[Vicino Oriente XXVIII N.S. (2024), pp. 47-67] A.2.3. - CULTURE

PROTECTING URBAN SPACE: APPEARANCE AND EVOLUTION OF DEFENCE SYSTEMS IN THE SOUTHERN LEVANT AT THE EVE OF THE ASSYRIAN CONQUEST

Maria Tamburrini - Sapienza University of Rome

Since ancient times protection and defence of private spaces has been a fundamental human need. With the emergence and development of organized and increasingly complex communities, this need took shape in the construction of powerful defensive systems that demarcated the urban space and evolved with it. Throughout a selection of sites - illustrative of different defensive typologies - this paper examines the development and spread of fortified settlements in the Southern Levant, tracing the most significant changes - as well as the adoption of new construction models and techniques - that occurred from the end of the Late Bronze Age up to the advent of the Neo-Assyrian Empire. In such a historical setting, largely determined by the codes war and conquest, it is possible that the employed construction criteria were formulated in response to warfare and specific siege tactics. For these reasons, in addition with the analysis of defensive patterns, the role of Assyrian warfare as an impetus for the use of new techniques is also addressed.

Keywords: Iron Age; warfare; casemate; siege; ashlar masonry

1. Research setting and methodologies

Innovation, integration, and hybridization, as promoted within the PRIN project, find ample time as part of the development of defensive systems, and the prosperous centers of the Levantine Iron Age are a privileged observatory for the study of this advance. The subject of the analysis is specifically the fortified sites recognized in the area from Tel Dan/Tell el-Qadi, in the Upper Galilee, to Beer-Sheba, in the Northern Negev between 1200 BC, the end of the era of the Canaanite city-states, and 586 BC, the year of the destruction of Jerusalem by Nebuchadnezzar II.[1]

The creation of a comprehensive database allowed us to recognize approximately 40 sites exemplifying the development of defensive techniques and models and to analyze them according to the methodological principle of multidisciplinary. The final goal of this paper is to identify and contextualize, in the regional historical landscape, the different elements of continuity or discontinuity recognized in defensive systems, but also to identify the reasons behind the progressive strengthening of the defensive network.

2. Fortification typologies

Fortification is a phenomenon that originated before the Neolithic Period associated with the idea of permanent settlement.[2] Beginning in the late 2nd millennium BC, and then with the rise of Assyrian expansionist aims from the 8th century onward, in alternating phases of Egypt, and towards the end of the 6th century BC of the new Babylonian empire,[3] there is a widespread strengthening of settlements and their rearrangement across the land.[4]

1 Liverani 1988; Nigro 2014, 263.
2 Kempinski 1992, 68; Nigro 2020a.
3 Barkay 1992, 356.
4 Blakely 1981; Holladay 1995, 379.

ISSN 0393-0300; 2724-587X
e-ISSN 2532-5159
doi: 10.53131/VO2724-587X2024_4

In the period analysed, there are five main types of defences, the result of the adaptation of pre-existing prototypes to both the local conditions, such as orography and/or availability of raw materials, and the security requirements of that time.

2.1. *Enclosed settlement*

The very earliest Iron Age (Iron Age IA - Iron Age IB *late*/Iron Age IIA *early*), especially in the hilly area, is characterized by the appearance of settlements known as enclosed, that is, developed within very simple stone enclosures, little more than a meter thick, made to protect the dwellings and herds that were centrally stationed.[5] Examples of this typology are the enclosures of Bedhat esh-Shab and Yafit 3 in the Jordan Valley[6] as well as Giloh,[7] Izbeth Sartah III-II[8] (fig. 1:a-b), and Tel Mevorakh VIII.[9] The enclosed settlement and following thickening of the perimeter rooms of the *three/four-room* style[10] dwellings represent the first step toward the development of the proper casemate typology that spread later.

This pattern named incipient or intermediate casemate wall is characterized by stone walls little more than a row thick and a not entirely linear profile resulting from the random arrangement of the internal dwellings. It is possible to observe this arrangement at Megiddo/Tell el-Mutesellim VA-IVB,[11] 'Ai/et-Tell I-II,[12] Khirbet el-Maqatir (fig. 1:c),[13] but still at Khirbet Raddana 2-3,[14] Khirbet ed-Dawwara,[15] Gezer/Tell el-Jazari X-IX,[16] Gibeon/el-Jib,[17] Beth Shemesh/Tell er-Rumeileh III,[18] and Beer-Sheba VII-VI.[19] A significant difference from the later period defensive compounds is certainly the belonging of the perimeter rooms, which - absorbed entirely by the defensive system - most likely changed their use from private to public.[20]

2.2. *Casemate walls*

The urbanization resulted from the political stability of the united monarchy also brought with it its own dangers related to the growing need for protection.[21] From the late mid-11th century BC (Early Iron Age IB) increasingly complex and monumental defensive systems spread from north to south, probably under the impetus of a unifying central power.

5 Cooley 1997, 402.
6 Ben-Yosef 2017a; 2017b.
7 Mazar 1981.
8 Finkelstein 1986.
9 Stern 1978.
10 Typical of domestic architecture since the 12th century BC, they are characterized by one or more juxtaposed long rooms accompanied by a perpendicular room on the short side (Shiloh 1987).
11 VB original phase of the peripheral buildings, the predecessor of the monumental solid wall with projections and recesses (Ussishkin 2020).
12 Marquet-Krause 1949.
13 Seevers 2018.
14 Lederman 1999.
15 Finkelstein 1990.
16 Ortiz - Wolff 2017.
17 Pritchard 1961; 1964.
18 Bunimovitz - Lederman 2001; 2016.
19 Herzog 1984.
20 Herzog 1992, 269.
21 Holladay 1995, 372; Faust 2000, 21.

Throughout Iron Age II, three defensive types are in use: casemate fortifications, the solid wall in all its variations, and the composite system.

The casemate typology is the most widespread defensive system from the 10th until the end of the 8th century BC.[22] Of the 37 recognized fortified settlements as many as 18 feature casemate fortifications (tab. 1). At Gezer/Tell el-Jazari, Gibeon/el-Jib, and Beth Shemesh/Tell er-Rumeileh it is possible to follow their complete evolution from incipient form to full standardization with the thickening of the outer wall and harmonization of the perimeter.[23] Only at Beer-Sheba this evolution is interspersed with the appearance in phases V and IV of a solid wall with city gates. The perimeter of the fortifications is almost circular: overall, the system started from a minimum thickness of 4 m to a maximum of 10 m, allowing the passage at the top of a large number of soldiers in case of siege.[24] Except for a few fortresses in the Negev[25] in general, the dimensions of the various components are standard: the outer wall has a thickness of around 1.60 m to which is added the cavity of varying size from 1.40 m to more than 3 m interspersed with perpendicular walls of 1 m thickness and finally the inner wall also around 1.50 m thick.

Among the first sites to exhibit this now well-codified defence system already around the end of the 11th century is Khirbet Qeiyafa.[26] The perimeter wall seems to have been the first element to be built and then the dwellings, each assigned every two or three casemates (fig. 2). The thickness of the perimeter wall is greater than those of the dwellings, unlike casemates from the earlier period. Finally, each casemate is accessible from the dwelling, but it is also likely that all had a raised walkway and were thus accessible from above. Later examples are at Beer-Sheba and Tell en-Nasbeh where it is also possible to observe an interior arrangement of dwellings in concentric rings but again at Tel Harashim,[27] Gezer/Tell el-Jazari,[28] Khirbet ʻAujah el-Foqa,[29] in Tell Jemmeh,[30] Tel Halif/Tell el-Khuweilifeh,[31] Tel Rehov/Tell es-Sarem,[32] Tel Mor,[33] and Tel ʻAroer.[34] Sometimes it is possible that the casemate was filled with debris as in the case of Hazor/Tell el-Qedah VIII.[35] The width of the casemates at many sites at any rate suggests that the houses and the surrounding wall were planned as one from the beginning and thus the presence of a clear master plan.[36] Finally, the enclosures present at Samaria (IIa late) and Ramat Rahel IIB-C more than defence systems are to be considered

22 Aharoni 1959, 36; Blakely 1981; Barkay 1992, 308; Herzog 1992, 265; Vergnaud 2012.
23 Shiloh 1978; Finkelstein - Fantalkin 2012, 42.
24 Aharoni 1982, 198-200.
25 Meshel 1992, 294-295; Finkelstein 1995; Faust 2006.
26 Garfinkel - Ganor 2009; Garfinkel - Ganor - Hasel 2014. Casemate-style walls are found throughout the Near East from very early periods: the earliest known casemate-style walls were found in Tell Munbaqa and Tell Rad Shaqrah, dated between 2600 and 2300 BC (Bielinski 1991; Werner 1998). Large-scale dissemination of the model in the Southern Levant occurred then around the Middle Bronze III on the back of earlier Syrian (Lapp 1976, 25; Burke 2008, 61-63, 82-84).
27 Ben-Ami 2004.
28 Ussishkin 1990, 74-77; Ortiz - Wolff 2017.
29 Ben-Shlomo - Freikman - Hawkins 2022.
30 Blakely 1981, 206-211.
31 Seger - Borowski 1977, 163; Seger 1983.
32 Mazar 1999, 36; Mazar - Panitz-Cohen 2020.
33 Dothan 1993.
34 Biran - Cohen 1977; 1978; Biran 1993.
35 Lapp 1976, 39; Herzog 1992.
36 Shiloh 1978, 38.

ceremonial precincts enclosing representative buildings and distinguished by extremely fine masonry workmanship.

2.3. *Solid wall*

Already known from ancient times, the solid wall revives a great flowering from the 10th-9th centuries BC where it appears in as many as 16 sites, becoming the second most attested type after the casemate wall (tab. 1). Two most common types can be distinguished: simple solid and offset-inset walls.

The former, made of stone or mudbrick, is characterized by a linear profile often enriched with round or square towers; the offset-inset wall has alternating sections set somewhat protruding or somewhat receding from adjacent sections. This type of construction produces a stronger wall than a straight-line construction, providing somewhat of a buttressing effect. Unlike the casemate wall, the solid wall has no internal partitions and a thickness ranging from 3/4 m[37] to as much as 8 m.[38] The thickness of course could depend on various factors such as the material employed, the presence of additional elements such as overhangs or towers, but most importantly the height of the circuit.[39]

The building technique was based on the construction of two outer curtains between which an uneven fill was poured as material, sometimes even scraping material from other buildings. Buttresses or towers could be added to strengthen the wall: the latter built to reduce blind spots also served as balconies from which army could hurl the counteroffensive.[40] The buttresses, protruding about half a meter, make an overhanging and recessed motif that was sometimes repeated on the inner face of the wall as well. The offset-inset type is present at Hazor/Tell el-Qedah V,[41] Megiddo/Tell el-Mutesellim IVA-III (fig. 3),[42] Tel Rehov/Tell es-Sarem IIIa[43] but still at Tell en-Nasbeh 3b[44] and Tel Aroer 4.[45] The buttressed wall with towers and bastions is still present at Tel Dor/Khirbet el-Burj, Tell Ta'annek II, Timnah/Tel Batash, Ekron/Khirbet el-Muqanna, and Lachish/Tell ed-Duweir II where a buttressed wall ca. 3.5 m thick replaced the massive composite system of the earlier period[46] (§ 2.4).

2.4. *Composite or multiline system*

The pre-existing local conditions of some settlements led in some cases to adopt an even more complex defensive strategy. The combination of two or more defensive elements, often reused from earlier fortification, gives rise to what is called a composite system. The most representative example of a composite system is surely that of Lachish/Tell ed-Duweir (levels IV-III-II) also known in the relief of the southwest palace of Quyunjiq (fig. 4). After the

37 Aharoni 1982, 198.
38 Barkay 1992, 308.
39 The height could reach a maximum of ten times the thickness, always considering that the height would not become a danger to the city itself (Battini 2008, 190).
40 Barkay 1992, 308; Herzog 1992, 265.
41 Ben-Tor - Ben-Ami 1998; Sandhaus 2013, 115; Shochat - Gilboa 2019, 372-376.
42 Lamon - Shipton 1939; Aharoni 1982, 198; Stern 1990; Netzer 1992, 21; Herzog 1992, 270-271.
43 Mazar 1999, 36; Mazar - Panitz-Cohen 2020.
44 McClellan 1984; Herzog 1992, 261-263; Zorn 1997; Finkelstein 2012.
45 Biran - Cohen 1977; 1978; Biran 1993.
46 Ussishkin 2004a, 459.

destruction of Sheshonq's military campaign[47] the city was promptly rebuilt by greatly increasing the level of fortification (level IV). The perimeter of the site was provided with two lines: an inner one, with a stone foundation and mudbrick elevation as much as 6 m thick and enriched with towers, and an outer wall of offset-inset type at mid-slope supporting the glacis. The latter is 3.65 m thick and roughly 5 m high.[48] The northwest corner has eight buttresses implanted on the rock and protruding 4/5 m from the wall line useful probably for stationing soldiers.[49] In the southwest corner where the difference in height between the tell and the plain was at a minimum, the wall was reinforced by a tower of which only the mudbrick base protruding from the defensive profile remains. The main access system, located to the southwest, included two gates connected by a ramp: while the outermost gate was protected by a large angular rampart, the innermost gate, the largest of the monarchic period, was six-chambered, built of mudbrick on a stone base (25 m × 25 m) recalling the gates found at Megiddo/Tell el-Mutesellim, Hazor/Tell el-Qedah, and Gezer/Tell el-Jazari.[50]

The layer III city known to have been attacked by Sennacherib in 701 BC was further fortified by reinforcing the outermost wall no longer in mudbrick but entirely in stone and adding a tower at the junction corner.[51]

2.5. *Entrances*

Contemporary with the development of fortification systems was the evolution of entrance systems. City gates were not normally related to military use, and benches and other architectural elements have been found in many that suggest their use in daily life.

The most attested gateway is of three kinds: six-, four-, and two-chambered and, as with the walls, they recall the patterns in use during the Middle Bronze Age in the southern and northern Levantine area[52] with an evolution that saw six-chambered gates replaced by four-chambered and then two-chambered ones and double-entrance complexes, in the early 9th century BC.[53]

The six-chambered gate consisted of a central passage approximately 4 m wide with three square guard chambers on each side and projecting outer towers, all built of ashlar; found at the sites of Hazor/Tell el-Qedah X-IX,[54] Gezer/Tell el-Jazari VIII-VII,[55] Megiddo/Tell el-Mutesellim IVA,[56] Timnah/Tel Batash III[57] and Lachish/Tell ed-Duweir IV-III.[58] The latter was enhanced by an additional outer defensive annex built of ashlar and consisting of a central passageway 4.2 m wide flanked by square guard chambers. The four-chambered

47 Mazar 1992, 426.
48 Kenyon 1965, 276; 1974; Blakely 1981; Ussishkin 1993, 911; 2004b, 416-417, 423-425, 432-437; Herzog 1997, 239.
49 Ussishkin 1980, 190-192, 194.
50 Mazar 1992, 384-385.
51 Barkay 1992, 345; Ussishkin 1993, 908; 2004b, 449.
52 Burke 2008; Rey 2016, 38-39; Goshen 2020.
53 Barkay 1992, 331; Herzog 1992, 265.
54 Ben-Tor - Ben-Ami 1998; Shochat - Gilboa 2019, 369-370.
55 Dever - Lance - Wright 1970; Ussishkin 1990, 74-77.
56 Lamon - Shipton 1939; Stern 1990; Herzog 1992; Finkelstein *et al.* 2019.
57 Ussishkin 1990, 82-88; Herzog 1992, 270; Mazar 1997.
58 Tufnell 1953; Ussishkin 1983; 1985; 2004b; Herzog 1992, 258; Garfinkel *et al.* 2019.

gateway found at Tel Dan/Tell el-Qadi III-II,[59] Tel Dor/Khirbet el-Burj VII,[60] Gezer/Tell el-Jazari VIA,[61] Ekron/Khirbet el-Muqanna I,[62] Ashdod IX,[63] Khirbet Qeiyafa IV[64] and Beer-Sheba V-II[65] consisted of a central passage, flanked by only two guard chambers on each side. The reduction in chambers was likely dictated by the increasingly military character of the city gate; the reduction in size and floors of the gate certainly made it more strong and less susceptible to attack by siege machines. The two-chamber gate consisted of a simple central passage, flanked by a square guard chamber, or bastions, on each side. This gate, usually used in double-access systems, has been identified at Tel Dor/Khirbet el-Burj VI,[66] Megiddo/Tell el-Mutesellim III,[67] Tel 'Aroer 3,[68] Tell en-Nasbeh 3,[69] Beth Shemesh/Tell er-Rumeileh II,[70] Tell Beit Mirsim,[71] and Lachish/Tell ed-Duweir II.[72]

3. Building techniques and employed materials

As for building materials, where there was no availability of water and clay, stone was preferred.[73] The qualities most used were *meleke* stone, which was more difficult to work and used even in the Hellenistic period, and *nari*, which was chosen to produce blocks for large constructions because of its ductility. Construction with large *nari* blocks is found in Megiddo/Tell el-Mutesellim IVA, in the enclosures of Samaria I-II and Ramat Rahel, in Hazor/Tell el-Qedah, Tell Ta'annek and Gezer/Tell el-Jazari.[74] The walls of the large defensive enclosures mostly consisted of two curtains, made of rough or worked stones, and an inner core of aggregate material although there was no shortage of solid walls without any filling.[75] Along with the walls with ashlar piers and fieldstone fills technique, that of ashlar masonry, also known throughout the area from Old Testament sources,[76] is certainly the most fashionable and distinctive of 10th century architecture.[77]

This technique, used from the 3rd millennium BC onward and then spreading throughout the central and western Mediterranean,[78] involved the use of rectangular squared blocks mostly diatones put in place headers and stretchers laid with narrow joints in staggered rows without the aid of mortar. The perfect interlocking of the blocks allowed for uniform weight

59 Biran - Greenberg - Ilan 1996; Arie 2008; Alanne 2017.
60 Stern 1990; Gilboa - Sharon 2008, Gilboa *et al.* 2018.
61 Ussishkin 1990, 74-77; Ortiz - Wolff 2017.
62 Ussishkin 2005.
63 Dothan - Porath 1982; Ussishkin 1990, 77-82.
64 Garfinkel - Ganor 2009; Garfinkel - Ganor - Hasel 2014.
65 Herzog 1984; Herzog - Singer-Avitz 2016.
66 Stern 1990; Gilboa - Sharon 2008, Gilboa *et al.* 2018.
67 Lamon - Shipton 1939; Stern 1990; Herzog 1992; Finkelstein *et al.* 2019.
68 Biran - Cohen 1977; 1978; Biran 1993.
69 McClellan 1984; Herzog 1992, 261-263; Zorn 1997; Finkelstein 2012.
70 Bunimovitz - Lederman 2001; 2016.
71 Albright 1926; 1943; Kreimerman *et al.* 2023.
72 Tufnell 1953; Ussishkin 1983; 1985; 2004b; Herzog 1992, 258; Garfinkel *et al.* 2019.
73 Mudbrick is preferred in elevations (see Megiddo and Lachish) especially in areas with stable water sources while stone is the most commonly used material in highland sites.
74 Shiloh - Horowitz 1975, 37-39; Reich 1992, 1-2.
75 Netzer 1992, 22-23.
76 Kings 5:29,31.
77 Shiloh 1979, 82-83; Barkay 1992, 315.
78 Netzer 1992, 21; Stern 1992; Vergnaud 2012; Nigro 2020b, 15; Kreimerman - Devolder 2020.

relief and created an extremely solid and compact wall fabric. Final surface treatments were made in full work and the face could be partially or totally smoothed;[79] often the edges were smoothed and lowered to facilitate contact between bedding and joint faces while the central area was left protruding and rough.[80] Unlike later periods in which it became an ornamental element, the central bulge played a functional role in this time, serving to grip where ashlar was used in the foundation.[81]

Well finished ashlar masonry was reserved for the most important sites, fortifications, and royal architecture. Ashlar masonry constructions are present in Samaria in the outer defensive wall and gate, in Jerusalem, in Khirbet Qeiyafa, but still in the inner part of the casemate precinct of Ramat Rahel, in the Megiddo/Tell el-Mutesellim and Gezer/Tell el-Jazari gates, and the podium of Tel Dan/Tell el-Qadi.[82]

4. Development and distribution of fortified settlements in the Iron Age

In the aftermath of the crisis of the late 2nd millennium BC, except for a few sites, most settlements were characterized by the general absence of public buildings and thus fortifications.[83] Between the late 11th and early 10th centuries BC (IA-IB), settlements are increased with the appearance of early enclosed settlements.

Starting from the Iron Age IIA late (10th century BC) we witness what many call "third urbanization".[84] In addition to an exponential increase in sites, during this stage it is possible to observe important changes from a typological point of view as well the codification of the casemate model and the introduction of other types such as the solid wall (fig. 5).

During Iron Age IIB the entire area was affected by massive building activity affecting the major centers, with monumentality particularly evident in the northern kingdom.[85] The military issue was the one most favoured - this was certainly because of the constant incursions - and the typology chosen in most of the settlements was the double-curtain wall equipped with projections, indentations, and towers, which in several cases (Hazor/Tell el-Qedah, Megiddo/Tell el-Mutesellim, Tel Rehov/Tell es-Sarem, Tell en-Nasbeh, Ashdod, Beer-Sheba), replaced the casemate wall, which did not, however, cease to exist. The change was influenced by the introduction of the Assyrian military techniques of siege machines.

The 9th century BC not only marked the beginning of battles among the Arameans but also saw the emergence of the Neo-Assyrian threat expanding northward.[86] Right around the end of the 8th century BC (Iron IIB - Iron IIC), the latter came under Assyrian control,[87] while the Judean cities - still un-subjugated and at a time of growth under Hezekiah's power - employed their forces to further fortify the region.

With the beginning of the Iron Age IIC, Babylonian and Egyptian raids grew to the detriment of an ever-diminishing Assyrian power, and a new phenomenon of empowerment

79 Reich 1992, 4.
80 Shiloh 1979, 60; Matthiae 1997, 268.
81 Avigad 1993, 1303; Franklin 2004.
82 Mumcuoglu - Garfinkel 2021, 474.
83 It is possible in some cases that the absence of fortifications depended on a policy of subjugation held by the Pharaonic government in the Canaanite centers.
84 Herzog 1997, 211.
85 Herzog 1997, 249.
86 Mazar 1992, 404.
87 Liverani 1988, 799.

affected the territory with a reversed trend from the previous period. The north, enslaved to the now-decaying Assyrian power, left its cities in a state of neglect or unfortified; the south, under the impetus of the reigns of Manasseh and Josiah, replied with a careful re-planning of the regional defensive network that saw the construction of new border outposts and the restoration of those destroyed in the 701 campaign.[88]

From a distributional point of view, the defensive network already established in the region by the 10th century BC was zoned and was re-established numerous times until Babylonian times. The strongholds occupied strategic positions protecting the main roads or major centers as in the case of Samaria.[89] In the north, the defensive line from Carmel reached the Lake of Galilee and then descended to the Dead Sea on the border with the Kingdom of Judah, and here during the Omride dynasty, numerous fortresses were erected.[90] In the south an elaborate system consisting of two main lines of defence was set up: an outer one facing the Philistine coast and an inner one considered the true line of defence.[91]

4.1. *A glance at Assyrian siege techniques*

In light of this, it is clear that the evolutionary process of defensive architecture between the 10th and 7th century BC is to be understood as a poliorcetic adaptation of the fortifications where every single element was part of a well-established action plan.[92] Despite representing an unidirectional and propagandistic narrative,[93] the Assyrian reliefs are the main evidence of the attack/defence techniques employed at that time. To pitched battles the Assyrians much preferred the siege,[94] concentrated on a single point against which a variety of breakthrough techniques were tried, consequently reinforcement measures had to affect mainly the perimeter walls.[95]

To use defence as the best offense, numerous changes were made to the walls and beyond. To the ramming with large attacking machines, such as rams and towers, cities replied by thickening the defensive perimeter reaching up to 7 m and even 15/20 m in the case of multi-line systems.[96] This choice was decisive since covering a larger area reduced the success of attacks with throwing weapons.[97] In the construction of solid walls with a circular plan, the use of towers was preferred since they reduced dead spots;[98] their distance was also crucial in determining the number of men to protect the city. Also in response to the rams' attack, it became increasingly common (even in foundations) to build ashlar masonry. In some Assyrian depictions, bodies of so-called spoil soldiers appear (fig. 6), armed with hooks attempting to undermine the wall framework and make their way into the city.[99] The

88 Barkay 1992, 356.
89 Mazar 1992, 415-416.
90 Finkelstein 2000, 116.
91 Stern 2001, 136-137.
92 Barkay 1992, 330-332.
93 Matthiae 1998; Nadali 2011, 227.
94 Nadali 2010, 117-118.
95 Eph'al 1984, 60-61.
96 Herzog 1997, 226; Steiner 2001, 54.
97 The maximum value of a weapon's shot, in this case the arrow, was about 30 m (Battini 2008, 191).
98 Battini 2008, 190-191.
99 Matthiae 1996, 32; Nadali 2005, 181; Eph'al 2009, 76-77.

technique of ashlar masonry was supportive of these episodes as it went to reduce the gaps between stones.

The height of the fortifications was another crucial factor in the counterattack. In addition to breaking through, the siege in fact could take place from above using ladders whose length had to be secant to the wall. In the 1st millennium BC, an increase in ladder length thus corresponded to an increase in the height of the fortifications.

Also decisive was the embankment/glacis unit whose degree of the slope determined the angle of inclination of the enemy ladders and thus, if well proportioned, could help neutralize the attack;[100] the embankment then served as an additional obstacle to the engineers who in digging tunnels could be spotted and attacked with fires or bees.[101]

The choice of building materials also played a decisive role considering that one of the Assyrian attack techniques was to melt the mudbrick walls by channelling water from nearby watercourses against the besieged city. Water could also be an obstacle in the opposite direction, in terms of water supply. In the configuration of fortifications, in fact, many cities took care to include springs in the defensive perimeter or ensure in some way that they could be reached through underground routes.

5. Final Remarks

Drawing a general picture, it can be said that the evolution of defensive architecture, which saw the transition from villages surrounded by enclosures to full-fledged strongholds distributed strategically through the entire region, paralleled the sociopolitical changes that affected the territory and led to the annexation of the region to neighbouring empires.

The widespread use of a certain patterns and construction techniques such as casemate fortifications and ashlar masonry, not only testifies to their effectiveness in the siege warfare, but also to the great cultural continuity between the regions not only of the Near East, but also, giving their success in the West as well, of the entire Mediterranean area.

References

Aharoni, Y.
1959 The Date of Casemate Walls in Judah and Israel and their Purpose: *Bulletin of the American Schools of Oriental Research* 154 (1959), pp. 35-39.
1982 *The Archaeology of the land of Israel. From the prehistoric beginnings to the end of the First Temple period*, Philadelphia 1982.
Alanne, M.
2017 *Tel Dan - Biblical Dan: an archaeological and biblical study of the city of Dan from the Iron Age II to the Hellenistic period*, Helsinki 2017.
Albright, W.F.
1926 The Excavations at Tell Beit Mirsim: *Bulletin of the American Schools of Oriental Research* 23 (1926), pp. 2-14.

[100] Eph'al 2009, 69-71.

[101] Despite the scant references (Isaiah 7:18-20) it is possible to assume that insects were used as auxiliary weapons since ancient times. It is likely that bees or hornets, collected into baskets or crockery, were tossed like bomb over the city walls through ladders or placed inside the tunnels dug under the walls (Bodog 1937; Neufeld 1980, 45-46; Eph'al 2009, 81).

1943 *The Excavation of Tell Beit Mirsim, Vol. III: The Iron Age* (Annual of the American Schools of Oriental Research 21/22), New Haven 1943.

ARIE, E.
2008 Reconsidering the Iron Age II Strata at Tel Dan: Archaeological and Historical Implications: *Tel Aviv* 35 (2008), pp. 6-64.

AVIGAD, N.
1993 Samaria (city): E. STERN (ed.), *The New Encyclopedia of Archaeological Excavations in the Holy Land,* Vol. 4, Jerusalem 1993, pp. 1300-1310.

BARKAY, G.
1992 The Iron Age II-III: A. BEN-TOR (ed.), *The archaeology of ancient Israel,* London 1992, pp. 302-384.

BATTINI, L.
2008 Lorsqu'une ville est en état de siège: étudie de cas neoassyriens: P. ABRAHAMI - L. BATTINI (éd.), *Les armées du Proche Orient Ancien (III^e^-I^er^ mill. av. J.-C.): Actes du colloque international organise à Lyon les 1^er^ et 2 décembre 2006, Maison de l'Orient et de la Méditerranée* (BAR International Series 1855), Oxford 2008, pp. 185-206.

BEN-AMI, D.
2004 The Casemate Fort at Tel Harashim in Upper Galilee: *Tel Aviv* 31 (2004), pp. 245-259.

BEN-YOSEF, D.
2017a Excavations at Bedhat esh-Sha'ab, an Early Iron Age Enclosure in the Jordan Valley: 2002-2003 Excavation Seasons: A. ZERTAL - S. BAR (eds.), *The Manasseh Hill Country Survey. Vol. 4. From Nahal Bezeq to the Sartaba* (Culture and History of Ancient Near East 4), Leiden 2017, pp. 667-702.
2017b Excavations at Yafit (3), an Iron Age Foot-Shaped Enclosure in the Jordan Valley: A. ZERTAL - S. BAR (eds.), *The Manasseh Hill Country Survey. Vol. 4. From Nahal Bezeq to the Sartaba* (Culture and History of Ancient Near East 4), Leiden 2017, pp. 703-718.

BEN-SHLOMO, D. - FREIKMAN, M. - HAWKINS, R.K.
2022 Excavations at Khirbet 'Aujah el-Foqa: Results from the 2020-2021 Seasons: *Judea and Samaria Research Studies* 31.1 (2022), pp. 31-68.

BEN-TOR, A. - BEN-AMI, D.
1998 Hazor and the Archaeology of the Tenth Century B.C.E.: *Israel Exploration Journal* 48 (1998), pp. 1-37.

BIELINSKI, P.
1991 The first campaign of excavations on Tell Rad Shaqrah (Hasake Southern dam basin): *Polish archaeology in the Mediterranean* III (1991), pp. 77-85.

BIRAN, A.
1993 Aroer (in Judea): E. STERN (ed.), *The New Encyclopedia of Archaeological Excavations in the Holy Land,* Vol. 1, Jerusalem 1993, pp. 89-92.

BIRAN, A. - COHEN, R.
1977 Aroer 1977: *Israel Exploration Journal* 27 (1977), pp. 250-251.
1978 Aroer 1978: *Israel Exploration Journal* 28 (1978), pp. 197-199.

BIRAN, A. - GREENBERG, R. - ILAN, D.
1996 *Dan I: A Chronicle of the Excavations, the Pottery Neolithic, the Early Bronze Age and the Middle Bronze Age Tombs* (Annual of the Nelson Glueck School of Biblical Archaeology), Jerusalem 1996.

BLAKELY, J.A.
1981 *Judahite Refortification of the Lachish Frontier*, 1981.

BODOG, B.
1937 Bees As Strategists and Warriors: *Gleanings in Bee Culture* 65.9 (1937), pp. 534-537.

BUNIMOVITZ, S. - LEDERMAN, Z.
2001 The Iron Age Fortifications of Tel Beth Shemesh: A 1990-2000 Perspective: *Israel Exploration Journal* 51 (2001), pp. 121-147.
2016 *Tel Beth-Shemesh: A Border Community. Renewed Excavations 1990-2000: The Iron Age, Volumes 1-2* (The Sonia and Marco Nadler Institute of Archaeology, Monograph Series 34), Tel Aviv 2016.
BURKE, A.
2008 *Walled Up to Heaven, The Evolution of Middle Bronze Age Fortification Strategies in the Levant* (Studies in the Archaeology and History of the Levant 4), Leiden 2008.
CABANES, D. - GADOT, Y. - CABANES, M. - FINKELSTEIN, I. - WEINER, S. - SHAHACK-GROSS, R.
2012 Human impact around settlement sites: a phytolith and mineralogical study for assessing site boundaries, phytolith preservation, and implications for spatial reconstructions using plant remains: *Journal of Archaeological Science* 39 (2012), pp. 2697-2705.
COOLEY, R.E.
1997 Radannah: E.M. MEYERS (ed.), *The Oxford Encyclopedia of Archaeology in the Near East,* Vol. 4, Oxford 1997, pp. 401-402.
DEVER, W.G. - LANCE, H.D. - WRIGHT, G.E.
1970 *Gezer I: Preliminary Report of the 1964-66 Seasons*, Jerusalem 1970.
DOTHAN, M.
1993 Mor, Tel: E. STERN (ed.), *The New Encyclopedia of Archaeological Excavations in the Holy Land,* Vol. 3, Jerusalem 1993, pp. 1073-1074.
DOTHAN, M. - PORATH, Y.
1982 *Ashdod IV: Excavation of Area M; the fortifications of the Lower City* (Atiqot/English series 15), Jerusalem 1982.
EPH'AL, I.
1984 The Assyrian siege ramp at Lachish: Military and lexical aspects: *Tel Aviv* 11 (1984), pp. 60-70.
2009 *The City Besieged, siege and its manifestations in the Ancient Near East* (Culture and History of the Ancient Near East 36), Leiden 2009.
FAUST, A.
2000 The Rural Community in Ancient Israel during Iron Age II: *Bulletin of the American Schools of Oriental Research* 317 (2000), pp. 17-39.
2006 The Negev "Fortresses" in Context: Reexamining the "Fortress" Phenomenon in Light of General Settlement Processes of the Eleventh-Tenth Centuries B.C.E.: *Journal of the American Oriental Society* 126.2 (2006), pp. 135-160.
FINKELSTEIN, I.
1986 *Izbet Sartah: An Early Iron Age Site near Rosh Ha'ayin* (BAR International Series 299), Oxford 1986.
1990 Excavations at Khirbet ed-Dawwara: An Iron Age Site Northeast of Jerusalem: *Tel Aviv* 17 (1990), pp. 163-208.
1995 *Living on the Fringe: The Archaeology and History of the Negev, Sinai and Neighbouring Regions in the Bronze and Iron Ages* (Monographs in Mediterranean archaeology 6), Sheffield 1995.
2000 Omride Architecture: *Zeitschrift des Deutschen Palästina-Vereins* 116.2 (2000), pp. 114-138.
2012 The Great Wall of Tell en-Nasbeh (Mizpah), The First Fortifications in Judah, and 1 Kings 15:16-22*: *Vetus Testamentum* 62 (2012), pp. 14-28.
FINKELSTEIN, I. - ADAMS, M.J. - HALL, E. - LEVY, E.
2019 The Iron Age Gates of Megiddo: New Evidence and Updated Interpretations: *Tel Aviv* 46 (2019), pp. 167-191.

FINKELSTEIN, I. - FANTALKIN, A.
2012 Khirbet Qeiyafa: An Unsensational Archaeological and historical interpretation: *Tel Aviv* 39 (2012), pp. 38-63.
FRANKLIN, N.
2004 Samaria: from the Bedrock to the Omride Palace: *Levant* 36 (2004), pp. 189-202.
GARFINKEL, Y. - GANOR, S.
2009 *Khirbet Qeiyafa Vol. 1, Excavation Report 2007-2008*, Jerusalem 2009.
GARFINKEL, Y. - GANOR, S. - HASEL, M.G.
2014 *Khirbet Qeiyafa Vol. 2. Excavation Report 2009-2013: Stratigraphy and Architecture (Areas B, C, D, E),* Jerusalem 2014.
GARFINKEL, Y. - HASEL, M.G. - KLINGBEIL, M.G. - KANG, H.G. - CHOI, G. - CHANG, S.Y. - HONG, S. - GANOR, S. - KREIMERMAN, I. - BRONK RAMSEY, C.
2019 Lachish Fortifications and State Formation in the Biblical Kingdom of Judah in light of Radiometric Datings: *Radiocarbon* 61.3 (2019), pp. 695-712.
GILBOA, A. - SHARON, I.
2008 Between the Carmel and the Sea: Tel Dor's Iron Age Reconsidered: *Near Eastern archaeology* 71.3 (2008), pp. 146-170.
GILBOA, A. - SHARON, I. - ZORN, J.R. - MATSKEVICH, S.
2018 *Excavations at Dor, Final Report: Volume IIA Area G, The Late Bronze and Iron Ages: Synthesis, Architecture and Stratigraphy* (Qedem 10), Jerusalem 2018.
GOSHEN, N.
2020 The Ruling Stones? Early Appearance of Ashlar Masonry in the Southern Levant: M. DEVOLDER - I. KREIMERMAN (eds.), *Ashlar. Exploring the Materiality of Cut-Stone Masonry in the Eastern Mediterranean Bronze Age* (Aegis. Actes de colloques 17), Louvain 2020, pp. 169-186.
HERZOG, Z.
1984 Early Iron Age Settlement at Beer-Sheba and Their cultural Background: Z. HERZOG (ed.), *Beer-Sheba II: The Early Iron Age Settlement* (Publications of the Institute of Archaeology 7), Tel Aviv 1984, pp. 70-84.
1992 Settlement and fortification planning in the Iron Age: A. KEMPINSKI - R. REICH (eds.), *The Architecture of Ancient Israel from the Prehistoric to the Persian Period*, Jerusalem 1992, pp. 231-274.
1997 *Archaeology of the city. Urban planning in Ancient Israel and its social implication* (The Sonia and Marco Nadler Institute of Archaeology, Monograph Series 13), Tel Aviv 1997.
HERZOG, Z. - SINGER-AVITZ, L.
2016 *Beer-Sheba III - The Early Iron IIA Enclosed Settlement and the Late Iron IIA-Iron IIB Cities,* Vols. I-III*,* Winona Lake 2016.
HOLLADAY, J.S. JR.
1995 The kingdoms of Israel and Judah: political and economic centralization in the Iron IIA-IIB (ca. 1000-750 BCE): T.E. LEVY (ed.), *The archaeology of society in the Holy Land,* London 1995, pp. 369-398.
KANG, H.
2014 Area B: Y. GARFINKEL - S. GANOR - M.G. HASEL (eds.), *Khirbet Qeiyafa Vol. 2. Excavation Report 2009-2013: Stratigraphy and Architecture (Areas B, C, D, E)*, Jerusalem 2014, pp. 39-69.
KEMPINSKI, A.
1992 Fortifications, public buildings, and town planning in the Early Bronze Age: A. KEMPINSKI - R. REICH (eds.), *The Architecture of Ancient Israel from the Prehistoric to the Persian Period*, Jerusalem 1992, pp. 68-80.

KENYON, K.M.
1965 *Archaeology in the Holy Land*, London 1965.
1974 *Digging up Jerusalem*, London 1974.
KREIMERMAN, I. - DEVOLDER, M.
2020 Leaving No Ashlar Unturned Definitions, Technical Features and Regional Synopsis of Cut-Stone Masonry in the Eastern Mediterranean Bronze Age: M. DEVOLDER - I. KREIMERMAN (eds.), *Ashlar. Exploring the Materiality of Cut-Stone Masonry in the Eastern Mediterranean Bronze Age* (Aegis. Actes de colloques 17), Louvain 2020, pp. 1-73.
KREIMERMAN, I. - WEISSBEIN, I. - TORN BROERS, P. - NAVEH, O.
2023 In the Footsteps of Albright: The Renewed Excavations at Tell Beit Mirsim: *Near Eastern Archaeology* 86.1 (2023), pp. 46-57.
LAMON, R.S. - SHIPTON, G.M.
1939 *Megiddo 1. Seasons of 1925-34: Strata I-V* (Oriental Institute Publications 42), Chicago 1939.
LAPP, N.L.
1976 Casemate Walls in Palestine and the Late Iron Age II Casemate at Tell el-Ful (Gibeah): *Bulletin of the American Schools of Oriental Research* 223 (1976), pp. 25-42.
LAYARD, A.H.
1849 *The Monuments of Nineveh, from Drawings made on the Spot*, London 1849.
LEDERMAN, Z.
1999 *An Early Iron Age Village at Khirbet Raddana; The Excavations of Joseph A. Callaway*, Cambridge 1999.
LIVERANI, M.
1988 *Antico Oriente. Storia, Società, Economia* (Collezione storica), Bari 1988.
MARQUET-KRAUSE, J.
1949 *Les Fouilles de 'Ai (et-Tell) 1933-1935, La résurrection d'une grande cité biblique* (Bibliothèque Archéologique et Historique 45), Paris 1949.
MATTHIAE, P.
1996 *L'arte degli Assiri. Cultura e forma del rilievo storico* (Storia e società), Bari 1996.
1997 *La storia dell'arte dell'Oriente antico, Vol. 3. I primi Imperi e i Principati del Ferro 1600-700 a.C.*, Roma 1997.
1998 *Ninive,* Milano 1998.
MAZAR, A.
1981 Giloh: An Early Israelite Settlement Site near Jerusalem: *Israel Exploration Journal* 31 (1981), pp. 1-36.
1992 *Archaeology of the Land of the Bible 10,000-586 B.C.E.*, New York 1992.
1997 *Timnah (Tel Batash) I: Stratigraphy and Architecture* (Qedem 37), Jerusalem 1997.
1999 The 1997-1998 Excavations at Tel Reḥov: Preliminary Report: *Israel Exploration Journal* 49 (1999), pp. 1-42.
MAZAR, A. - PANITZ-COHEN, N.
2020 *Tel Reḥov: A Bronze and Iron Age City in the Beth-Shean Valley, Volume I. Introductions, Synthesis and Excavations on the Upper Mound* (Qedem 59), Jerusalem 2020.
MCCLELLAN, T.L.
1984 Town Planning at Tell en-Naṣbeh: *Zeitschrift des Deutschen Palästina-Vereins* 100 (1984), pp. 53-69.
MESHEL, Z.
1992 The architecture of the Israelite fortresses in the Negev: A. KEMPINSKI - R. REICH (eds.), *The Architecture of Ancient Israel from the Prehistoric to the Persian Period*, Jerusalem 1992, pp. 294-301.

MUMCUOGLU, M. - GARFINKEL, Y.
2021 Royal Architecture in the Iron Age Levant: A. FAUST - Y. GARFINKEL - M. MUMCUOGLU (eds.), *State Formation Processes in the 10th Century BCE Levant* (Jerusalem Journal of Archaeology 1), Jerusalem 2021, pp. 450-481.

NADALI, D.
2005 Assyrians to War: Positions, Pattern and Canons in the Tactics of the Assyrian Armies in the VII century B.C.: A. DI LUDOVICO - D. NADALI (a cura di), *Studi in onore di Paolo Matthiae presentati in occasione del suo sessantacinquesimo compleanno* (Contributi e Materiali di Archeologia Orientale 10), Roma 2005, pp. 167-207.
2010 Assyrian Open Field Battles. An attempt at Reconstruction and Analysis: J. VIDAL (ed.), *Studies on War in the Ancient Near East: Collected Essays on Military History* (Alter Orient und Altes Testament 372), Münster 2010, pp. 117-152.
2011 Attaccare e difendere un muro: una battaglia di confine: *Ricerche di S/Confine* II.1 (2011), pp. 225-232.

NETZER, E.
1992 Massive structures: processes in construction and deterioration: A. KEMPINSKI - R. REICH (eds.), *The Architecture of Ancient Israel from the Prehistoric to the Persian Period*, Jerusalem 1992, pp. 17-27.

NEUFELD, E.
1980 Insects as Warfare Agents in the Ancient Near East (Ex. 23:28; Deut. 7:20; Josh. 24:12; Isa. 7:18-20): *Orientalia NOVA SERIES* 49.1 (1980), pp. 30-57.

NIGRO, L.
2014 An absolute Iron Age Chronology of the Levant and the Mediterranean: L. NIGRO (ed.), *Overcoming Catastrophes. Essays on disastrous agents characterization and resilience strategies in pre-classical Southern Levant* (Rome «La Sapienza» Studies on the Archaeology of Palestine & Transjordan 11), Rome 2014, pp. 261-269.
2020a The Italian-Palestinian Expedition to Tell es-Sultan, Ancient Jericho (1997-2015): Archaeology and Valorisation of Material and Immaterial Heritage: R.T. SPARKS - B. FINLAYSON - B. WAGEMAKERS - J.M. BRIFFA (eds.), *Digging Up Jericho: Past, present and future*, Oxford 2020, pp. 175-214.
2020b Sulle mura di Mozia. Stratigrafia e cronologia alla luce dei nuovi scavi della Sapienza (2014-2019): *Folia Phoenicia* 4 (2020), pp. 13-64.

ORTIZ, S. - WOLFF, S.
2017 Tel Gezer Excavations 2006-2015: The Transformation of a Border City: O. LIPSCHITS - A.M. MAEIR (eds.), *The Shephelah in the Iron Age. Recent Archaeological Studies*, Winona Lake 2017, pp. 61-102.

PRITCHARD, J.B.
1961 *The Water System at Gibeon* (University Museum Monograph 22), Philadelphia 1961.
1964 *Winery, Defenses, and Soundings at Gibeon* (Monograph of the University Museum. University of Pennsylvania 4), Philadelphia 1964.

REICH, R.
1992 Building materials and architectural elements in ancient Israel: A. KEMPINSKI - R. REICH (eds.), *The Architecture of Ancient Israel from the Prehistoric to the Persian Period*, Jerusalem 1992, pp. 1-16.

REY, S.
2016 Mesopotamian Poliorcetics Before Assyria: Genesis of the Art of Fortification and Siege Warfare: R. FREDERIKSEN - S. MÜTH - P.I. SCHNEIDER - M. SCHNELLE (eds.), *Focus on Fortifications. New Research on Fortifications in the Ancient Mediterranean and the Near East*, Vol. II, (Monographs of the Danish Institute at Athens 18), Oxford 2016, pp. 34-42.

SANDHAUS, D.
2013 Hazor in the Ninth and Eighth Centuries B.C.E.: *Near Eastern Archaeology* 76.2 (2013), pp. 110-117.
SEEVERS, B.
2018 Iron Age I Remains at Khirbet el-Maqatir: A Preliminary Report: A. TAVGER - Z. AMAR (eds.), *In the Highland's Depth, Journal for the Study of Archaeology and History of the Highland's Region and Underground Cavities*, Vol. 8, Ariel - Neve Tzuf 2018, pp. 11-25.
SEGER, J.D.
1983 Investigations at Tell Halif, Israel, 1976-1980: *Bulletin of the American Schools of Oriental Research* 252 (1983), pp. 1-23.
SEGER. J.D. - BOROWSKI, D.
1977 The First Two Seasons at Tell Halif: *Biblical Archaeologists* 40 (1977), pp. 156-166.
SHILOH, Y.
1978 Elements in the Development of Town Planning in the Israelite City: *Israel Exploration Journal* 28 (1978), pp. 36-51.
1979 *The Proto-Aeolic Capital and Israelite Ashlar Masonry* (Qedem 11), Jerusalem 1979.
1987 The Casemate Wall, the Four Room House, and early Planning in the Israelite City: *Bulletin of the American Schools of Oriental Research* 268 (1987), pp. 3-15.
SHILOH, Y. - HOROWITZ, A.
1975 Ashlar Quarries of the Iron Age in the Hill Country of Israel: *Bulletin of the American Schools of Oriental Research* 217 (1975), pp. 37-48.
SHOCHAT, S. - GILBOA, A.
2019 Elusive destructions: reconsidering the Hazor Iron Age II sequence and its chronological and historical implications: *Levant* 50.3 (2019), pp. 363-386.
STEINER, M.L.
2001 *Excavations by Kathleen M. Kenyon in Jerusalem 1961-1967, Volume III. The Settlement in the Bronze and Iron Ages* (Copenhagen international series 9), London 2001.
STERN, E.
1978 *Excavations at Tel Mevorakh (1973-1976). From the Iron Age to the Roman Period,* Vol. 1 (Qedem 9), Jerusalem 1978.
1990 Hazor, Dor and Megiddo in the Time of Ahab and under Assyrian Rule: *Israel Exploration Journal* 40.1 (1990), pp. 12-30.
1992 The Phoenician Architectural Elements in Palestine during the Late Iron Age and the Persian Period: A. KEMPINSKI - R. REICH (eds.), *The Architecture of Ancient Israel from the Prehistoric to the Persian Period*, Jerusalem 1992, pp. 302-309.
2001 *Archaeology of the Land of the Bible, Vol. II: The Assyrian, Babylonian, and Persian Periods*, New York 2001.
TUFNELL, O.
1953 *Lachish III (Tell ed Duweir). The Iron Age* (Wellcome-Marston Archaeological Research Expedition to the Near East 3), Oxford 1953.
USSISHKIN, D.
1980 The 'Lachish Reliefs" and the City of Lachish: *Israel Exploration Journal* 30 (1980), pp. 174-195.
1982 *The Conquest of Lachish by Sennacherib* (Publications of the Institute of Archaeology 6), Tel Aviv 1982.
1983 Excavations at Tel Lachish 1978-1983: Second Preliminary Report: *Tel Aviv* 10 (1983), pp. 97-175.

1985 Levels VII and VI at Tel Lachish and the End of the Late Bronze Age in Canaan: J.N. TUBB (ed.), *Palestine in the Bronze and Iron Ages, Papers in Honour of Olga Tufnell*, London 1985, pp. 213-230.

1990 Notes on Megiddo, Gezer, Ashdod, and Tel Batash in the Tenth to Ninth Centuries B.C.: *Bulletin of the American Schools of Oriental Research* 277/278 (1990), pp. 71-91.

1993 Lachish: E. STERN (ed.), *The New Encyclopedia of Archaeological Excavations in the Holy Land,* Vol. III, Jerusalem 1993, pp. 897-911.

2004a *The Renewed Archaeological Excavations at Lachish (1973-1994)*, Vol. II (Monograph Series 22), Tel Aviv 2004.

2004b *The renewed archaeological excavations at Lachish (1973-1994)*, Tel Aviv 2004.

2005 The Fortifications of Philistine Ekron: *Israel Exploration Journal* 55 (2005), pp. 35-65.

2020 The "Solomonic", Six-chambered Gate 2156 at Megiddo Once Again: *Tel Aviv* 47 (2020), pp. 246-255.

VERGNAUD, B.

2012 *Recherches sur les fortifications d'Anatolie occidentale et centrale au début du premier millénaire av. J.-C. (Xe-VIe s.)*2012.

WERNER, P.

1998 *Tall Munbaqa - Bronzezeit in Syrien* (Veröffentlichungen des Hamburger Museums für Archäologie und die Geschichte Harburgs, Helms-Museum 80), Neumünster 1998.

ZORN, J.R.

1997 An Inner and Outer Gate Complex at Tell en-Nasbeh: *Bulletin of the American Schools of Oriental Research* 307 (1997), pp. 53-66.

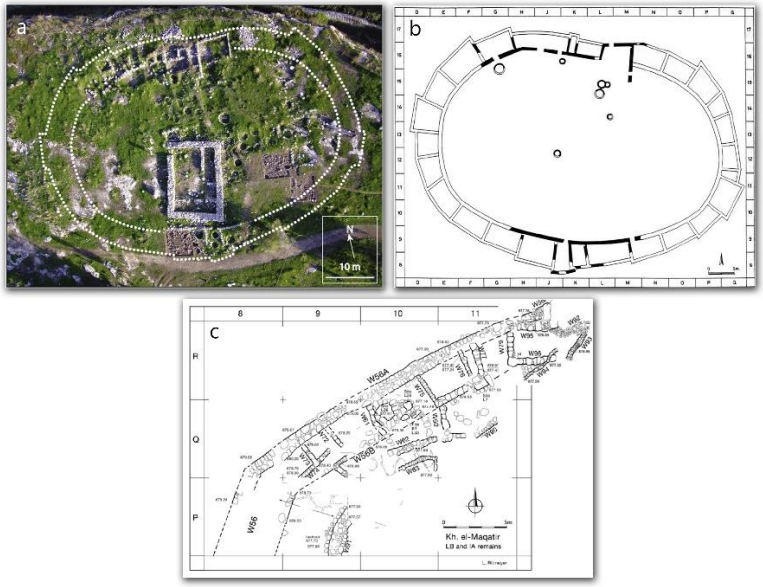

Fig. 1 - The enclosed settlement of Izbet Sartah (a-b) (after Cabanes *et al.* 2012, fig. 1;) and Khirbet el-Maqatir (after Seevers 2018, fig. 4).

Fig. 2 - The reconstruction of the Khirbet Qeiyafa fortification system (left) (© Roy Albag Architecture LTD) and the four-chambered gate as identified at the end of 2010 season (right) (after Kang 2014, fig. 6.4).

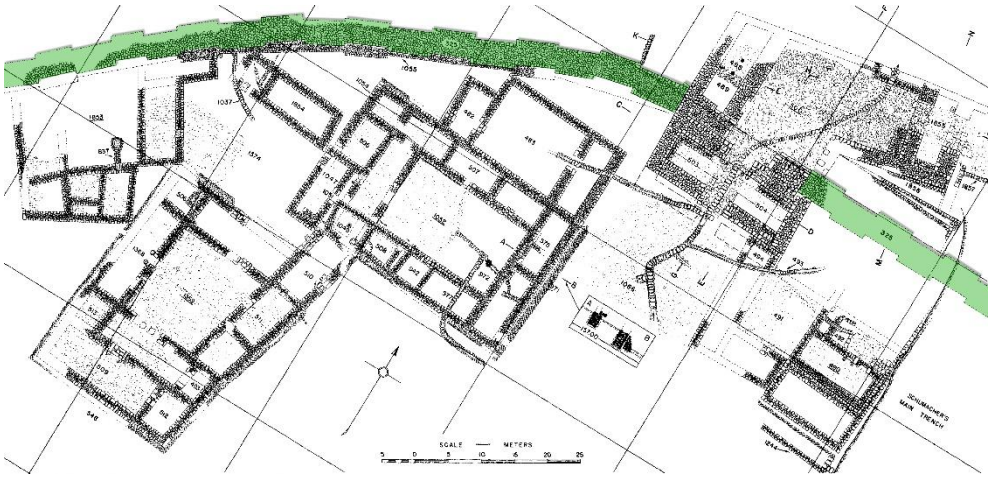

Fig. 3 - The solid offset-inset wall identified at Megiddo/Tell el-Mutesellim IV (after Lamon - Shipton 1939, fig. 89).

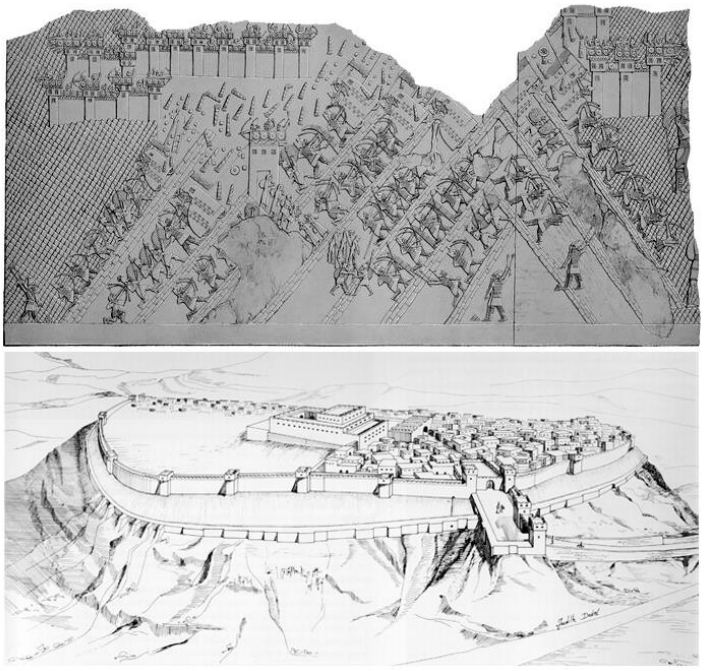

Fig. 4 - The siege of Lachish/Tell ed-Duweir by Sennacherib (above) (after Layard 1849, 23) and the reconstruction of the multiline fortification system in the level III (below) (after Ussishkin 1982, fig. 9).

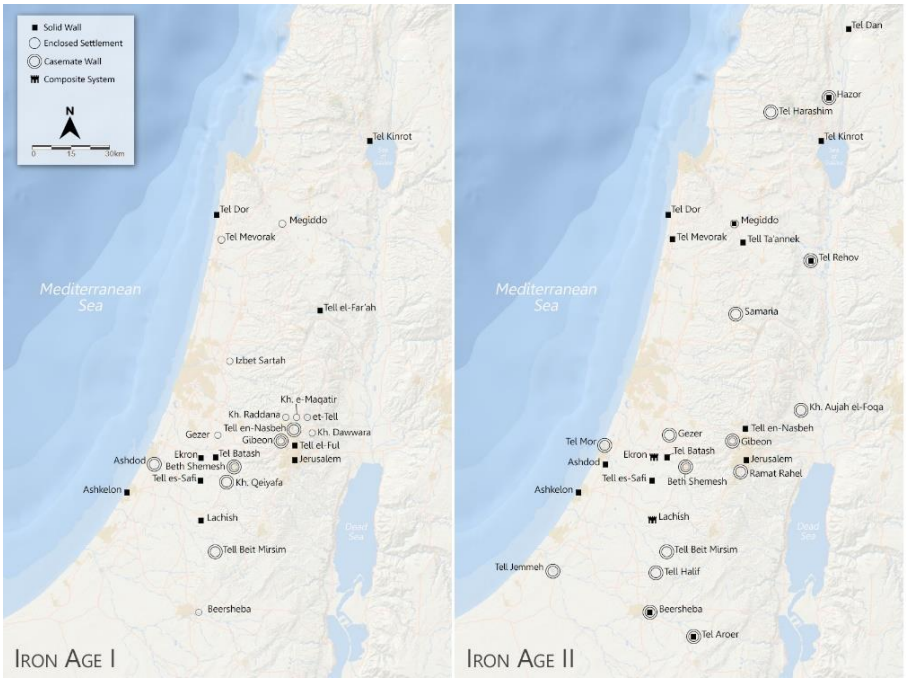

Fig. 5 - Distributive map of the fortification's typologies during the Iron Age I and II.

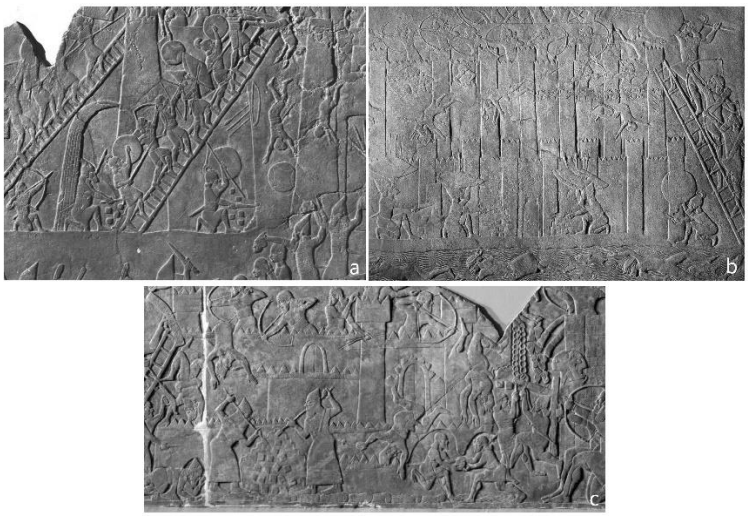

Fig. 6 - Wall panel reliefs from the Ashurbanipal II North Palace in Quyunjiq depicting the Assyrian sappers at work during sieges of an Egyptian fort (a), the Elamite city of Hamanu (b) and an enemy city along a river (c) (© The Trustees of the British Museum).

	IA IA	IA IB		IA IIA		IA IIB	IA IIC	IA III
	1200-1136	*Early* 1136-1070	*Late* 1070-960	*Early* 960-925	*Late* 925-840	840-701	701-586	586-535
Tell Dan				IV	III Solid (B)+4CG	II 4CG		
Hazor				X-IX Casemate+6CG	VIII Solid+bastion	V Solid (OI)+watchtower		
Tel Harashim				V *unf*	IV Casemate			
Tel Kinrot			VI-IV Solid			III-I Solid+watchtower		
Tel Dor		VIII Solid	Solid			VII Solid (B)+4CG	VI Solid (B)+2CG	
Megiddo	VIIB-VIIA Enclosed	VIB-A *unf*	VA-IVB *VB* - Enclosed (Inc)		IVA Solid (OI)+6CG	III Solid (OI)+2CG	II *unf*	
Tell Ta'annek				IIa Solid (B)	IIb Solid+bastion			
Tel Mevorakh			VIII Enclosed	VII Solid				
Tel Rehov			VI *unf*	V-IV *unf*		IIIb Casemate; IIIa Solid (OI)	II	
Tell el Far'ah		VIIb MBA reuse						
Samaria					Period I/II Casemate			
Izbet Sartah	III Enclosed		II Enclosed					
et-Tell	Level I-II Enclosed (Inc)							
el-Maqatir		Enclosed (Inc)						
Kh. Raddana	2 Enclosed (Inc)	3						
Tell en-Nasbeh			3c Casemate+towers		3b Solid (OI)+2CG	3a		
Kh. 'Aujah el-Foqa						Casemate		
Kh. ed-Dawwara			Enclosed (Inc)					
Gezer			X-IX Enclosed (Inc)	VIII/VII A-B Casemate+6CG		VIA Casemate+4CG		

Gibeon	Enclosed (Inc)		Casemate					
Tel el-Ful			Period I-II					
Jerusalem	15 Stone terrace		14 Stepped Stone Structure		13	12 Solid	11/10B	10A
Ramat Rahel						VB Casemate	VA Casemate	
Tel Mor						2 Casemate		
Tel Batash	V Solid (B)		IV Towers+Enclosed (Inc)			III Solid+glacis+6CG	II	
Ekron	VII-IV Solid		III *unf*			II Solid+tower	I Composite+4CG	
Beth Shemesh		III Solid/Enclosed (Inc)	IIa-c Casemate+2CG					
Ashdod		XII-XI Casemate	IX Solid+towers+4CG		(IX) VIII-VII			
Khirbet Qeiyafa			IV Casemate+4CG					
Tell es-Safi		D5 Solid	D4 Solid+gate		D3 Solid+tower			
Ashkelon		9 MBA reuse		8 Solid+towers	7			
Lachish			V Solid		IV Composite+6CG	III	II Solid (B)+Bastion	
Tell Beit Mirsim	B1-B2		B3 Casemate+2CG					
Tell Jemmeh	JK Fortified (?)		GH Fortified (?)		EF Casemate	CD Casemate+tower		
Tel Halif				VIb-a Casemate+glacis+tower				
Beer-Sheba		VIII *unf*	VII-VI Enclosed (Inc)	V Solid+4CG	IV Solid+4CG	III-II Casemate+4CG		
Tel ʻAroer						4 Solid (OI)	3 Casemate+2CG?	

Tab. 1 - Synchronic and diachronic table of fortifications typologies in the Southern Levant (unf: unfortified; B: buttressed; OI: offset-inset; Inc: incipient; 6CG: six chamber gate; 4CG: four chamber gate; 2CG: two chamber gate)