

THE PHYSICAL CONSTRUCTION OF AN IRON AGE CITY: A CASE STUDY OF KHIRBET QEYyafa

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I. Introduction

The construction and populating of cities are fascinating and multifaceted topics. They include pre-planning, building technologies, social organization, division of labor, gender, public versus private enterprise, ideologies and cosmological ideas. These have been intensively discussed by archaeologists dealing with various parts of the world (see, for example, Childe 1950; Ucko et al. 1970; Manzanilla 1997; Yoffee 2009; Glenn 2006; Storey 2006; Marcus and Sabloff 2008), as well as archaeologists working in Israel (see, for example, Fritz 1995; Herzog 1997; Faust 2001). Consequently, the excavation of cities is the most common archaeological activity in the Near East and around the Mediterranean. Most long-term field projects concentrate on urban sites, where thousands of people lived together. In the Near East, such cities usually lie one on top of another in multilayer tell sites. Around the Mediterranean, Greek and Roman cities occupied very large areas of more hundred hectares. In these conditions it is impractical to achieve a large horizontal exposure, limiting our ability to understand how a specific city was planned (or developed spontaneously), physically constructed and socially organized. The

simple question of how a city was built is usually ignored for lack of data. In this paper, however, I will argue that in the case of Khirbet Qeiyafa it is possible to study how the city was planned and actually constructed.

II. The Construction of Khirbet Qeiyafa

Khirbet Qeiyafa is located about one day's walk east of the Mediterranean, ca. 30 km southwest of Jerusalem (Fig. 1). It is a site 2.3 hectares in area and surrounded by massive fortifications of megalithic stones that still stand to a height of 2-3 m. Five excavation seasons (2007-2011) were conducted at the site on behalf of the Institute of Archaeology of the Hebrew University of Jerusalem, conducted by the author together with S. Ganor and M. Hasel (Garfinkel and Ganor 2009; Garfinkel et al. 2010). Over the years, ca. 3500 sq. m. have been excavated and various aspects related to urban planning have been revealed: city wall, casemates, two gates, two gate piazzas, dwelling units, drainage of rainwater and sewage, cultic activities, water supply, stable(?) and public buildings (Figs. 2-3).



FIGURE 1. The location of Khirbet Qeiyafa.



FIGURE 2. Aerial view of Khirbet Qeiyafa at the end of the 2011 excavation season (by Sky View).

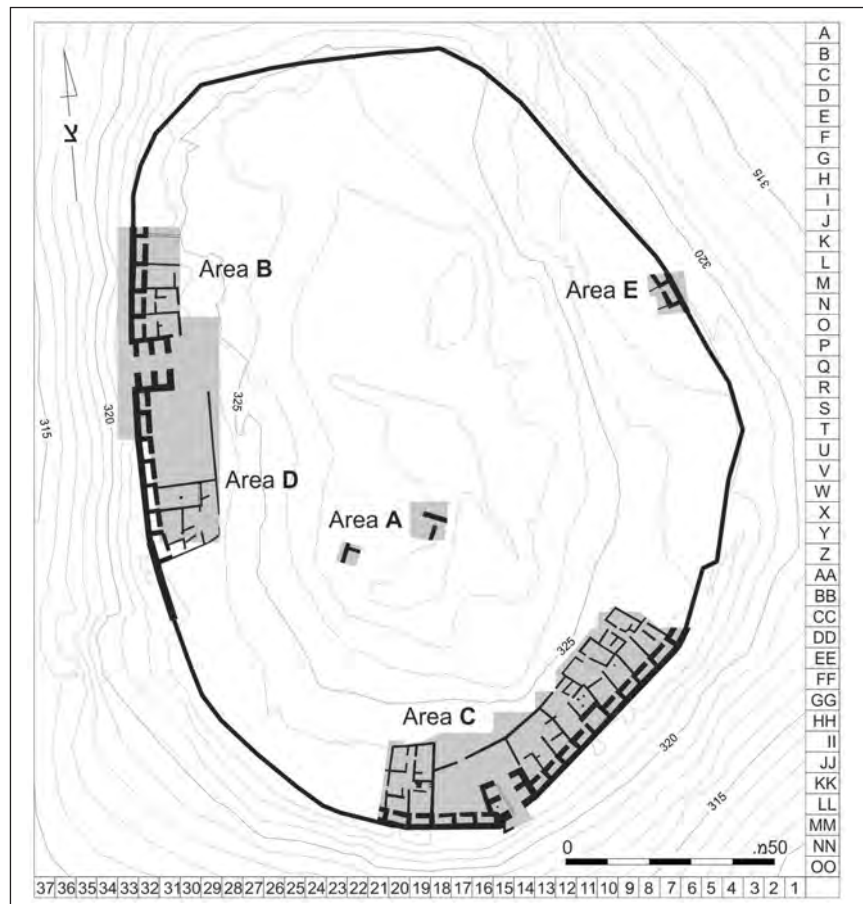


FIGURE 3. Khirbet Qeiyafa: excavated areas by the end of the 2011 season.

The planning of the site includes the casemate city wall and a belt of houses abutting the casemates and incorporating them as part of their construction. This is a typical feature of city planning in Judean cities of the ninth and eighth centuries BCE, best known in cities like Beersheba, Tell Beit Mirsim, Tell en-Nasbeh and Tel Beth Shemesh (Shiloh 1978; Herzog 1997).

Khirbet Qeiyafa is the earliest known example of this city plan, indicating that this pattern had already developed in the late eleventh century BCE.

How were the various urban components of the city actually constructed and in which order? Khirbet Qeiyafa was apparently built in seven stages; some of them perhaps contemporaneous:

1. Preparing the area for construction: Removing sediment and exposing bedrock around the site in a strip 20 m. wide. The city wall and a row of houses were later constructed along this strip.

2. Supply of building materials: The outer city wall was constructed of very large stones, sometimes 2-3 m. long, and 4-8 tons in weight. Where did these large stones come from? The simplest solution would have been to quarry them inside the city in the immediate vicinity and to slide them down the slope, just a few meters in each case. Thus, there was no single central quarry, but rather many ad-hoc locations. Shiloh and Horowitz (1975) found that in the hill country the quarries were located at outcrops of *nari* (semi-hard limestone) on the mounds themselves or on their slopes. The natural bedrock of Khirbet Qeiyafa is indeed *nari*, and one quarry has already been found in Area B within the city. Here, there is a concentration of large stones (1-1.5 m long), cut on all four sides but not yet removed.

3. Creating a fortified enclosure: In what order were the different parts of the fortification and houses built? We suggest four stages, based on the order in which walls abut one another. First the city gates were built, starting with the long walls and then the gate piers (in one exceptional case, the western side of the gate in Area C, the front pier was constructed first). Since the outer casemate wall abuts the gates, it was built after them. It seems to have been built quickly as a free-standing wall, encircling the area of the planned city and creating a fortified stronghold.

4. Completing the fortification system: The inner walls of the casemates (the walls parallel to the outer city wall and the walls dividing the casemates from each other) abut the gates and the outer city wall, and consequently they were the next stage of construction. While megaliths were used for the outer wall, smaller stones were used for the inner casemates.

The analysis of casemate openings points to the simultaneous activity of four main working units in the construction of the site (Figs. 4-5). Two working units started from each gate; from the gate in Area B one unit built the inner casemate toward the north and another toward the south while from the gate in Area C units worked toward the east and west. In all four cases the openings of the casemates are in the corner farthest from the gate (Figs. 2, 5).

These working units must have met along the city wall, raising a very interesting question: how were the casemate openings organized at the two meeting points? We would like to locate and excavate at least one of these meeting points. The test pit



FIGURE 4. Aerial view of the western gate, the casemate city wall and buildings (by Sky View).

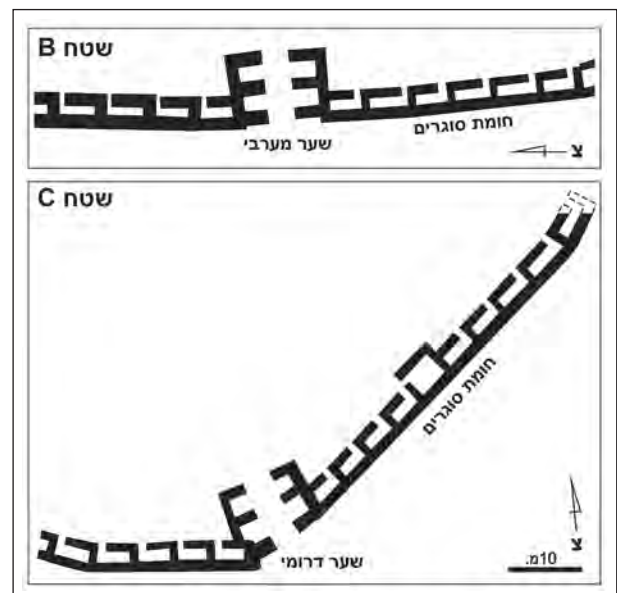


FIGURE 5. Schematic map of the city gates and casemate city walls in the west and south.

in Area E, in the east of the site, indicates that up to this point the construction was carried out by a group starting from the gate in Area C. The location of the meeting point can tell us if the units were

equal in working capacity; if the meeting point is midway between the two gates, both units worked at the same speed. In another Iron Age case, we read of two such working units tunneling toward one another in the Siloam Tunnel inscription.

5. Public and administrative buildings: There is some, albeit limited, evidence for such buildings. In Area C a square building with pillars and a basin resembles the typical architecture of public buildings in the Iron Age period (Kochavi 1998). In Area A the corner of a massive building, its walls three times thicker than those of the common dwellings, was excavated.

6. Dwellings: A peripheral belt of dwellings was built adjacent to and abutting the casemate city wall. Each building incorporates a casemate as its back room. These household units could be constructed only after completion of the city wall. The walls of these buildings were constructed from small stones, no larger than 50 cm.

7. Building the inner city: In the central part of Khirbet Qeiyafa was exposed bedrock. In this respect the site differs from Tel Beth Shemesh, Tell en-Nasbeh, Tell Beit Mirsim and Beersheba, in all of which the center was densely built up. Khirbet Qeiyafa also differs from these sites in having only one Iron Age phase. One might perhaps suggest that Khirbet Qeiyafa was destroyed and frozen in an early phase of its existence, and thus the center was never completed (for an opposite scenario proposed for Tell Beit Mirsim, see Herzog 1997:244).

The construction of the city seems to have involved three different levels of working skills. This can be deduced from the size of the stones and their location in the site. These differences may indicate division of labor, and perhaps gender as well:

1. Megalithic stones. These are very large stones, 2-3 m. in length and 4-8 tons in weight. The quarrying, transportation and final placement of these huge stones required advanced technology and professional masons. These stones are found only in the gates and the outer city wall. Stone masonry became highly developed in the later part of the Iron Age, with elaborate ashlar masonry, masons' marks and well-carved capitals. The large stone operation found at Khirbet Qeiyafa may provide the background for these later developments.

2. Large stones. These are large stones, about 0.5 to 1 m. long and weighing a few hundred kilograms. The quarrying, transportation and final placement of these stones required several strong people but could be done without specialized knowledge. These stones were used for the construction of the inner casemate wall.

3. Medium-sized and small stones. These stones are less than 0.5 m. long and usually weigh 20-30 kg. They could be collected and moved by the average person, including youths and women. These stones were used for the construction of the dwellings abutting the city wall. This may indicate that the buildings were built by individual families and were not part of the public, centrally organized construction of the city.

We propose that the construction of the outer city wall was carried out by specialized workers on behalf of the central authority. Ordinary male adults, ad-hoc forced labor, built the inner casemate city wall. Unlike the public operations, the belt of dwellings could have been built by the private families who eventually lived in the city. While the men were busy with the construction of the fortifications, the women and children could collect medium-sized and small stones for building the private houses.

III. Conclusions

The site of Khirbet Qeiyafa presents a unique opportunity to study various aspects of an Iron Age city that cannot easily be investigated in multilayer large tell sites. The data already collected enable us to create a working hypothesis of seven stages for the city construction. The building activity was carried out by four groups, who worked simultaneously to build the peripheral city wall, starting from the gates. In each group there were workers of three different levels of skill: highly skilled builders who built the gates and the outer city wall, adult males (forced labor) who built the inner casemates, and individual families who built the dwelling units.

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