

A COMPARATIVE ANALYSIS OF CANAANITE TEMPLES  
AT BRONZE AGE PELLA AND TELL EL-HAYYAT, JORDAN

by

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## ABSTRACT

MIKAYLA HINES. A Comparative Analysis of Canaanite Temples  
At Bronze Age Pella and Tell el-Hayyat, Jordan  
(Under the Direction of Dr. Steven Falconer)

The aim of this thesis is to uncover the social relationship between two Canaanite societies, Pella and Tell el-Hayyāt, using religious institutions as a basis. The area of analysis for these two sites is the Southern Levant, Jordan during the Bronze Age, primarily the Middle Bronze Age 1500-1200 BC. Data has been collected through articles and books surrounding the excavations that have been performed on Pella and Tell el-Hayyāt, analysis includes temple phases 1-4 at Pella and 5-2 at Tell el-Hayyāt using layouts, features, and artifacts found in the interior and exterior of the temples on site. The results of this analysis provide evidence for social interaction between the two sites. This study has been conducted to further research on temples in antis in Canaanite society to show social relationships are common in communities that share similar territories.

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## CHAPTER 1: INTRODUCTION

This research is based on the sites of Pella and Tell el-Hayyāt using the temples and artifacts found at each location to better understand social interactions involving religious institutions, towns and villages during the Bronze Age in the Southern Levant. The primary goal of this study is to investigate the linkages between coinciding communities that bound ancient Canaanite complex society. Complex societies are societies that:

“justify both *diverse* and *integrated*...In this sense we’re talking about both the number of parts and the role these parts play in a larger system. These multiple different parts are also integrated – or better yet – dependent upon one another...If we take complexity and apply it to the study of cultural evolution, we can talk about differences between cultures in a more objective empirical way without being implicitly or explicitly biased towards Western societies (Callaghan and Williams 2020:172).

Complex societies incorporating communities like those at the town of Pella and the village of Tell el-Hayyāt are better represented under this definition rather than the term “civilization,” due to its many unnecessary connotations.

Pella and Tell el-Hayyāt provide valuable insights on Bronze Age complex society because “in this region, and others like it with discontinuous or small-scale urbanism, villages may provide our best evidence of long-term economic organization. Analyses founded in economic geography exemplify the benefits of detailed attention to rural agrarian systems within larger political economies” (Falconer and Fall 2022: 3). Analyzing archaeological evidence from these sites in the context of complex societies allows us to minimize bias towards expected outcomes found in Western societies through a fresh perspective. Use of the term “civilization” often implies large scale urbanism, but by focusing on interactions between towns and villages anthropologists can consider complex societies on any scale or size spectrum.

By studying these Canaanite communities, information stemming from temples, their features and associated artifacts helps piece together societal links that bound this complex

society together. Religious institutions, as represented by the temples found in stratified sequences during the Middle Bronze Age at these sites (phases 1-4 at Pella and phases 2-5 at Tell el-Hayyāt), provide context central for social interaction based on religion in the Canaanite society through the representation of culture in the temples and artifacts, which was important for everyday life in the Southern Levant. These two communities played different social and political roles based on their varying sizes, their access to import/export networks, and teach societies own personal scale of religious celebration. However, many similarities in temple architecture, ritual features and material culture show these temples and the ritual behaviors that happened in them to be parts of a shared religious tradition that identified and held together the Canaanite way of life.



## CHAPTER 2: RESEARCH SETTING

This thesis investigates archaeological evidence for Canaanite temple forms and religious behaviors in the ancient town of Pella and the village Tell el-Hayyāt in the northern Jordan Valley, Jordan. Evidence from excavations at each site, configurations of the temples, features of the temples, and artifacts are examined to better understand the social correlations surrounding religious institutions at Pella and Tell el-Hayyāt. The factors that were considered when researching Pella and Tell el-Hayyāt include time period, geographical location, identity of inhabitants, and traits specific to the Southern Levant such as temple layout.

### *Geographical Location*

Pella and Tell el-Hayyāt are located in the Southern Levant, a geographic region that includes the lands within the modern borders of Jordan, Israel and the Palestinian territories. More specifically, they lie in the northern Jordan Valley in the modern Kingdom of Jordan (Figure 1). The Jordan Valley was a fertile region with bodies of water such as the Jordan River and Mediterranean Sea in close proximity. “The Jordan River runs from north to south in almost the same direction as the Mediterranean coast which is some 60 km distant in the northern part and some 80 km in the southern part of the valley (Fischer 2006:1). The Jordan River provides water to the communities of Pella and Tell el-Hayyāt making them strong agricultural sources for their region. The agricultural aspect of these communities introduces the resources that can be found there into export and import ports.

### *Time Period*

This thesis considers evidence for Bronze Age complex society in which the primary ethnic group in the Southern Levant was the Canaanites. The Levantine Bronze Age is divided

into three components, the Early, Middle and Late Bronze Ages during which Canaanite society developed the region's first fortified towns and cities (Table 1). The Bronze Age can be defined as

“a period in the ancient world from about 3000 BCE to 1100 BCE. That period saw the emergence and evolution of increasingly sophisticated ancient states, some of which evolved into real empires. It was a period in which long-distance trade networks and diplomatic exchanges between states became permanent aspects of political, economic, and cultural life in the eastern Mediterranean region. It was, in short, the period during which civilization itself spread and prospered across the area” (Brooks 2022: 1).

The sites of Pella and Tell el-Hayyāt developed and grew during the Middle Bronze Age period resulting in the formation of a town and village. Pella and Tell el-Hayyāt, both of which were complex societies, formed temples as each era within the Bronze Age advanced. When discussing sizes of communities in the Bronze Age, Pella and Tell el-Hayyāt provide both large and small visuals for what was prominent in this time period. The main mound of Pella is about eight hectares in size. Population estimates based on ethnographic population densities in traditional Middle Eastern villages (e.g., Kramer 1982) suggest Pella housed about 2000 people. Tell el-Hayyāt is about 0.5 hectare, with an estimated population of about 125 people. Contemporaneous sequences of four stratified temples at each site run through the Middle Bronze Age (Table 2) and provide the evidence discussed in this study.

### *The Canaanites*

The Canaanites were the people that lived in the Southern Levant. The understanding of the relations between Pella and Tell el-Hayyāt are important because they provide insight into the interactions between large and small communities that held Canaanite complex society together. The understanding of the Canaanites and Canaanite society is based primarily on

archaeological evidence, since there are very few “Canaanite” written documents. Brooks states that “(t)here were four major regions along the shores of, or near to, the eastern Mediterranean that hosted the major states of the Bronze Age: Greece, Anatolia, Canaan and Mesopotamia, and Egypt. Those regions were close enough to one another that ongoing long-distance trade was possible” (Brooks 2022: 1). Other texts indicate that Canaanite “in ancient times, [was] a general name given to the peoples who dwelled in the region of Palestine and spoke Semitic languages” (Nardo 1990). Although much is not known about the Canaanite people archaeologically, what we do know is centered around tales from the Bible and other written accounts focused on their lives and their rich history. Basem states that throughout all religious texts that discusses the Canaanites, they are most closely related to Christianity and tales and myths about how they lived are told all over the West (Basem 2015: 18). The earliest documents clearly relating to the Canaanites are the Amarna Letters, which date to the Late Bronze Age. After this, we read about the Canaanites in mostly negative terms from the Israelite authors of the Old Testament. So, the Canaanites and their society are largely prehistoric and need to be studied archaeologically.

### CHAPTER 3: METHODS

This section will be comparing evidence from Pella and Tell el-Hayyāt using contemporaneous stratigraphic sequences surrounding the Canaanite temples found at each location. Each site will be studied using sequences from the four temples that were active during the Middle Bronze Age, roughly between 1950 BC and 1600 BC. The first data set I looked at involved the dimensions of temples found at Pella and Tell el-Hayyāt for phases 1-4 for Pella and phases 5-2 for Tell el-Hayyāt. This study applies an anthropological perspective to excavated archaeological evidence from two Bronze Age sites in the Jordan Valley, Jordan to consider social relations between larger and smaller communities in Canaanite complex society as they may have been facilitated by religious ritual institutions. Archaeological accounts, including excavation volumes (e.g., Falconer and Fall 2006), summary reports (e.g., Bourke 2012) and interpretive studies (Falconer and Fall 2022; Susnow 2022) provided data that was reviewed in terms of similarities and differences between Tell el-Hayyāt and Pella as they might reflect these interactions. On this basis I offer interpretations that may contribute to a fuller understanding of the structure of community interactions that lay at the foundation of ancient Canaanite society. The variables that I assessed were growth due to readily available materials and artifact types based on materials readily available. The data that I used in my research is based on excavations done by Falconer and Fall at Tell el-Hayyāt and Bourke at Pella. All information was pulled from articles that range from the year 2004 to 2022.

## CHAPTER 4: RESULTS

### *Temple forms and sizes at Pella and Tell el-Hayyāt (Figures 1 and 2, Tables 2, 3 and 4)*

While looking at both data sets, the exterior dimensions revealed the growth and development of the temples at both sites. This information is critical when looking at the history of the construction and reconstruction at both sites. When looking at my findings for Pella, it is clear that the larger community at Pella developed its temple not only on a larger scale, but at a faster pace as well. Pella's temple phases increased in square footage more than 12x from its founding in Temple Phase 1 to Temple Phase 4. The initial exterior size was 63 square meters and by the latest Middle Bronze Age phase it had grown to 768 square meters (Falconer and Fall 2006). At Tell el-Hayyāt, the increase was smaller and not as large as the 12x increase. Tell el-Hayyāt's temple only roughly doubles in size from an initial size of 41 square meters to 85 square meters (Falconer and Fall 2006). It is important to note the much greater increase in size in the much larger settlement of Pella.

When discussing temples and their forms, things to be considered are the layouts of temples. Sunsnow states that:

“(t)wo of the earliest temples constructed in the MB – single-celled and symmetrical in layout – are from rural Jordan Valley sites. Both the Phase 5 temple at Tell el-Hayyat and the Phases 1 and 2 temples at Tabaqat Fahil/ Pella are of particularly early construction, dating early in the MB I. As the incipient phases of the Tabaqat Fahil/ Pella temple sequence predate full-fledged urbanism at the site, these early rural temples predate any urban examples of a similar layout. As such, it would seem that there is no direct correlation in the initial phases of the MB between standardized symmetrical temple forms appearing in rural sites and urban centers” (Sunsnow 2022: 159).

### *Architectural features at Pella and Tell el-Hayyāt*

While continuing the progression of temples, the temple materials changed at both sites, gradually from phase to phase. At Pella, the phases in order are built from the following

materials: green mudbrick in Temple Phase 1, brown mudbrick in Temple Phase 2, and stone for anten temples in Temple phases 3 and 4 (Bourke 2004). Tell el-Hayyāt's temples in Phases 5-2 were built from the following materials in order: mudbrick in Phases 5-4, a single-course stone foundation with mudbrick walls in Phase 3, and a multi-course stone foundation with mudbrick walls in phase 2 (Falconer Fall 2022). Although they appeared later at Tell el-Hayyāt, substantial stone foundations marked the latest phases at both sites, continuing into the Late Bronze Age and Iron Age at Pella. Mudbrick was the main construction material used for construction through the entire construction sequences at Pella and Tell el-Hayyāt, accompanied by the increasing use of stone foundations at both sites. Bourke states that the anten-temples and their towers were constructed stone (Bourke 2004), whereas the temple walls and towers were made mudbrick at Tell el-Hayyāt (Falconer Fall 2022). The local bedrock is limestone, which provided the overwhelming majority of the stones used for construction. This readily available material was accompanied by the selective use of non-local stone, such as basalt that would have been quarried from the more distant hills to the north.

Architectural features were also constructed internally and externally amongst the temples at both sites. These features are particularly important for defining these structures as temples in antis in the Canaanite tradition, and for inferring patterns of ritual behavior that would have been shared among Canaanite communities. Temples in antis are "Temples in antis provide clearly defined liminal spaces for ritual behaviors that are readily recognizable both textually and archaeologically. This architectural form and the religious tradition it embodied were remarkably widespread geographically and temporally, spanning the Levant and Greater Syria from the end of the Early Bronze Age until the early Iron Age" (Falconer and Fall 2022: 1). Features for both include bins, benches, towers/buttresses, altars, and other items that are architecturally distinct

and can be used to identify specific forms of behavior. Interior features at Pella included an open rectangular space and cross wall, and on the exterior a pink mudbrick wall, stone pier, stone and brick wall, and stone courtyard (Bourke 2004). Phase 3 at Pella shows evidence of a rectangular hollow box arrangement, stone piers, and a courtyard in its exterior and interior features.

“This first phase of the stone ‘anten-temple’ consisted of a simple rectangular ‘hollow-box’ arrangement...In addition, we assume the presence of two projecting solid stone piers (antae) flanking the main doorway in the east wall, although only the southern pier has been (partially) excavated.... A stone paved courtyard /piazza was constructed immediately east of the entrance, flanked by the south pier” (Bourke 2012: 163).

Plastered bins were also found at phase 3 of Pella which were used for offerings in ritualistic practices. “Each plastered bin contained a collection of miniature ceramic vessels (bowls, jugs and funnels), and in addition, the three easternmost bins included one stone vessel each, respectively an exquisite alabaster flask, a unique gypsum cup, and a rams-head handled bowl” (Bourke 2012: 164). As mentioned above, the temple was designed in a hollow box arrangement, an architectural arrangement that provides an empty space (Bourke 2004: 4). Bourke suggests that with architectural evidence from other supporting sites that worship of the Canaanite deity El potentially took place.

“The simplicity of the ‘hollow-box’ design, without any niche or raised podium within the structure to focus or locate worship, might favor the suggestion that early cult is connected with a numinous aniconic deity. We suggest that El, father of the gods and head of the Canaanite pantheon is the most likely object of worship in this configuration of the Pella temple” (Bourke 2012: 165).

Phase 4 builds off of Phase 3 at Pella due to the infrastructure of the hollow box build being included in where the cross wall is built in Phase 4 and indicates that this phase was where the cross wall was constructed within the hollow box design that appeared at phase 3 along with buttresses that stemmed out from this room “An internal cross-wall was constructed

across the western third of the ‘hollow-box’ interior space, creating a discrete cult room for the first time...The cross-wall footings formed the foundation course for a formal stone-paved entrance way into the newly created cult-room” (Bourke 2012: 169). The bins, benches, and altar were found at Pella Phase 3 as in addition to the prior features mention (Bourke 2012: 169).

Some notable features present at Tell el-Hayyāt include an interior circular depression and antae (buttresses) and kiln, roofed structure, and two compounds on the exterior (Falconer and Fall 2022: 87). Tell el-Hayyāt’s Phase 5, the earliest phase, had exterior architectural features that included standing stones and offertory pits and interior features that included an altar, bins, and benches. Phase 4 had features that remained from Phase including the bins and altar found in the interior of the temple (Falconer and Fall 2004). Tell el-Hayyāt had features that were repeated aside from the bins, altar, and benches. These can be found in Phases 3 and 2, the latest phases, which include interior items of standing stones and exterior structures of a courtyard. The stand-alone items found at Phase 3 include a circular depression on the interior of the temple and a roofed structure on the exterior, phase 2 had interior features of antae and exterior of two compounds (Falconer and Fall 2007: 87). The altar and bins show evidence of offertory items in or around the area in which the location of the features was present.

The first correlation that suggests social interaction is the common factors of bins, benches, and altars found in the earliest phases at both sites. At each site, the mentioned features can be found in relatively the same location in both the interior and the exterior of the temples. As with Tell el-Hayyāt, the repetition of features from one phase to the other is also evident at Pella. Benches, altars, bins, standing stones, and offertory pits all contribute to the repetition of objects as the phases progress. Other features of correlation can be found at Phase 3 of Pella and between Phases 3 and 2 at Tell el-Hayyāt at the exterior of the temples. Both sites have



courtyards outside throughout the different eras of the Bronze Age. The differences for the major features at Pella and Tell el-Hayyāt are present primarily in the later dated phases. Pella shows evidence in Phase 4 of a cross wall that does not appear in any of the phases at Tell el-Hayyāt (however as Bourke (2004) mentioned, the cross wall and type of hollow room shows correlation to other temples in the immediate area). The other notable difference can be found at Tell el-Hayyāt in Phase 3; on the interior of the phase 3 temple a circular depression was found which has been speculated to be a part of a prior tower or other similarly spread-out formation (Falconer and Fall 2022: 11).

#### *Material culture at Pella and Tell el-Hayyāt (Table 5)*

Material culture was also analyzed and can be found in abundance at both sites, in both interior and exterior contexts at Pella and Tell el-Hayyāt. Upon my analysis of artifacts, it should be noted that metal figurines like those found at Tell el-Hayyāt do not have similar parallels at Pella. In contrast, the ivory artifacts found at Pella are unparalleled at Tell el-Hayyāt. The artifacts present between the sites include cult stands, pottery vessels, figurines, incense burners, sculptures, votive vessels, stone/faience objects, lamps, and altars. These items are discussed in terms of social/religious purposes, in accordance with my theoretical orientation toward complex societies.

The types of artifacts that can be found at both sites include ceramics (varying types), incense burners, figurines (ivory and metal), cult stands, stone objects, sculptures, altars, votive vessels, and lamps. Pella includes: 1 cult stand, unknown amount of incense burners, 1 figurine head, 4 pottery vessels, 5 stone objects, 2 sculptures, 4 stone objects, and 1 altar. Tell el-Hayyāt

includes: 13 pottery vessels, 1 incense burner, 8 votive vessels, and 2 lamps (Falconer and Fall 2006; Bourke 2012).

The different artifacts at Pella are found both interior and exterior to the temple builds. Artifacts were able to be found at each phase with limited quantity. As stated previously, Pella includes a wide range of artifacts that vary from phase to phase that include pottery, altars, incense burners, and etc. Tell el-Hayyāt also has artifacts that can be found both interior and exterior to the temple builds but at higher quantities due to the nature of the ruins left behind.

Pottery vessels of different varieties can be accounted for in various phases at Tell el-Hayyāt (5, 4 and 3) within the temple's interior while Pella is noted to have had a variety of pottery vessels in phase 2 on the exterior of the temple. Pottery vessels found at Tell el-Hayyāt have different and overlapping forms between Phases 5, 4 and 3. There are four types from Phase 5, open forms with slightly beveled rims, deep bowls with slightly incurved, pointed rims, closed, globular vessels with externally thickened rims and exterior rilling (ornamentation), and open carinated bowls (Falconer and Fall 2006: 46). From Phase 4 there are multiple types of pottery that are congruent with similar excavated sites that include kraters, bowls, juglets, jars, store jars, and straight-sided cooking pots (Falconer and Fall 2022: 49). Phase 3 includes pottery forms that continue over from phase 4 and has the largest variety of pottery out of all phases; serving vessels (four types), long necked bowls, kraters, bowls with beveled rims, cooking pots, flat-bottomed, straight-sided vessels, jugs, and store jars (rims were found) (Falconer and Fall 2022: 52, 57).

Many artifacts at both sites show the relation of material objects to religious concepts based on the type and design of each artifact. Decorations found on vessels at Pella found at the exterior of the temple at phase three show evidence of decorative details used for mortuary

purposes that correlate to religious funeral activities “Outside the Phase 3 temple was a 4 × 4 m storeroom with two stratified layers of plaster-lined mudbrick bins that contained a variety of special use objects, including an alabaster flask, a gypsum cup, and a ceramic bowl adorned with four rams head handles” (Bourke 2012: 67). Tell el-Hayyāt also exhibits examples of artifacts corresponding to religious activities “A small, red-slipped bowl with knob decoration has parallels in the Megiddo tombs (Amiran 1970: pl. 25:7) and in Stratum II of Ory’s excavations at Ras el-’Ain (Ory 1936/37: no. 26 A). An open bowl with external carination and bulbous rim seems to be an intermediate form between the heavy carinated open bowls of Phase 5 and the shallow open bowls with external flanges in Phase 3” (Falconer and Fall 2022: 49).

Pella’s temple and their material culture provides a more discernible expression of Canaanite religious institutions (which can be seen in sculptures, cross walls, and figurines) and Tell el-Hayyāt’s temples provide a more peripheral expression of Canaanite religious institutions (which can be seen in their pottery and temple layout as well). Pella’s expression of religion is able to be noticed boldly when looking at features and figurines whereas Tell el-Hayyāt is more suggestive on what is present in their pottery and layout. The features present at Pella such as the cross wall, show circumstantial evidence rather than archaeological based on the aspects associated with the temple at this site and surrounding locations

“While acknowledging that archaeological evidence can provide no more than circumstantial supporting evidence, we suggest (albeit tentatively) that the massively built rectangular ‘hollow-box’ anten-temple form of the Middle Bronze Age temples at Shechem (Tell Balata), Megiddo (Tell el-Mutesellim), Hazor (Tell Waqqas /Tell el-Qedah; Area A) and Pella be associated with the worship of Canaanite El” (Bourke 2012: 165).

This quote from Bourke also supports the findings in artifacts at the temples such as artifacts found in offertory bins. It can be inferred that these offerings were used in a religious or ritualistic use rather than a general offering to the community. There are various similarities

when looking at dates and artifacts present however, figurines both ivory and metal were found at each site although Pella just had ivory while Tell el-Hayyāt just had metal.

## CHAPTER 5: DISCUSSION

This thesis concentrates on evidence from Pella and Tell el-Hayyāt for the purpose of comparing both sites for similarities and differences in their Bronze Age temples as a means of uncovering the social linkages. My hypothesis was that there would be similar material culture and temple style at both sites, because of long-term social interaction through religious institutions. I believed that I would be able to unearth correlations between the temples and the artifacts found in their associated interior and exterior spaces in each phase. The overlapping relationship between Pella and Tell el-Hayyāt can be seen in the expansion of the temples, elaboration of their architectural features, and in the ritual orientation of many of the artifacts found in similarly timed phases at both sites. Looking at the parallel sequences of temple construction and reconstruction helps support this idea. The following discussion of temple forms and sizes at Pella and Tell el-Hayyāt, architectural features at Pella and Tell el-Hayyāt, and material culture at Pella and Tell el-Hayyāt will consider some of the results I found during my study and their potential implications for social interaction through Canaanite religious institutions. Between the two sites, Pella and Tell el-Hayyāt, there are features that support an overlap through social interaction. Contrary to Susnow's contention, the early temples at Pella and Tell el-Hayyāt actually show correlations of clearly symmetrical temple forms at these at an early urban center (Pella) and a small contemporaneous rural settlement. This quote sets up the picture for the next stages of layouts at both sites being looked at in this study, in phases 1-4 at Pella and 5-2 at Tell el-Hayyāt from earliest to latest.

The first area of analysis I looked at was the temple forms and sizes at both Pella and Tell el-Hayyāt. The temple layout at Pella is situated in a small square form that evolves to a larger square form that has sections within itself (Bourke 2012). Although both sites experienced

expansion, the evolution of the temples at each site was quite different. At Tell el-Hayyāt, the temples grew in a more compact manner, while at Pella, the temples grew at a much more rapid pace. In fact, the temples at Pella grew more than ten times in size, whereas those at Tell el-Hayyāt only doubled in size. This suggests that the temples at Pella were not only larger than those at Tell el-Hayyāt, but that they experienced a much more significant rate of growth. The layouts of Pella as stated above drastically increase in size as each phase is rebuilt (Figure 2). This is because the town of Pella is larger than the site of Tell el-Hayyāt. The temple layout at Pella is a small square form that evolves through time to a larger square form that has sections within itself (Bourke 2012). The expansion that can be seen at Pella can also be seen at Tell el-Hayyāt but in a form that is more compact when progressing from one layout to the next (Falconer and Fall 2022).

These characteristics reflect the substantial difference in community populations, the greater prominence of Pella in Levantine society and the greater investment these factors provided for expanding Pella's temples and religious authority. The probable role of religious authorities directing the remodeling of these structures is suggested by the intentional leveling of the Tell el-Hayyāt temples, and the reconstruction of the temples in both communities on the foundations of each preceding temple. The influence of religious authorities directing the remodeling can be seen through the additions present as the temples go into each phase, this includes altars, benches, and bins. It is also important to note that at each new temple at both sites was rebuilt directly on top of the foundations of the preceding temple. In contrast, rebuilt domestic houses were located in approximately the same locations from one phase to the next at Tell el-Hayyāt, but not on the foundations of previous houses. Further, once the temples in Tell el-Hayyāt phases 5, 4 and 3 went out of use, they appear to have been intentionally leveled down

to the top of their foundations at a height of three or four brick courses. In other words, these temples were not simply abandoned and allowed to decay. Instead, and more importantly, their deconstructions and reconstructions show clear signs of planning.

Along with the temple layouts, the surrounding areas developed with each new phase at each site. While the Pella excavations revealed most of the temple plans, they exposed only portions of the surrounding town buildings, whereas the Tell el-Hayyāt excavations not only revealed temples but also many of their surrounding structures (Figure 3). The temple development at each site in size and layout shows important interrelations in architectural form, as seen in the temple foundations at Pella and Tell el-Hayyāt, and in the similarities and relationships in material culture associated with the temples in both settlements. When strictly looking at their layouts, it is evident that similar construction methods and architectural forms conform to temple structures and religious purposes found at other sites during this era of the Canaanite Middle Bronze Age. The materials that each site exhibits, whether it be architectural design or material culture related items, show what was and what was not available to each site during the different phases and periods of the Bronze Age.

Architectural features were also constructed internally and externally for both Pella and Tell el-Hayyāt. Features at both sites include bins, benches, towers/buttresses, altars, and other items that had ritual uses. The temples at both sites developed from small square forms with simple brick buttresses on their front wall to much larger rectangular structures with interior features (like the interior cross wall at Pella and altars at Tell el-Hayyāt) and large tower foundations at their front corners. The anterior buttresses/towers mark these temples as being part of a widespread and long-lasting tradition of temples *in antis*.

Material culture was analyzed at Pella and Tell el-Hayyāt from interior and exterior contexts. The artifacts present at both the sites include cult stands, pottery vessels, figurines, incense burners, sculptures, votive vessels, stone/faience objects, lamps, and altars.

My review of ritual artifacts noted that animal and human figurines found in households were made of ceramic, while those found associated with temples were made of copper or copper alloy. This could be due to “better” materials such as metal were used in ritualistic activities and ceramics being used for everyday items because of the rarity of the material or importance of the material. Also, the metal figurines found at Tell el-Hayyāt do not have metal parallels at Pella. However, Pella did reveal ivory artifacts which were made in a medium completely missing at Tell el-Hayyāt (see Table 3). This can be because of Pella being larger than Tell el-Hayyāt allowing a variety of materials to be imported in. It can be assumed for Tell el-Hayyāt that the pottery vessels were used for rituals or put into offertory bins found within the temples, this correlates with Pella’s pottery vessels being found in exterior offertory bins as well.

The materials that each site exhibits, whether through architectural design or material culture, show what was and what was not available to each community during the different phases and periods of the Bronze Age.



## CHAPTER 6: CONCLUSIONS

When looking at Pella and Tell el-Hayyāt, there were many variables that could be compared in terms of similarities and differences. The data available for both Pella and Tell el-Hayyāt suggest social interaction facilitated religious institutions, as indicated by temple plans, remodeling, similar features, and artifacts. The overall comparison between the sites shows influence on layout, architectural materials, offertory artifacts, and features. The research presented here considers social relationships between communities as key elements in Canaanite and other early complex societies. These results can be used in comparison to other research done on religious institutions in the ancient world generally or temples *in antis* in the Levant specifically. The comparison done between two temples in the Southern Levant can be a template for researching temples in antis beyond the Levant. By using these results as a starting basis, the charts produced can be used in a similar manner to compare temples in other areas. Future work will need to be done for these temples and other with specific measurements for interior dimensions and also dimensions associated with walls and other features. The limitations will exist when dealing with architectural features that are destroyed or too fragile. In future studies on Pella and Tell el-Hayyāt, methods of analysis would involve going to the excavated sites and measuring the interior of each temple site along with diving deeper into decorations concerning ornamentation on artifacts and features. In summary, I hope that my analysis will be able to better piece together an understanding of social interaction during the Bronze Age in the Southern Levant to help uncover relationships between not only Canaanite societies but other ancient complex societies.

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**Table 1.** Bronze Age chronology for the ancient Southern Levant.

Period	Time Range (yrs BC)	Major Social Characteristics
Early Bronze Age	3700-2000	First towns on mounded "tells"
Middle Bronze Age	2000-1600	Largest fortified Bronze Age towns; greatest Canaanite prosperity
Late Bronze Age	1600-1200	Towns decline; first historical records of Canaanites

**Table 2.** Summary of stratigraphic Canaanite temple sequences excavated at Pella and Tell el-Hayyāt, Jordan

Period	Pella	Characteristics	Period	Tell el-Hayyāt	Characteristics
MB III	Temple Phase 4	2 anterior towers; interior dividing wall, cross wall within large hollow space	MBII/III	Phase 2	2 anterior towers; basalt pedestal in forecourt
MB III	Temple Phase 3	2 anterior buttresses, stone courtyard, stone paving	MB I/II	Phase 3	anterior tower & buttress; interior altar & basalt pedestal; standing stones in forecourt
MB I/II	Temple Phase 2	2 anterior buttresses, offertory pits, stone piers	MB I	Phase 4	2 anterior buttresses; interior altar & basalt pedestal; standing stones in forecourt
MB I	Temple Phase 1	2 anterior buttresses, standing stones	MB I	Phase 5	2 anterior buttresses; interior altar; standing stone in forecourt

**Table 3.** Temple forms and sizes at Pella and Tell el-Hayyāt.

Site	Phase	Exterior Dimensions (m)	Exterior size (sq. m.)	Interior Dimensions (m)	Interior space (sq. m.)	Buttress/Tower Dimensions (m)	Buttress/Tower size (sq. m.)	Comments/Comparisons (similarities/differences with evidence from other temples)
Pella	1 (earliest at Pella)	7 x 9 m	63 m <sup>2</sup>	6x8m	42 m <sup>2</sup>	2 x 2m	4 m <sup>2</sup>	Mentions stones are 1 meter thick, will be considered when doing interior
Pella	2	8 x 10 m	80 m <sup>2</sup>	7x9m	63 m <sup>2</sup>	2x2 m	4 m <sup>2</sup>	Mentions stones are 1 meter thick, will be considered when doing interior
Pella	3	16 x 22 m	352 m <sup>2</sup>	13x 19m	247 m <sup>2</sup>	5x 5 m	25 m <sup>2</sup>	east wall 3 meter thick, which means all walls were 3 meter thick, this will be used when calculating interior dimensions
Pella	4 (latest MB temple at Pella)	24 x 32 m	768 m <sup>2</sup>	21x29m	609 m <sup>2</sup>	10 x 10 m	100 m <sup>2</sup>	Based off measurements from previous temple dimensions, the estimation of how thick the walls were will be 3 as well as this seemed the trend
Tell el-Hayyat	5 (earliest temple at Hayyat)	6.1 x 6.7 m	41 m <sup>2</sup>	6.1 x 5.825m	35.5325 m <sup>2</sup>	2.1 x 2.1 m	4.41 m <sup>2</sup>	Based off of the progression of walls increasing by tenths of measurements (or roughly in that area), the length will not have anything subtracted from it but the width will. The reasoning for this is the length does not increase drastically until you go from phases 4 to 5 whereas the width increases at each phase. The number being subtracted will be the average of .875m.
Tell el-Hayyāt	4	6.9 x 7.2 m	50 m <sup>2</sup>	6.9 x 6.325m	43.6425 m <sup>2</sup>	3.5 x 3.5 m	12.25 m <sup>2</sup>	
Tell el-Hayyāt	3	6.9 x 7.4 m	51 m <sup>2</sup>	6.9 x 6.525m	45.0225 m <sup>2</sup>	3.5 x 3.5 m	12.25 m <sup>2</sup>	
Tell el-Hayyāt	2 (latest temple at Hayyāt)	8.3 x 10.2 m	85 m <sup>2</sup>	8.3 x 9.325m	77.3975 m <sup>2</sup>	3.5 x4 m	14 m <sup>2</sup>	Comments aside from wall thickness, is that the first phases at each site are similar in size. The difference is how things increased. The square area doubled at Tell el-Hayyāt while Pella increased almost 12x its initial square footage.

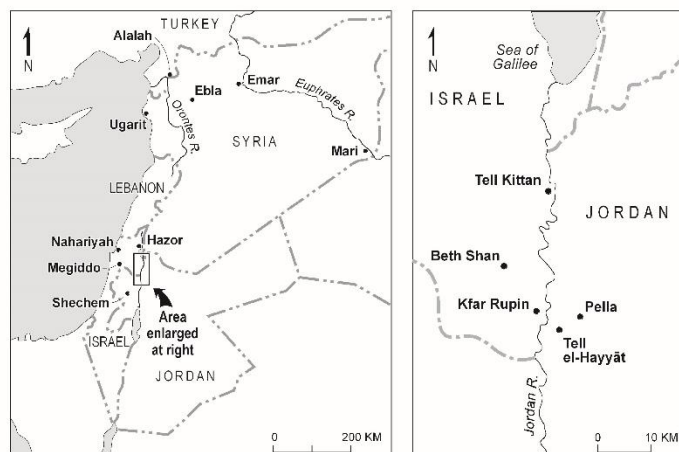
**Table 4.** The architectural features found in the temples at Pella and Tell el-Hayyāt.

Phase	Interior features	Exterior features	Decorative features	Comments/Comparisons (similarities/differences with evidence from other temples)	Type of Temple
1	Altar	Standing Stones	thick mud-plaster lining on inner wall face, thick plaster floors (both interior)		Green mud-brick temple <sup>7</sup>
1	Bins	Offertory Pits	Bins had ceramics decorated with glazes and fabrics		Green mud-brick temple <sup>7</sup>
1	Benches				Green mud-brick temple <sup>7</sup>
1					Green mud-brick temple <sup>7</sup>
2	Altar	Standing Stones	Plaster floors (interior)		Brown mud-brick temple
2	Bins	Offertory Pits			Brown mud-brick temple
2	Benches				Brown mud-brick temple
3	Open rectangular space	Stone Piers	mudbrick floor (paved)		Stone anten-temple
3	N/A	Pink mud-brick building	Pink mudbrick, 4x4m	Contained bins for offerings on the upper level. Each plastered bin contained a collection of miniature ceramic vessels	Stone anten-temple
3	N/A	Stone Courtyard	Stone pavement into the piazza into town		Stone anten-temple
4	Cross wall	2 Buttresses	floors were made of field stone and thick yellow plaster. Cross-wall footings formed the foundation course for a formal stone-paved entranceway into the created cult-room. The eastern two-thirds of the original 'hollow-box' construction appear to have been re-floored with a thin matt white plaster surface	Thick walls newest wall was an added 3m thick.	Stone tower-temple
4	N/A	Mudbrick and stone wall	The once stone pavement from phase 3 was repaved with fieldstone cobbling.	Mudbrick and stone wall were constructed roughly four meters south of the southern temple wall, running parallel with the temple	Stone tower-temple
5	Altar	Standing Stones	Evidence of pebbling inside of temple	Enclosure wall- all, circular depression 5-3	Mudbrick
5	Bins	Offertory Pits		Enclosure wall- all	Mudbrick
5	Benches			Enclosure wall- all	Mudbrick
4	Benches	Kiln		Enclosure wall- all	Mudbrick
4	Altar			Enclosure wall- all	Mudbrick
3	Circular depression	Roofed Structure	Had stone-paved floor, four postholes and door socket adjoins an enclosed courtyard	Enclosure wall- all	Mudbrick
3	Standing Stones	Courtyard		Enclosure wall- all	Mudbrick
2	Standing Stones	Courtyard		Enclosure wall- all	Mudbrick
2	Antae	2 compounds		Enclosure wall- all	Mudbrick and stone

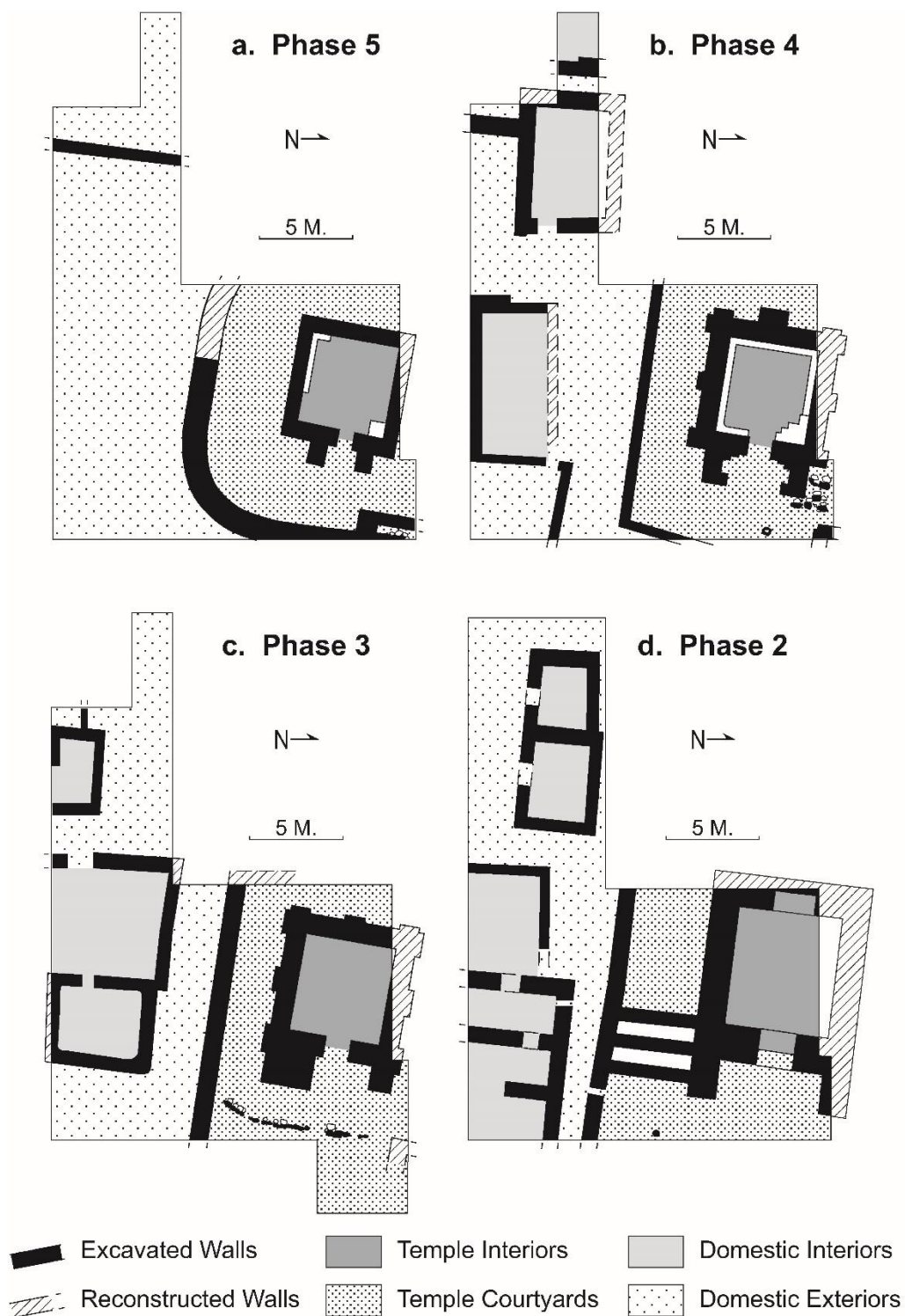


**Table 5.** An overview of the material culture found in association with the temples at Pella and Tell el-Hayyāt.

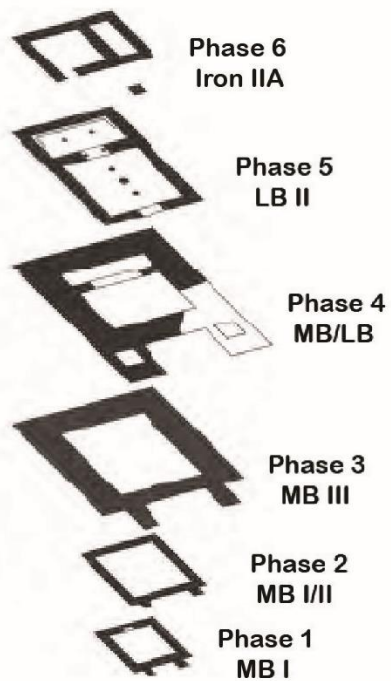
Site	Phase	Interior Material Culture	Medium (e.g., ceramic, copper, etc.)	Loc.	Quant.	Size	Exterior Material Culture	Medium (e.g., ceramic, copper, etc.)	Loc.	Quant.	Size
Pella	1						Cult Stands	Ceramic	Courtyard	1	Small
Pella	1	Incense Burners	Ceramic	interior temple surface	N/A	Small					
Pella	1	Ivory figurine	Ivory	N/A	N/A	Small					
Pella	1						Figurine head	Ceramic	Votive pit outside of temple	1	Small
Pella	2						Pottery Vessels	Ceramic	Bins in 4x4 building	4	Small
Pella	2						Stone /faience objects	Stone	Bins in 4x4 building	5	Small
Pella	3	Sculpture	Stone	Found inside on the floor, it is speculated that they may have been debris from an earlier period used as packing for foundation	2	Each piece was a medium sized piece					
Pella	3						Stone /faience objects	Stone	Bins in 4x4 building	4	Miniature
Pella	4						Cult Stands	Ceramic	Courtyard	1	Small
Pella	4						Altar	Ceramic	Courtyard	1	Miniature
Tell el-Hayyāt	5	Pottery Vessels	Ceramic	Interior temple surface	4	Small-Medium					
Tell el-Hayyāt	5	Incense Burners	Ceramic	Interior temple surface	1	Small					
Tell el-Hayyāt	4	Pottery Vessels	Ceramic	Interior temple surface	5	Small-Medium					
Tell el-Hayyāt	3	Pottery Vessels	Ceramic	Interior temple surface	4	Small-Medium					
Tell el-Hayyāt	2	Pottery Vessels	Pottery Vessels	Pottery Vessels	Pottery Vessels	Pottery Vessels	Votive vessels	Ceramic	Near the entrance	8	Small
Tell el-Hayyāt	2						Lamps	Ceramic	Forefront	2	Small



**Figure 1.** Left: The Southern Levant and Greater Syria, showing locations of Bronze Age settlements with temples *in antis*. Right: Locations of Pella, Tell el-Hayyāt and nearby Bronze Age settlements in the northern Jordan Valley (after Falconer and Fall 2022: figure 1).



**Figure 2.** Plan views of the temple and domestic architecture excavated in phases 5-2 at Tell el-Hayyāt (after Falconer and Fall 2022: figure 2).



**Figure 3.** Isometric views of the temple plans found in phases at Pella, 1-6 (only phases 1-4 were analyzed) (after Bourke 2012: figure 3).