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Documentation, Re-assessment and Re-interpretation for KHirbat Az Zayraqūn's Religious Complex and a Suggested 3D Re-construction during the Early Bronze Age I, II and III

Abstract

The chronology of the Early Bronze Age in the southern Levant recently went through some significant changes. Based on these changes, the re-assessment of Early Bronze Age archaeological sites and related excavation results became necessary. This study aims to re-assess the excavation results of KHirbat Az Zayraqūn's religious complex considering the new chronology and the architectural typology. It also seeks to provide an architectural analysis of that complex so that a 3D re-construction could be made. This analysis will test the hypothesis that the religious complex had two construction phases and the temples *in antis* of KHirbat Az Zayraqūn were the earliest of their type in the Levant. The temples of KHirbat Az Zayraqūn were also compared to the other Early Bronze Age temples in the southern Levant. This revision also led to the creation of a 3D re-construction of the

religious complex using sketch up software. The results demonstrate that the first temple at KHirbat Az Zayraqūn was Temple B0.1 dating to the Early Bronze Age I, and Temples B0.4 and B0.5 were constructed in the Early Bronze Age II. Also, Temples B0.4 and B0.5 are the earliest examples of temples *in antis* in the entire Levant. These results suggest that KHirbat Az Zayraqūn was one of the earliest urban centers to combine two religious orientations reflecting the society's nature: the first was connected to the village community and the second to the urban community.

Introduction

The Early Bronze Age (EBA) represents the first urban period in the southern Levant with settlements that can be viewed as urban centers. These centers were surrounded by fortification walls and had planned urban sectors that contained public monuments (Chesson

2019; Greenberg 2019; de Miroschedji 2014; Richard 2014). The EBA lasted from *ca.* 3700 BC to 2000 BC (Regev *et al.* 2017) and is divided into four sub-periods (TABLE 1): EB I, EB II, EB III, and EB IV/Intermediate Bronze Age (IBA) (Albright 1932; Amiran 1970; Mazar 1992; Stager 1992; Wright 1937). The urban period in the EB II and EBIII developed from the EB I and ended in the EB IV (Greenberg 2019; Kempinski 1992b; Philip 2008; de Miroschedji 2009; de Miroschedji 2014).

Recently, the absolute chronology of the EBA has changed our interpretation of the period. As part of the ARCANE project, Johanna Regev and other scholars provided a comprehensive study of published Early Bronze Age ¹⁴C dates. Furthermore, they reevaluated 420 ¹⁴C dates based on their archaeological context. Then, they applied Bayesian modeling to specify the transitions between the Early Bronze Age southern Levantine sub-periods. The results show that the EB II ended 200 years earlier than traditionally thought. The EB III ended around 2500 BC, and the last period of the Early Bronze Age (EB IV) began 200 years earlier than in the traditional chronology (TABLE 1) (Regev *et al.* 2012). This study presented a new absolute chronology of the Early Bronze Age in the southern Levant, and recently their results were supported by

other studies from different sites in the region (Regev *et al.* 2012; 2014; 2017; Shai *et al.* 2014; Tumolo and Höflmayer 2020).

Because of this significant change in the chronology of the EBA, the combination of all other recent work from the last decade and the re-assessment of the EBA sites should be considered an important step that will provide a clear vision for the social nature of the Early Bronze Age's inhabitants. This paper will provide a reevaluation of the architecture of the religious complex at KHirbat Az Zayraqūn in light of these chronological studies in order to test the study's hypothesis; also, a 3D re-construction is provided to help visualize the buildings and further test the hypothesis.

The hypothesis is that KHirbat Az Zayraqūn's religious complex had two construction phases. The early phase included the Breitraum Temple (B0.1) and the altar complex. The late phase included the temples *in antis* (B0.4 and B0.5) and the Temenos. Also, the temples of the late phase were the earliest of their style in the southern Levant and each phase had a different access point that led into the complex. Thus, the complex represented two different religious orientations that combined the beliefs of the village community and the urban community.

Table 1. The absolute chronology of the EBA in the Southern Levant (Regev *et al.* 2017); (ESL Early Southern Levantine)..

Archaeological Period	ARCANE label	Date
EB I	ESL 0-3	3700-3050
EB II	ESL 4	3050-2900/2850
EB III	ESL 5	2900/2850-2500/2450
EB IV	ESL 6	2500/2450-2000

The Archaeological Site: KHirbat Az Zayraqūn

The Geographical Location

KHirbat Az Zayraqūn is located in the northern part of the eastern highlands region of the southern Levant (FIG. 1), specifically in the eastern Jordanian plateau, on a hilltop on the western slope of Wādī Ash Shallālah. The site is surrounded by several water resources such as 'Ayn Rāhūb, 'Ayn Umm Ar Rijlayn, and 'Ayn Ash Shalaf (Ibrahim and Mittmann 1987, 1988a, 1988b; 1991, 1994, and 1997). It also has fertile soil, as the average rainfall in this area is around 350 mm. These factors make the agricultural lands dependent on rain-fed agriculture (Riehl 2004). Its strategic location with the water resources and the availability of agricultural land made the site an important center in the EBA (Kamlah 2000).

The Chronology

According to the traditional chronology of the Early Bronze Age in the southern Levant, KHirbat Az Zayraqūn was dated to the EB II and EB III. Recently, the results of the absolute chronological studies for the Early Bronze Age have changed the old view of the traditional chronology. The beginning of the age became earlier by 400 years. The EB II ended 200 years earlier, and the end of the EB III extended for 200 years later than in the traditional chronology (Regev *et al.* 2012). In light of this chronological model and based on the analysis of new ¹⁴C samples from KHirbat Az Zayraqūn, the result confirmed that the site's occupation dated to the EB I and EB II between 3100 BC and 2850 BC (Tumolo and Höflmayer 2020).

The Architectural Remains

The settlement size of KHirbat

Az Zayraqūn is around 8 ha, and it is defined by a surrounding wall. This wall encircles the site from all sides except on the east, where there is an extremely steep cliff that overlooks Wādī Ash Shallālah (Douglas 2008; Ibrahim and Mittmann 1987, 1988a, 1988b, 1991, 1994, and 1997). The excavations have only uncovered 10% of the settlement in both the upper and lower cities (Ibrahim and Douglas 2004). Like other EB II–III settlements in the southern Levant, KHirbat Az Zayraqūn was divided into two districts. The first district is the upper city, which encompassed the public buildings. The second district is the lower city, which contained the domestic buildings (FIG. 2). The upper city's architectural remains included part of the fortification system, the religious complex, the administrative complex, and the northern complex. The remains from the lower city included part of the fortification system and several domestic structures (Ibrahim and Mittmann 1987, 1988a, 1991, 1994, and 1997), in addition to courtyards outside of the city wall in both areas (Douglas 2008). The description of the architectural remains in this chapter depended on the published general plans of the excavations and on the published studies.

The Architecture of Religious Buildings in the EBA II and III

Religious buildings usually had size, plans, and construction techniques that differed from domestic buildings (de Miroschedji 2014). The temples in the Early Bronze Age known as courtyard temples included the "Breitraum" type in the EB I, II, and III, in addition to the presence of a new type, "temples *in antis*", (FIG. 3) in the EB III. Temples at a site could be either single or multiple (TABLE 2), with direct or indirect entrances. These temples were found at

Table 2. The religious temples of the EB II and III in the Southern Levant.

SITE	PLAN	ENTRANCE	NUMBER OF TEMPLES
Arad	Breitraum	Center	2
At-Tall	In antis	Center	1
Bāb adh Dhrāʿ	Breitraum	Incline	1
KHirbat Al Batrāwī	Breitraum	Incline	1
KHirbat Az Zayraqūn	-Breitraum -Temple <i>in antis</i>	Center	1
		Center	2
Tall Al Mutasallim	Temple <i>in antis</i>	Center	3

the following sites in the EB II and EB III (FIG. 4): Arad (Amiran and Ilan 1993), At-Tall (Callaway *et al.* 1965; Callaway 1993; Kempinski 1992a), KHirbat Al Batrāwī (Nigro 2008a), Bāb adh Dhrāʿ (Rast and Schaub 2003), Tall Al Mutasallim (Adams 2013; Load 1948; Ussishkin 2015), and KHirbat Az Zayraqūn.

The Religious Complex of KHirbat Az Zayraqūn

KHirbat Az Zayraqūn's religious complex (FIG. 5) was erected in the middle of the highest area in the upper city and is surrounded by the main features of the upper city. The city wall protects its western side, and an open courtyard defines its northern side in front of the city gate. The administrative complex borders the eastern side. The complex is surrounded by walls that separate it from its surroundings. The complex consisted of four main buildings, a platform, a courtyard, three smaller rooms, and several open spaces. According to the excavators, three of the main buildings (B.01, B.0.4, and B.0.5) were identified as temples. The fourth one, B.0.2, was identified as a working room. The circular platform (i0.1) was interpreted as an altar. The function of

the small rooms is still not clear. The three long segmented walls were identified as the Temenos. The building's architecture, the temple's lack of ceramics, and the snake application figurines all confirm the function of the cultic place (Ibrahim and Douglas 2004; Ibrahim and Mittmann 1994; Genz 2002, 2010).

Stratigraphy and Chronology.

The final stratigraphic analysis of KHirbat Az Zayraqūn's religious complex has not been published yet (Ibrahim and Douglas 2004). The directors of the excavation (M. Ibrahim and S. Mittmann) suggested that the complex was constructed in the EB II at the same time as the other buildings in the site (Ibrahim and Mittmann 1997). During the excavations, it was found that the complex had two stratigraphic layers together about 0.7 m thick that corresponded to two construction phases. The earlier phase represented the buildings' foundations over bedrock, the courtyard, and segments of *huwwar*. The second phase represented the final use of the complex through EB II/EB III (Dr. Moawiyah Ibrahim, personal communication).

H. Genz provided a stratigraphic sequence for the religious complex based on the ceramic study. The results

showed that the oldest building is B0.3, which is dated to the early horizon. All of the buildings were used through the middle and the late horizons (Genz 2002). Most of the complex's buildings lacked ceramic evidence, except for B.02 and B.05, and the installation (i0.3) in the courtyard (R0.11). Furthermore, the installation (i0.3) was interpreted as an offering pit that contained several restorable vessels. The vessels were unused and were not in their original context. Generally, this ceramic assemblage is dated to EB II and EB III (Genz 2002). KHirbat Al Karak Ware appeared in this collection, which is dated to the EB III. Eight ¹⁴C samples were analyzed from the religious complex. They dated to the early and middle horizon, falling between 3100 and 2950 BC (Tumolo and Höflmayer 2020). Compared to other religious buildings in the southern Levant, this is the region's earliest and most complete complex of its type.

The Religious Complex's Components and Their Functions

KHirbat Az Zayraqūn's religious complex contained four main buildings, several open spaces, small rooms, and a circular platform, in addition to the surrounding walls.

The Courtyards

The courtyards include all the open spaces in the complex (R0.1, R0.2, R0.4, R0.5, R0.6, R0.7, R0.8, R0.9, R0.10, and R0.11). The main court is R0.11 (143 m²), which is interpreted as the temple's courtyard. It is located in the middle of the buildings and the altar and has only one specific feature, the installation (i0.3) situated at the southeastern end of the courtyard, between B0.5 and B0.4. It is a semicircular waste pit and contained twenty-one unused vessels. Moreover, Genz suggested that, due to its location,

it should be interpreted as an offering pit that had a particular type of deposits. It dated to the late horizon based on the presence of KHirbat Al Karak Ware (Genz 2002). Courtyard R0.11 is in front of the temples. It served as a place for religious practices that did not occur inside the temples (Wright 1985). The open areas around the altar were large, which allowed many worshippers who participated in the sacrificial rituals (Genz 2010).

The Temenos

The Temenos included three segmented walls that surround the complex. The first segment (W0.12) extended from the west to the east. Its western end is attached to the southern city gate's room, and the eastern end joins the northwest wall of Temple B0.1. The second segment (W0.3) extends from the north to the south and its northern end is attached to the northeast border of B0.1 and runs behind Temple B0.4. The last segment (W0.9) also runs from north to south. It is located on the southwestern side of the area, between the city wall and Temple B0.5.

The Altar Complex

The Altar complex (FIG. 6) consisted of the circular platform (i0.1) and buildings B0.2 and B0.3. The platform was attached to B0.2 as one unit. This unit stands between the city wall from the west and the courtyard to the east. Also, it is connected to Temples B0.1 and B0.5 by short, thick walls. Building B0.3 extends from north to south and is located between the platform and the city wall. The platform has a circular shape with a diameter of *ca.* 6.5 m, with its height preserved to 1 m. It was built all at once from chalk boulders (Ibrahim and Douglas 2004; Ibrahim and Mittmann 1994). Its exterior face was probably

plastered, based on a layer of lime plaster that was found. Also, four steps on its eastern side led to its top (Genz 2002; Ibrahim and Douglas 2004; Ibrahim and Mittmann 1987, Ibrahim and Mittmann 1994). Building B0.2 is attached to the altar by two walls from its northern side. These walls formed a small space (R0.3) that served as an entrance to the building. The building's northern wall extends to the west, as it is nearly attached to the city wall. This border made the space R0.2 an open courtyard. This courtyard probably was used to practice sacrificial rituals (Genz 2002, 2010). The building has a different layout from the other temples in the complex. It is a rectangular room (8.4 x 5.2 m), and it contained three spaces that were divided by walls. It had several installations (a stone platform, grinding stones, and a storage bin). Also, it provided ceramic finds that suggested a domestic function for the building (Genz 2002). The excavators explain its function as a workroom that served the altars and the temples and that was used by small number of people (Genz 2010).

Only the western side of Building B0.3 was preserved, located west of the platform. This building contained burnt animal bones in an ash layer interpreted as the remains of sacrificial offerings. This evidence confirmed the function of the platform as a sacrificial altar (Ibrahim and Mittmann 1994). In addition to the orientation of Temples B0.1 and B0.4 toward the platform, there was a support point that also confirmed its function. So, Building B0.3 was connected directly to the altar.

The Temples

There were three temples (B0.1, B0.4, and B0.5). They were identified as temples based on their plans and the lack the food-preparation and -serving ceramic types in the recovered assemblage (Genz 2002; Ibrahim and

Mittmann 1994; Ibrahim and Douglas 2004). They are different in size, design, and orientation.

Temple B.01 is the largest building located north of the courtyard (R0.11). Its orientation differed from the rest of the buildings in the settlement as it inclined 45 degrees to the east, making its orientation northeast to southwest. Its southwestern end is attached to B0.2 by a thick and short wall. The building consisted of three spaces (R1, R2, and R3) (FIG. 7). Room R3 is a rectangular and broad room (12.5 x 7.8 m). Its entrance is in the middle of the long wall (2 m wide) and opens toward the courtyard. Two pillar bases are on its long axis. Room R1 is a rectangular annex (10 x 3.3 m) behind the main room (R3), and it does not have any entrances. An area about 2.5 m long from the northwestern wall is covered with a layer (0.2 m high) of small stones. The room also has a stone bench (4.4m x 1.2 m) (Ibrahim and Mittmann 1988b). The last space is R2, the smallest area in the building. It is located next to R1 and it is open from one side. The thickness of the building's walls is nearly one meter and it has right angles. The building's foundation had built of limestone, and its upper part was made from mudbricks (FIG. 8) (Douglas and Ibrahim 2004; Douglas *et al.* 2009).

Building B0.5 (FIG. 9) is located south of courtyard R0.11. According to the excavation's directors, it is the complex's main temple (Ibrahim and Mittmann 1994). It is oriented to the north, not toward the altar like the other temples. Its northwestern end is attached to the altar by a short and thick wall. It is smaller than B0.1, measuring 10 x 10.5 m).

The building consisted of two spaces (R1 and R2) and two smaller rooms (B0.6 and B0.13) that were attached to it (FIG. 10). R1 is the anteroom; it had a

rectangular shape (measuring inside *ca.* 8.5 x 2.5 m). It has a wide entrance (6 m) located in its northern wall (FIG. 11). Moreover, this entrance has two pillar bases and it opens into the courtyard. The room's southern wall has another entrance that leads to the main room (R2). This entrance is smaller than the opposite one (around 1.0 m). Two benches made of stone and plastered lined the room's walls (Ibrahim and Douglas 2005). Room R2 has a broad room plan and its entrance is located in the middle of the northern wall. The room has several installations: a square threshold behind the entrance, a hemispherical stone basin to the west of the threshold, two pillar bases on the room's long axis, and a long plastered bench made of stone along its southern wall (5.5 m long). Additionally, based on the excavation's photographs it seems that the western wall was also lined with an L-shaped bench. The floor of the building was made of limestone marl that was renewed through time (Ibrahim and Mittmann 1994).

Unlike the other two temples (B0.1 and B0.4), this temple produced three ceramic vessels (two juglets and one large storage jar) (Genz 2002), and two spearheads were found in the wall of the main room (Ibrahim and Mittmann 1988b). The offering pit (i0.3) is in front of the eastern end of the temple and produced several ceramic sherds with snake applications (Genz 2002). Behind the building's rear wall to the eastern side, two smaller rooms (B0.5 and B0.13) are attached, but their functions are still unclear. Room B0.5 had two installations, a bench and a storage bin). As for B0.13, only its northern part was preserved and it lacked installations. These rooms probably served as storage rooms.

Temple B0.4 is east of Temple B0.5,

which is situated on the eastern side of the courtyard (R0.11). It has a similar plan (FIG. 12), but on a smaller scale (9 x 9.5 m), and it is oriented to the west toward the altar. The building (FIG. 13) consists of two spaces: the main room (R1) and the porch. Room R1 is a broad room (4.9 x 7.5 m); it has two pillar bases on the central axis and a long bench (3.8 m long) located in the middle of its eastern wall. Another 3 m long bench is located in the south of its western wall. The room's entrance (1 m wide) was through a square paved threshold situated in the middle of the western wall. The northern and southern walls extend toward the east about 2.5 m to form an L-shaped *antis* from this room. This area is a porch, and it has a wide entrance (4.5 m). It only has one feature, a thin and short wall (1.2 m long) that extends from the end of the northern anti to the western wall of the main room.

The Architectural Analysis of the Religious Complex

The construction materials, the architectural elements, the layout of the temples, and the construction phases of the religious complex were used to create the suggested 3D re-construction (FIG. 14). This analysis also relies on the major architecture studies of EBA structures (Netzer 1992; Reich 1992; Wright 1985).

The Construction Materials

The construction materials used in the KHirbat Az ZayraqŪn religious complex are stone, mud brick, wood, plaster, and marl (Douglas and Ibrahim 2004; Ibrahim and Mittmann 1994). Stone was used in the foundations, pillar bases, and benches. The stone is rough-hewn cherty limestone that was carried from a nearby quarry (Douglas *et al.* 2009). The mud brick was used to build the

walls of structures. It was manufactured by modeling the bricks out of a mixture of whitish and yellowish soil, lime gravel, and organic plant remains (Al-Houdaliah 1992). The wood was used mainly for the roofs, doors, and columns (Ibrahim and Mittmann 1994; 1997; Netzer 1992; Reich 1992; Wright 1985). The plaster was used to cover the benches. The marl of packed limestone was used in covering the floors (Ibrahim and Mittmann 1994). The altar was constructed of chalk boulders and covered with plaster (Ibrahim and Mittmann 1994). These materials were available on site and are similar to materials used in the other structures in the southern Levant (Netzer 1992; Reich 1992; Wright 1985).

The Architectural Elements and the Suggested 3D Re-construction

All the structures in the religious complex were built on the bedrock. Their foundations (FIG. 15) consisted of two lines of fieldstones, and the spaces between them were filled with smaller stones. The width of the foundations ranges from 0.7 to 1.0 m. The preserved height of the remains is between 0.2 and 0.6 m. Based on the width, we suggest that their actual height was probably 1–1.2 m, which would have been suitable to carry the loads of the walls and the roof (Netzer 1992; Wright 1985).

The walls were probably the same width as the foundations (1 m) (Netzer 1992; Wright 1985). The mud-brick blocks were 0.45 x 0.25 x 0.20 (Al-Houdaliah 1992). Comparison to the expected height of the city wall (7 m) (Douglas *et al.* 2009) and the width and layout of the temples indicates that they were probably 5–5.5 m high. The position of the temples on the highest point of the tell shows that the builders intended to make them visible, so this height would be suitable.

The roofs were flat, following the stone-slab roof type (FIG. 16). They consisted of wooden beams of different sizes, with the pivotal beam(s) resting over two orthogonal wooden columns, and horizontally smaller beams filled in on both sides of the pivotal beam and rested on the walls. This layer was then covered with reeds and then with a layer of mud (Netzer 1992; Reich 1992; Wright 1985).

The doors The excavations revealed door sockets in the temples, and it is known that the doors were made of wood (Netzer 1992; Wright 1985). We suggest that their height was between 2.0 and 2.3 m and their width was 1 m, as the entrance was paved with a threshold of stones.

A new architectural element appeared in Temples B0.4 and B0.5: an L-shape wall extending from two parallel walls of the main rooms. These walls formed a portico that preceded the main room (Harris 1989).

The benches, In Temple B0.5, two columns stand between the two antis supporting the roof of the wide entrance. In this case, the temples are called distyle in antis (Harris 1989). Temples B0.4 and B0.5 also had plastered stone benches. The function is not clear, but they probably were used for sitting as in the portico, for showing images or figurines for worshiping, or for putting ritual vessels on (Wright 1985).

The columns, The three temples had wooden columns in the center of the main rooms that functioned to support the roofs, but Temple B0.5 serves as an entrance without a door, a new element in the EBA temples. These columns rested on flat stones that served as bases to prevent the columns from sinking (Reich 1992; Wright 1985). The excavations revealed remains of wooden columns from olive trees in the domestic

quarter in KHirbat Az Zayraqūn.

The entrance, Access to the Temples B.04 and B.05 in KHirbat Az Zayraqūn differed from other temples in both the same and previous periods. They have direct entrances located in the middle of a long wall, whereas the general EBA temple type is “the courtyard temple”, in which most of the ritual activities occurred within the courtyard, and access to the temple was directly from the courtyard (Wright 1985). At KHirbat Az Zayraqūn, Temple B0.1 represented this type of temple, but Temples B0.4 and B.5 each had a portico with a wide entrance leading to the *cella* or the main room. This element provides more privacy and adds to the status of the worshipping room.

The orientation, EBA temples in the Levant were oriented generally towards the east, and some cases to the south, north, and northeast. Only Bāb adh Dhrā' was oriented to the west. At KHirbat Az Zayraqūn, each temple was oriented toward a different direction, and none were oriented towards the east. B0.4 faced west, B0.1 to the south-west, and B0.4 to the north.

The Architectural Plans of the Temples
Temple B0.1: The Plan, Finds, and Discussion

The Temple B0.1 plan follows the Breitraum temples. This type of temple has existed since the Chalcolithic period (e.g., the temple of 'Ayn Gidy) (Wright 1985). The plan of this temple differed from the other two temples, as it has features from the Chalcolithic period. Three basalt idol stands (FIG. 17) were found in the main room (Ibrahim and Mittmann 1987). These idol stands were also known from the Chalcolithic period as cultic objects that were usually linked to a nomadic society (Epstein 1988). The building lacked ceramic sherds (Genz

2002). The orientation toward the altar, the architectural plan, and the evidence of the basalt idol stands confirmed the building's function as a temple. As for the annex behind this main room, the excavation directors believed that it probably served as a staircase, as it had no entrances.

The presence of the Chalcolithic features within the religious complex, specifically in Temple B0.1, suggests several things. These features indicate continuity in the religious and ritual beliefs from the preceding period to the urban period of the Early Bronze Age. This point also suggests that KHirbat Az Zayraqūn's inhabitants had lived in a Chalcolithic settlement; when they moved to this new area, they brought their own beliefs with them and engaged with the latest trend in the region, which in their case was urbanization.

Based on the above, I cannot entirely agree with Strange (2002) and Ibrahim and Douglas (2005), who suggested that the “mother tall” of KHirbat Az Zayraqūn was Tall Al Fukhār. First, Tall Al Fukhār had no evidence for Chalcolithic settlement. Second, the earlier settlement of the Tall Al Fukhār dates to the EB IB and EB II (Strange 2002), which was mainly the same period as KHirbat Az Zayraqūn. The two sites were contemporary. So, I suggest looking for a nearby Chalcolithic settlement to identify the origin of the inhabitants.

Temples B0.4 and B0.5: Plans and Discussion

The designs of Temples B0.4 and B0.5 follow the “temples *in antis*” type. Temples *in antis* usually consist of a main room with two parallel walls extending forward to form the *antis* or porch. This design has different layouts, and in some cases, it has an anteroom between the porch and the main room (Castel 2010;

Harris 1989; Wright 1985; Trow 2015).

Archaeological studies have assumed that the first appearance of this type was in Syria *ca.* 2500 BC, then spreading gradually to the southern Levant during the Bronze and Iron ages (Castel 2010). In fact, excavations in the southern Levant have revealed three temples *in antis* at At-Tall, Tall Al-Mutasallim, and KHirbat Az Zayraqūn. These examples from the region are earlier than the suggested date from Syria. The acropolis temple of At-Tall dated to EB II and EB III (Callaway *et al.* 1965), and its plan differed from the other two sites, having only one temple. Tall Al-Mutasallim has several similarities to the KHirbat Az Zayraqūn religious complex. Based on the traditional chronology, it was thought that these two sites were contemporary (Ibrahim and Mittmann 1994), but according to the absolute chronology, when KHirbat Az Zayraqūn was in its zenith in the EB II, Tall Al-Mutasallim had already been abandoned. Also, when KHirbat Az Zayraqūn was abandoned in 2900–2850 BC, Tall Al-Mutasallim was reoccupied in 2800 BC (Adams 2013).

The excavators of the megaron temples at Tall Al-Mutasallim had two theories about the date of construction. The first opinion put the construction of the temples within the EB III period, and the other to the EB IV/Intermediate Bronze Age (Adams 2013). However, whether EB III or EBIV, these temples were constructed later than those at KHirbat Az Zayraqūn. Thus, the temples *in antis* at KHirbat Az Zayraqūn were the earliest in this style, not only in the region but also in the entire Levant.

Another important feature in Temples B0.5 and B0.4 is the existence of both pillar bases and benches together in one temple, which is rare in the temples of the southern Levant. Generally, temples *in antis* from the

following periods have a platform in the middle of the rear wall opposite the entrance. The benches inside the main rooms in Temples B0.4 and B0.5 probably represented platforms and fulfilled a comparable function.

To conclude, the megaron temples at Tall Al-Mutasallim used to be the only example of temples *in antis* in the southern Levant, dating to the EB III, but according to the results of study at KHirbat Az Zayraqūn, the temples *in antis* there date to the EB II and they probably were the prototype of this type of temple in the region.

The Construction Phases, Hypothesis, and Discussion

The hypothesis is that the religious complex of KHirbat Az Zayraqūn had two construction phases. The earliest phase dates to the EB I and consisted of Temple B0.1 and the altar complex (FIG. 18). The second phase, the latest, dates to the EB II and represents the addition of the Temenos and Temples B0.4 and B0.5 (FIGS. 19 and 20).

This hypothesis depended on the following:

1. The existence of two styles (plans) of the temples.
2. The presence of different cultural materials inside the temples.
3. The accessibility to the complex and its relationship to the city wall.

The existence of two different styles of temples within one complex at the same time is rare in the Early Bronze Age. EBA temples in the southern Levant were either single or multiple. In cases of multiple temples, such as at 'Arad and Tall Al-Mutasallim, the temples had the same layout and most probably were erected at the same time. At KHirbat Az Zayraqūn, however, we

have the Breitraum temple (B0.1) and the temples *in antis* (B0.4 and B0.5). This variation could indicate that they were constructed in different phases. By style, Breitraum temples date first to the Chalcolithic period, and nearly all the Early Bronze Age temples also follow this type. Temples *in antis*, as mentioned earlier, appear in the EB II and EB III, and examples are exclusively at three sites: At-Tall, Tall Al-Mutasallim, and KHirbat Az Zayraqūn. Additionally, the temples *in antis* at KHirbat Az Zayraqūn have a square shape, which was a new feature in the EBA temples, as the main layout had been the broad room or rectangular. This architectural feature—the square layout—became the prevalent plan for the following periods, specifically in domestic architecture. This also reflects how the site presented certain features earlier than other EBA sites.

The existence of different cultural materials inside the temples helped in the dating of the structures. Temple B0.1 is the earliest, as the basalt idols that were one of the characteristics of the Chalcolithic period were found there. Meanwhile, KHirbat Al Karak Ware vessels in the silo i0.3 between Temples B0.4 and B0.5 dated those structures to the EB III. The religious complex occupied the largest area in the upper city and was erected in the center of the upper city. The closest structure to it is the city wall. The city wall changed through time and became more complex, and the religious complex was affected by these changes, particularly in terms of accessibility to the complex. During the construction phase of the upper city's fortifications, access to the complex was through the city gate and the postern gates. The complex was open, and people were free to move and enter from inside and outside the settlement. This construction phase of the fortification

was synchronized with the early phase of the religious complex.

The second phase of the religious complex is synchronized with the fortification's modification phase, and probably also with Building B0.8 in the administrative complex. This phase included the construction of Temples B0.4 and B0.5 and the Temenos. The suggestion that the Temenos was built later is due to its extended wall. The first segment is attached to the room of the city gate, which was constructed during the modification phase. Also, it does not encircle B0.1; instead, it is connected to the temple walls, and not on the same level on both sides. That could indicate that Temple B0.1 existed before the Temenos. The architecture of the second segment is similar to Building B0.8, and it separated the temples and the administrative complex. These changes may have been designed to increase privacy and security, or perhaps the ideology of the inhabitants had changed.

In terms of the accessibility of the religious complex, in the first phase (as mentioned earlier) there were several entrances leading to the complex. From outside of the settlement, access was through the city gate and the five postern gates. From inside the settlement, it was also accessible from different directions. For the second phase, we are presented with two different scenarios. The excavators suggested that the complex's entrance could be in the unexcavated areas in the southeast (FIG. 19). This scenario could be possible from two paths. The first would have led only to the main courtyard and the three temples. Starting from the southeast, a door within the Temenos could have led to the open space, R0.7. Then, the path would have taken a northern direction from the back of Temple B0.4, between 1–2 m wide, until it ended in the main

courtyard R0.11. Here, there would have been a convenient entrance to the temples from the courtyard. The other path would have been opposite the first path, going west behind B0.5, and only leading to the altar complex.

We also here suggest another scenario (FIG. 20); there could be another city gate located in the center of the city wall in the unexcavated areas in the southwest. From this area, there would be two paths: the first leads to the altar complex, and the second leads to the temples, starting from behind Temple B0.5, to the back of Temple B0.4, then to the courtyard. Another possible access point might have been by using wooden stairs through the Temenos, as the Temenos fence was low and its height probably did not exceed 1 m.

Conclusion

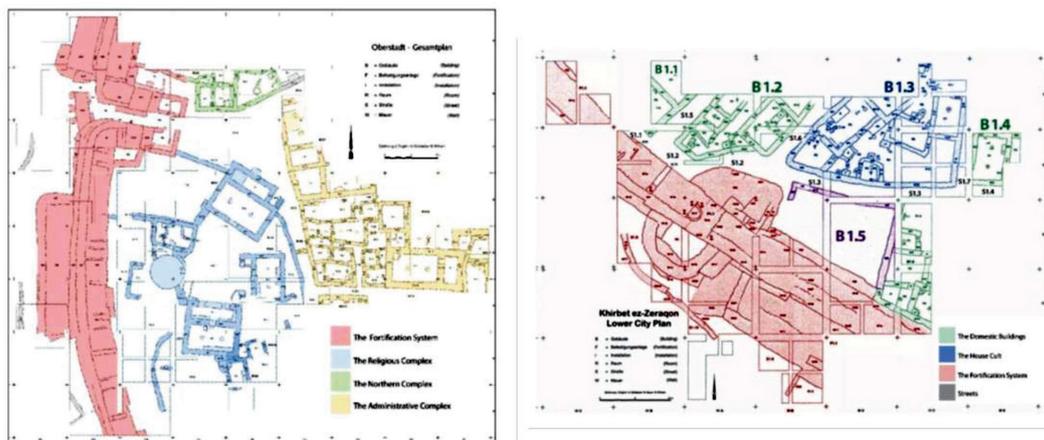
The outcomes of this study are the following:

- KHirbat Az Zayraqūn is one of the earlier sites of the EBA that was built as a fortified settlement with religious and administrative buildings and a developed system of fortifications. It existed mainly in one period in the EB II, contrary to the belief that it dated to the EB II and EB III period.
- The architectural analysis confirmed that KHirbat Az Zayraqūn was one of the earliest urban centers that combined two religious orientations that reflected the society's nature; the first was connected with the village community and the second with the urban community.
- The religious complex had two construction phases; the early phase included the Breitraum Temple B0.1 and the Altar complex. The late phase included the temples *in antis* (B0.4 and B0.5) and the Temenos. The temples of the late phase were the earliest of their style in the southern Levant. Also, each phase had different access points that led into the complex. Thus, the complex represented two different religious orientations that combined the beliefs of the village community and the urban community.
- The existence of the benches in Temples B0.4 and B0.5 alongside the columns is a new phenomenon in EBA temples, as most of the temples either have benches or columns, not both in the same structure. This reflects the social integration between the village community that used the benches as an architectural element in their buildings and the urban community that used the columns and pilasters for aesthetic and functional purposes.
- The right angles of the structures, the straight walls and the division of the spaces, and the similarity in the walls' widths indicate that the builders were aware of the basics of metrology and that they had worked according to a planning system.
- The first appearance of the temples *in antis* was around 3000–2950 BC in KHirbat Az Zayraqūn, and they probably were the prototypes of this type of temples in the region.
- The increasing difficulty in access to the complex for both people from within and outside the settlement may indicate that the complex became used only at a specific time in the year for seasonal ceremonies.
- The changes in the architecture of the religious complex's second phase represents the increase in the privacy and security of the settlement, or that the ideology of the inhabitants had changed.

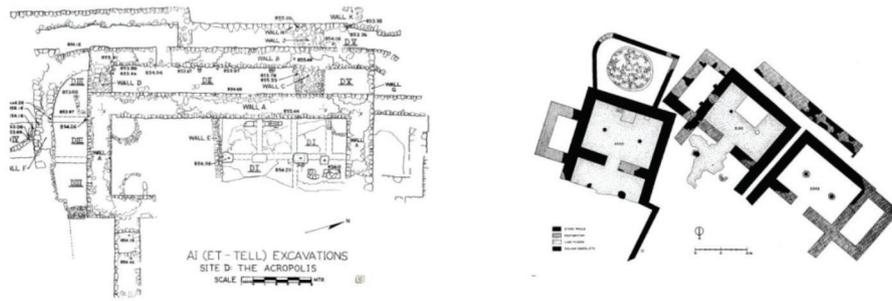
KHIRBAT AZ ZAYRAQŪN'S RELIGIOUS COMPLEX



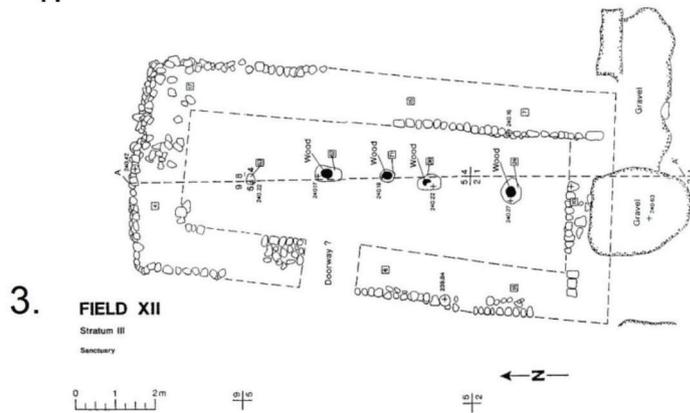
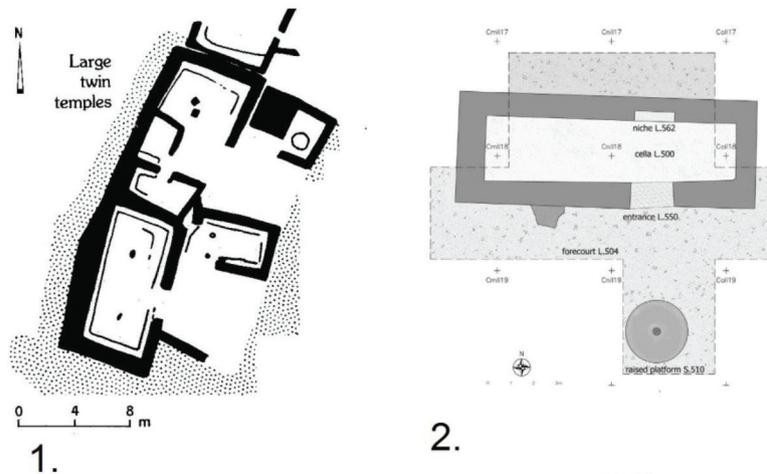
1. Geographical location of KHirbat Az ZayraqŪn (photo from MEGA-Jordan).



2. General plan of KHirbat Az ZayraqŪn's Upper City (left) and KHirbat Az ZayraqŪn's Lower City (right) (after Genz 2002).



3. The temples *in antis* in EB II and EB III: At-Tall on the left (after Callaway et al. 1965) and Tall Al-Mutasallim (after Load 1984) on the right.



4. The broad-room temples: (1) 'Arad (after Amiran and Ilan 1993), (2) KHirbat Al Batrāwī (after Nigro 2008), (3) Bāb adh Dhrā' (after Rast and Schaub 2003).

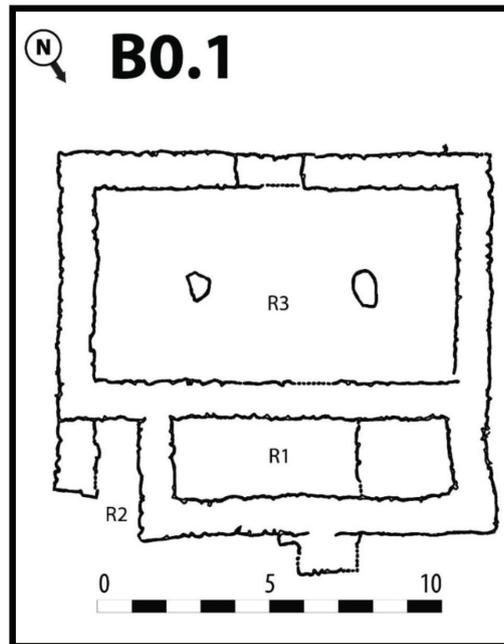
KHIRBAT AZ ZAYRAQŪN'S RELIGIOUS COMPLEX



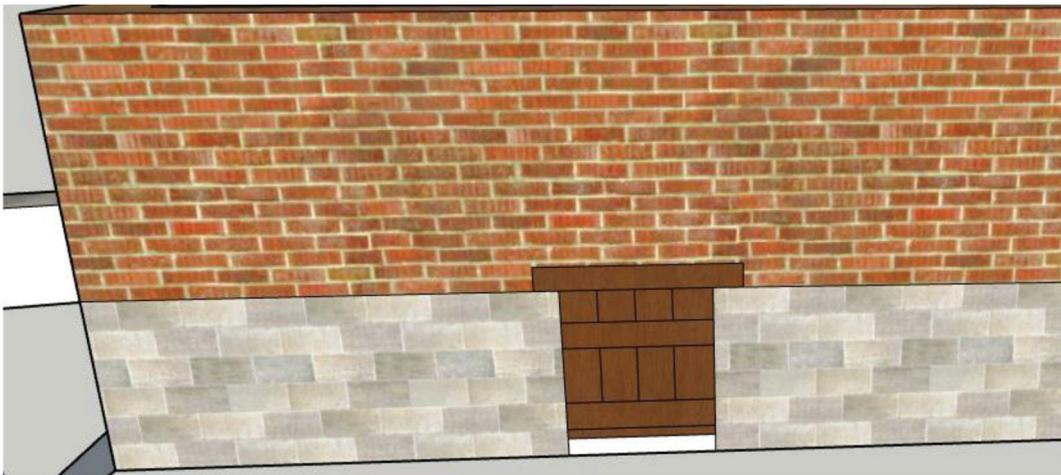
5. The plan of the religious complex at KHIRBAT AZ ZAYRAQŪN (image by the researcher after Gens 2002).



6. The altar complex of KHIRBAT AZ ZAYRAQŪN (photo courtesy of the archive of the Faculty of Anthropology and Archaeology, Yarmouk University).



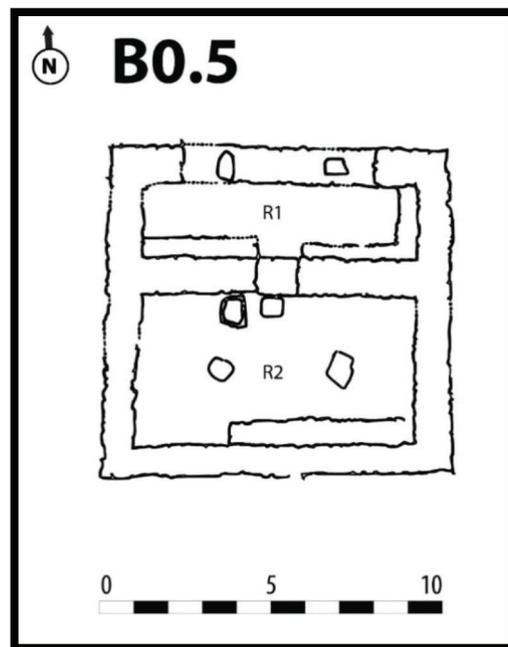
7. Plan of Temple B0.1 (after Gens 2002).



8. Suggested 3D model shows the foundation, doors, and walls of Temple B0.1 (image by A. Abu Zaitoun).



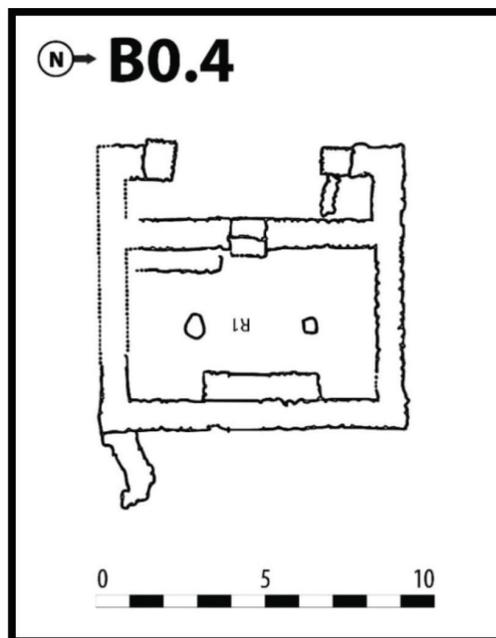
9. Temple B0.5 at KHirbat Az ZayraqŪn (photo courtesy of the archive of the Faculty of Anthropology and Archaeology, Yarmouk University).



10. Plan of Temple B0.5 1 (after Gens 2002).



11. Suggested 3D model showing the entrance of Temple B0.5 (image by A. Abu Zaitoun).

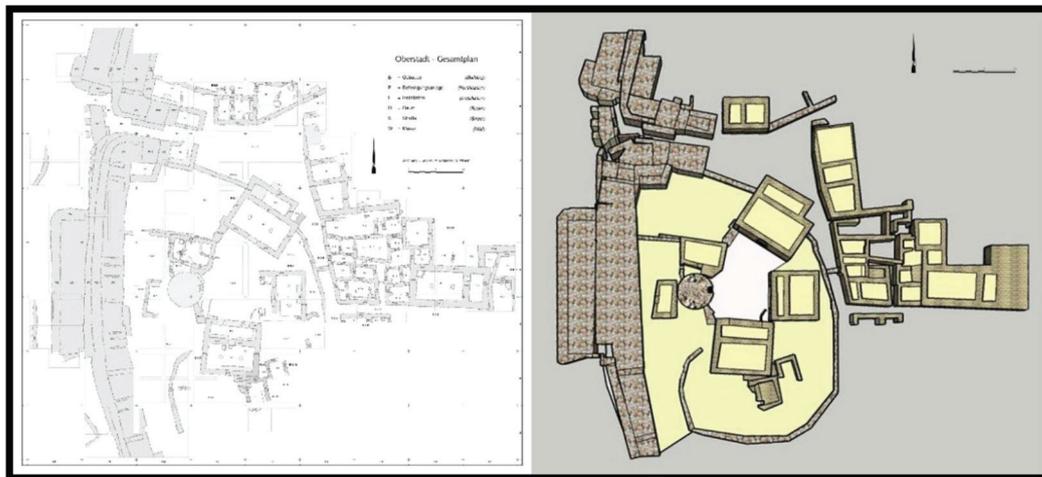


12. Plan of Temple B0.4 (after Gens 2002).

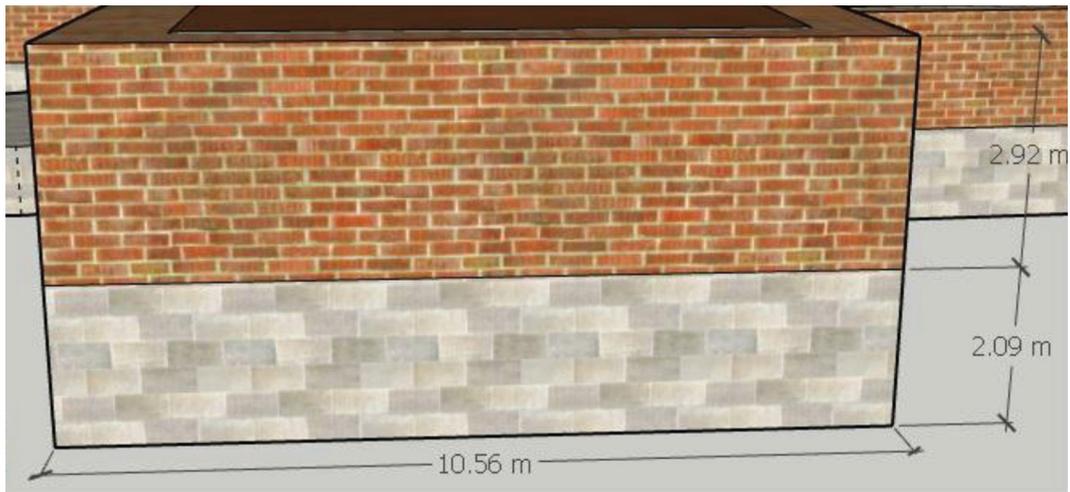
KHIRBAT AZ ZAYRAQŪN'S RELIGIOUS COMPLEX



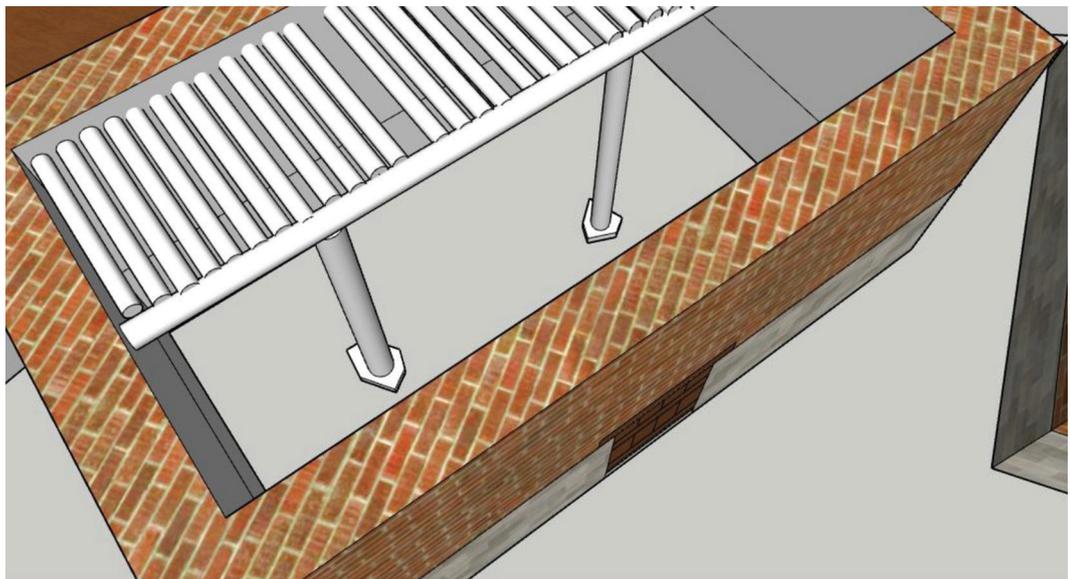
13. Temple B0.4 and Temple B0.1 (photo courtesy of the archive of the Faculty of Anthropology and Archaeology, Yarmouk University).



14. A suggested 3D re-construction of the top plan of KHirbat Az Zayraqūn's religious complex, according to the general plan (drawing at left, after Gens, 2002; image at right by the researchers).



15. Suggested 3D model showing the foundations and the walls of Temple B0.5 (image by A. Zaitoun).

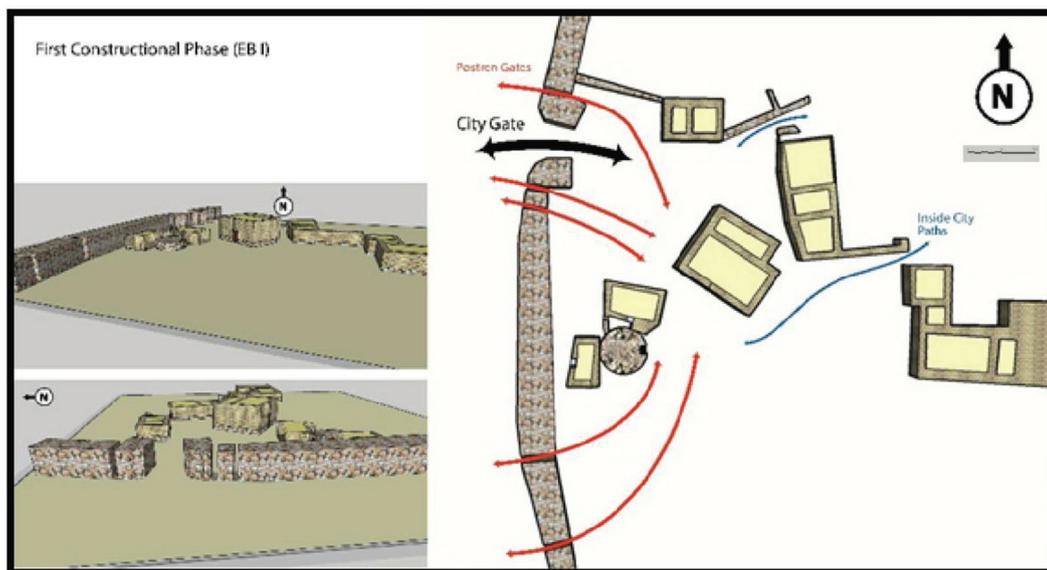


16. A suggested 3D model showing the roof and columns of Temple B0.1 (image by A. Zaitoun).

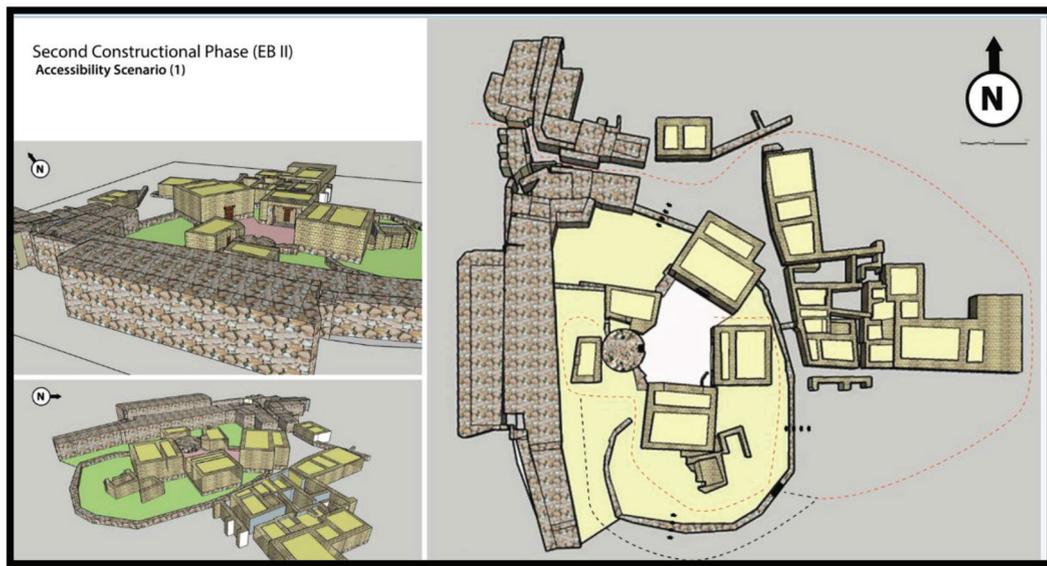
KHIRBAT AZ ZAYRAQŪN'S RELIGIOUS COMPLEX



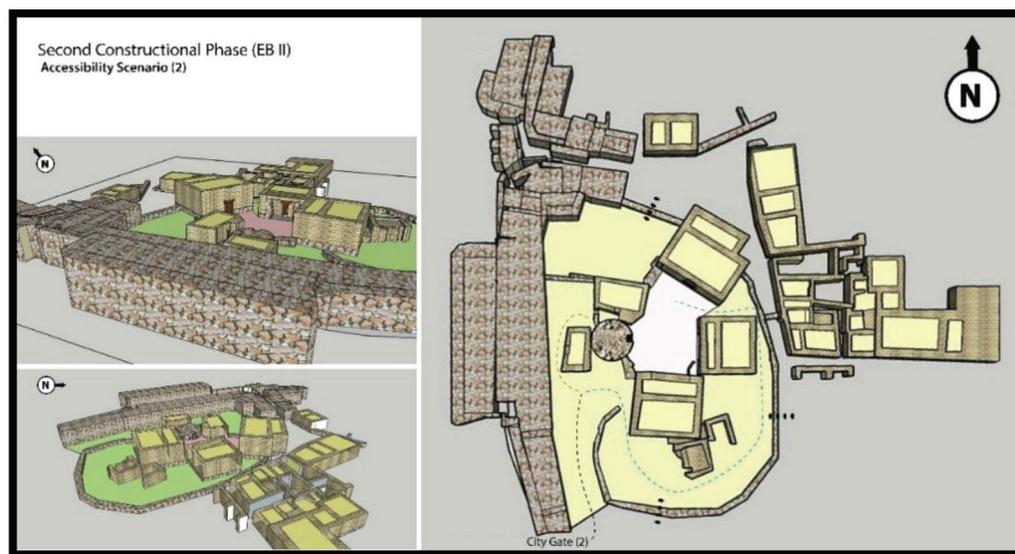
17. The basalt idol stand from Temple B0.1 (photo courtesy of the archive of the Faculty of Anthropology and Archaeology, Yarmouk University).



18. A suggested 3D re-construction for the first construction phase of the religious complex (image by A. Zaitoun).



19. A suggested 3D re-construction for the second construction phase of the religious complex with accessibility scenario 1 (image by A. Zaitoun).



20. A suggested 3D re-construction for the second construction phase of the religious complex with accessibility scenario 2 (image by A. Zaitoun).

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