated by reasoning and belief similar to that which motivates the burial of human beings" (1970: 129). Objects chosen to accompany the buried statue might then be considered funerary offerings of a sort.

The majority of objects found in *favissae* are broken, which supports their function as refuse pits for cultic objects that were no longer usable. Among the objects found in the large *favissa* (L 2156) in the courtyard of the Stratum 1B temple at Hazor was a table (H777) with a broken corner that closely resembled other Type 1B tables found *in situ* in both the Stratum 1B and 1A complexes. A basalt plate (H1045/1) that was found in fragmentary condition may also have functioned as a piece of cultic equipment that was ritually interred when it became unusable. Complete ground stone objects recovered from this *favissa* included two pestles (H1202/2, H1260/1), a perforated stone (H1261/1) and an upright mortar bowl (H1260/3); precisely why these unbroken objects were interred is unclear.

Ground stone objects were also found in the *favissae* associated with the Fosse Temples and the Acropolis Temple at Lachish. Pit 146, attributed to Fosse Temple II by the British excavators, contained a trachyte pestle. Handstones and pestles were found in *favissae* located to the south and north of the *cella* of the Acropolis Temple. These small stone implements may have been used in processing activities in the context of the temple, or they may have been left as offerings; the small size of these tools may support the latter function. Concentrations of cultic artifacts have also been found in other temple complexes, but the only clearly defined *favissae* with the remains of stone tools were identified in the Area H temple at Hazor, the Lachish Fosse Temples and the Lachish Acropolis Temple.

James and McGovern have attributed an assemblage of small objects found under the steps in the Stratum VII temple at Bet Shean to a votive or foundation deposit. Among the objects found in the deposit were three basalt pestles and a limestone refuse core from a perforation. Along with the beads, jewelry and other small votive-type objects, these ground stone implements served as offerings to the god or gods of the temple when it was founded.

Evidence for the ancient Near Eastern phenomenon of intentionally burying statues is seen in the Area H temples at Hazor. A pit (L 2157) dug into the holy of holies of the Stratum 1B temple contained a headless statue, a broken basalt bowl and fragments of a goblet. It is suggested that these vessels were intentionally broken and interred with the statue as funerary goods.[25] This statue may have been buried in order to protect its sanctity when its head was broken off during use in the Stratum 1B temple. A gate-lion was also intentionally buried in a pit in the Stratum 1B temple at Hazor.

Stelae

Tables and stone vessels/mortars were found in direct association with *stelae* in a number of temple complexes. Tables were unearthed near the *stelae* in the courtyards of the Stratum 1B and 1A temples in Area H at Hazor, in the Area C temple at Hazor, in the courtyards of the temples at Tell Kittan, in the forecourts of the temples at Tell el-Hayyat and in High Place F at Megiddo. The function of these tables as offering tables is indicated by the numerous small objects found in their vicinity. The numerous small objects found in the vicinity of these tables were probably offerings made to the deity or deities represented by the *stelae*.

Mortars and stone vessels have also been found with *stelae*. A basalt mortar or vessel was found embedded in a platform in front of the *stele* in the Stratum IXA temple at Bet Shean, and two basalt plates were found in association with the lion and dog *stele* found south of the temple complex. Open ceramic vessels have also been found in association with *stelae* in MB-LB temples, including the Stratum V temple at Tell Kittan and the Area A temple at Hazor.

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[25] A parallel was found at Zincirli, where five ritually buried basalt gate-lions were burned in a pyre of reeds (Ussishkin 1970: 126).

Altars, Platforms and Niches

Numerous ground stone artifacts have been found in direct association with altars, platforms and niches in temple buildings. At Bet Shean, a mortar or vessel was embedded in a stepped mudbrick platform in the Stratum IXA temple. The types of objects found on and around the platform indicate that it was an altar used for the placement of offerings. The same function can be ascribed to the Type 1A table that was found in front of this platform. Offering tables have also been found in association with platforms and niches in the Area C temples at Hazor.

Some ground stone objects found lying on platforms and benches may have been offerings themselves or containers for offerings. This function can be ascribed to the basalt bowl found upside-down on the platform in the Stratum 2 temple in Area H at Hazor and the tripod bowl found on a bench near the platform in the Stratum X temple at Tel Mevorakh. A pedestal mortar bowl and other stone implements found in the *cella* at Deir ʿAlla may also have been left as offerings, as were various small stone tools found in the holy of holies in the Area H temples at Hazor.

Liquids

Judging from their shape, size and association with the most sacred areas in several temple complexes, basins and Types 1B and 2 tables were used in cultic activities involving large quantities of liquid. Although there is no direct evidence to indicate their function as containers for liquids as opposed to solid materials, it is clear that these special objects served specific needs related to storage and presentation of cultic materials not fulfilled by bins and other features. Most of the Type 1B tables from the Area H temples at Hazor featured deep depressions or their surfaces, which supports their use as containers for liquids. The form of an oval basin on the surface of the Type 2 table found in the sanctuary at Tel Nami also indicates this function. The huge Types 1 and 2 basins found in the main halls of the temples at Timna and Megiddo also suggest the storage and use of liquids in ritual activities.

Temple Entrances

Stone mortars and tables were associated with the entrances to three temple complexes. Judging from its single deep depression, the table (H2126) found near the entrance to the Stratum 1B temple precinct in Area H at Hazor was probably used in activities involving liquids. A mortar or stone vessel found in the forecourt of the Stratum 4 temple at Tell el-Hayyat directly in front of the temple's entrance may have served a similar function. A socle stone with a number of cupmarks on its surface was also found at the entrance to the Stratum VIIA Temple 2048 at Megiddo. The fact that all three of these examples were open forms suggests their function in activities involving liquids, and their locations at the entrances to temples is indicative of activities associated with entering and leaving the temple.

Ground Stone Tools in Other Temple Activities

Distinct from specialized stone tool forms directly associated with cultic activities, implements of a more utilitarian nature were used in 'domestic' or 'industrial' sorts of activities in the MB-LB temple complexes. These implements, which were usually found in courtyards and associated spaces, were used in food preparation, pigment and possibly incense processing activities, and in metalworking, pottery production, and bone and ivory working.

Food Preparation

Some of the excavated ground stone implements were undoubtedly used to process grain and other agricultural products for use in the temple. Vessels, mortars, grinding slabs and querns and various hand-held processors may have been used to pound and pulverize cereals, raw meat, and other materials. Whether these tools were used to prepare food for offerings, temple feasts or temple priests and officiants is difficult to reconstruct.

An intact quern and handstone found in association with an oven in the Stratum VIII temple at Bet Shean may be evidence for the baking of bread for use in the temple. Various grinding and pounding tools associated with a large oven in the Stratum IXA temple at Bet Shean may have served the same purpose. At Deir 'Alla, auxiliary rooms labeled 'kitchens' and 'storerooms' by the excavator contained large numbers of grinding tools, especially handstones. These implements may have been used in food processing activities in the sanctuary at Deir 'Alla, and stored in the nearby rooms along with ceramic cooking, storing and serving vessels and other equipment.

It is assumed that certain cultic personnel controlled the activities carried out in these temples and sanctuaries, and certain rooms attached to the sacred complexes may have been used as their living quarters. If this was the case, stone implements may have been necessary for the daily domestic chores required by the temple personnel, especially food processing. Although it is assumed that foodstuffs brought to the temples as offerings were 'recycled' by the officiants who subsequently consumed them, we cannot be sure that such food offerings were brought to the temples on a daily basis. Some of the stone equipment found in courtyards and in auxiliary rooms may, then, have functioned in the same way as those tools found in domestic contexts.

Pigment Processing

Several stone vessels and mortars unearthed in MB-LB temples had the remains of pigments on their surfaces, which indicates the processing of pigments for use in temple activities. Traces of red pigment were detected inside the pedestal bowl found on the platform of the Stratum VIIA Temple 2048 at Megiddo. Stone vessels with the remains of pigment, as well as a separate chunk of yellow ochre, were uncovered in the western outer courtyard of the Stratum IXA temple at Bet Shean. Vessels and mortars with the remains of pigments may have also been associated with the Stratum VIII-VII temples at Bet Shean.

Stone implements with the remains of pigments have also been found at MB-LB temples and cult sites not analyzed in this study. In Temple 2 at Shechem, the excavators found "a small mortar and pestle for grinding a pink cosmetic rouge. The color is still as fresh as the day on which the last pigment was ground in it over 3200 years ago" (Wright 1965: 98). In addition, a stone bowl with traces of pigment was reported from a possible *favissa* associated with the sanctuary at Shiloh (Lederman and Finkelstein 1993: 44-45). Pigments may have been used to color ceramic vessels and temple walls, or perhaps as makeup for religious ceremonies.

Industrial and Craft Activities

Ground stone tools may have been used in industrial and craft activities associated with the temple complexes. B. Rothenberg suggested that some of the grinding and pounding implements found in Stratum III at Timna may have been used in the metal workshop in the temple courtyard (Rothenberg 1988: 268). Evidence for metalworking has been found in a number of other MB-LB cult sites, including several analyzed in this study, and it is possible that some of the stone grinding and pounding implements found in these temples were used in metalworking activities.

Pottery production may also have involved the use of various ground stone tools. Potter's wheels found near temples at Hazor and Bet Shean may evidence the production of pottery in or near these temple complexes. The presence of an intact kiln still containing miniature vessels in the Stratum 2 temple in Area H at Hazor is compelling evidence for pottery production in this temple complex, although no potter's wheels or other stone implements were found in direct association with it. Different processing activities carried out in the western outer courtyard in Bet Shean VII are suggested by the remains of bone and ivory in association with a basalt shaft straightener and basalt grooved abrader.

Conclusion

Ground stone tools provide an opportunity to study a little known artifact assemblage from the Bronze Age southern Levant. As this study has shown, ground stone tools were used in diverse contexts, including sacred ones, during the MB-LB, which contradicts the common assumption that these implements were used only in domestic activities. It has also been demonstrated that certain types of ground stone artifacts are found only in ritual contexts, indicating their cultic character. Regardless of the context in which they are found, ground stone tools provide a means of answering questions about a number of activities related to food processing and other industries that otherwise may leave few traces. A careful analysis of ground stone material from other MB-LB contexts, such as domestic structures, would surely reveal a multiplicity of functions for this equipment as well.

As was demonstrated in Chapter 2, the use of ground stone tools in cultic contexts has a long history in the southern Levant. Beginning at least as early as the Chalcolithic period, certain types of vessels, mortars and tables functioned in cult sites, from the ceremonial center at Gilat, to the desert cult places in the Negev and Sinai, to house shrines in Chalcolithic settlements in the Golan Heights. The association of ground stone equipment with the temples considered in this study demonstrates cultic continuity into the MB-LB. Stone vessels were important components of the cultic assemblage in the Second Temple period as well.

As more temples and sanctuaries are identified and excavated using refined techniques, our understanding of the use of ground stone tools in temple activities will be greatly increased. The current excavation of the temples at Pella, for example, is exposing what appears to be the largest *migdal* temple yet identified in the southern Levant (Bourke 1999). A large assemblage of ground stone tools has already been excavated from this series of MB-Iron Age II temples (R. Sparks, personal communication). Continued publication of temples excavated some time ago will also provide additional data that can be used in future research: James and McGovern's reworking of Stratum VIII-VII at Bet Shean demonstrated how much important information such studies can provide.

A broader approach to the study of stone objects in ritual contexts would include a consideration of the evidence from mortuary contexts. Excavations in the Amman Airport structure, which is believed to have functioned as a mortuary installation in the LBA, unearthed a large assemblage of imported and locally made stone artifacts (Hankey 1974; Herr, ed. 1983). Stone tools of various types have also been found in many MB-LB tombs in the southern Levant, which indicates their function in offering and other activities.

Without a doubt, future archaeologists will continue to focus on the excavation and interpretation of the archaeological remains of the Bronze Age cult, as it is a topic that has interested scholars since the early days of archaeology in the southern Levant. It is hoped that future researchers will employ some of the methods and results presented in this study to gain a better understanding of the activities associated with the Bronze Age temple cult, and will approach this fascinating topic with sensitivity, responsibility, and, above all, creativity.

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