

## CONTINUITY AND DISCONTINUITY IN THE DEVELOPMENT OF NORTHERN LEVANTINE AND CYPRIOTE FORTIFICATIONS DURING THE 2<sup>nd</sup> MILLENNIUM BC

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*In the context of the evolution of defensive systems, the centuries between the end of the 17<sup>th</sup> and the beginning of the 11<sup>th</sup> century BC represent a significant moment for the Levantine and Cypriot areas, as they connect two emblematic periods of urban development. The synchronic and diachronic analysis carried out on the basis of the defensive typologies recognized in these two areas made it possible not only to investigate the evolution of individual sites and the different cultural traditions they belong to, but also the reasons behind the continuity or discontinuity in the use of these systems over the centuries.*

Keywords: defensive system; Northern Levant; Cyprus; Middle Bronze Age; Late Bronze Age

### 1. INTRODUCTION AND METHODOLOGY

The article examines the evolution of fortification systems in the coastal area of the Northern Levant and Cyprus between the end of the Middle Bronze Age (Middle Bronze Age III, 1650-1600 BC) and the Late Bronze Age (Late Bronze Age I-II, 1600-1200 BC) through a number of illustrative case studies (fig. 1).

In addition to the identification of types and construction techniques employed, of primary interest is to trace and contextualize those elements of continuity and discontinuity that occurred in the development of defensive solutions precisely at the transition from one period to the next and that can be differentially understood as a witness of innovation or rooting in tradition.

In line with the general methodology of the project, the programmatic filing of the defensive walls and its various components (e.g. towers, ramparts, glacis, moats and accesses) was carried out through a shared online database that collected the various phases of the sites under examination.

### 2. DEFENSE TYPOLOGIES IN NORTHERN LEVANT

The most attested defensive typology in Northern Levant during the Middle Bronze Age III and Late Bronze Age II (1700-1200 BC) is the composite defense system, which involved the combined presence of several features to create an unbreakable circuit. The prominent element on which the main wall, in stone or mudbrick, was built was the rampart, a mighty accumulation of clay and rubble that altered the natural conformation of the tell and whose excavation often generated an outer ditch also used as an additional deterrent. The rampart was often equipped with an additional retaining wall at the base and

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\* Paragraphs 1, 4 are by Bianca E. Berti and Maria Tamburrini, paragraphs 2, 2.1 are by Maria Tamburrini, paragraphs 2.2, 3 is by Bianca E. Berti.

a glacis, a surface covering of pebbles or chalky material that had the dual purpose of preserving the rampart from runoff and making it unconquerable to siege machines.<sup>1</sup>

Illustrative of the composite typology is the site of Akzhiv where it is possible to observe in the same period (Middle Bronze II-III, 1750-1600 BC) a brick fortification wall, the rampart completed by the glacis, a further retaining wall at its foot and finally a ditch approximately 4 meters deep (fig. 2).<sup>2</sup> The absence of fortifications in the Late Bronze I-II (1600-1200 BC) seems to suggest a possible shift in defensive needs and probably also a different role for the site in the regional context compared to the earlier period.<sup>3</sup>

Defensive systems of the same type have been recognized at Tell Kazel, where a stone wall in use from the Middle Bronze Age I-II (2000-1600 BC) and externally reinforced by a beaten clay glacis was brought to light;<sup>4</sup> in Beirut, where the same dry masonry wall built with limestone blocks and interspersed with pillars, dated to the early Middle Bronze Age, is used even until the Late Bronze Age II with the addition of an impressive stone glacis<sup>5</sup> (fig. 3); at Byblos, where the so-called Hyksos Rampart was built in the Middle Bronze III, a sand and earth rampart lined with a glacis made of large sandstone blocks and a revetment wall at its base. Also at Byblos, in continuity with the previous structure, a second and final rampart covered by a glacis made of large blocks was erected in the Late Bronze I (1600-1350 BC) and remained in use throughout the Late Bronze II.<sup>6</sup> The composite system is also present at Ugarit/Ras Shamra from Layer 3 (1450-1365 BC) and saw, in addition to the integration of the large square tower of 14 meters per side associated with the previous Layer 4 (1600-1450 BC), the erection of an imposing system with rampart, stone glacis, underground passage, a moat, a six-chamber main access system and a postern (fig. 4).<sup>7</sup> The construction of a new casemate wall in the Late Bronze Age II (Layer 2, 1300-1200 BC) eventually led to the previous fortifications falling into disuse and thus to the closure of the postern and the destruction of the square tower.<sup>8</sup>

Alongside the composite system other defensive typologies existed in the northern Levant. At Tell Arqa, for example, between the Middle Bronze III and Late Bronze I (1750-1550 BC) the casemate typology seems to have been established with the erection, along the edge of the tell, of walls up to 2 meters thick arranged to form rectangular buildings<sup>9</sup> leaning against or integrated into a perimeter wall that has unfortunately been lost.<sup>10</sup> Later, during the Late Bronze I (1550-1450 BC), these same rooms were partially dismantled and reused to form a new casemate wall with an irregular profile.<sup>11</sup>

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<sup>1</sup> Liverani 1988, 332; Burke 2008, 3.

<sup>2</sup> Prausnitz 1975, 208; Burke 2008, 229.

<sup>3</sup> Prausnitz 1975, 207.

<sup>4</sup> Badre *et al.* 1990, 87; Badre 1991, 630; Bounni 1997, 276; Badre 2001.

<sup>5</sup> The *Glacis I* built around 1700 and dismissed in 1220 BC most likely caused the bent-axis access of the earlier system to fall into disuse (Badre 1997, 50; 2001, 4).

<sup>6</sup> Dunand 1955, 19; Burke 2008, 197; Sala 2014, 183-184.

<sup>7</sup> Lagarce 1984, 162-166, 173; Yon 2006, 31; Burke 2008, 224.

<sup>8</sup> Schaeffer 1939, 290; 1951, 4; Lagarce 1984, 169; Yon 2006, 31.

<sup>9</sup> The estimated dimensions for these rooms are between 15/16 x 7/8 meters (Thalman 1978, 102-103).

<sup>10</sup> Thalman 2000, 58, 63, 67; 2006, 56, 71-72, figs. 92-93.

<sup>11</sup> Thalman 2000, 63, 67.

The solid wall is another defensive typology, and it was identified at Tell Tweini. Excavations revealed an outer curtain wall made of large blocks and a central body of smaller stones<sup>12</sup> (fig. 5); however, as this is only a preliminary stage of research, it is not possible to state with certainty whether it was a simple continuous wall, solid, or a revetment wall. The typological comparison with neighboring sites<sup>13</sup> would seem to establish the construction of the defense system in the Middle Bronze Age and its prolonged use throughout the Late Bronze Age,<sup>14</sup> a hypothesis corroborated by its prolonged role as important harbor under Ugaritic influence.

### 2.1. Building materials

The pivotal element of the composite system that crowned the imposing ramparts was the main perimeter wall. As observed at Akhziv<sup>15</sup> but also at more inner sites such as Ebla/Tell Mardikh,<sup>16</sup> the walls were in most cases composed of mudbrick set with mud and/or clay mortars, although there are also cases of stone elevations such as at Tell Kazel.<sup>17</sup> Despite their monumentality, the structures were extremely perishable and subject to numerous reconstructions over time, especially in coastal sites where erosion was greatest.<sup>18</sup>

In contrast, massive embankments built by casting earth and other debris<sup>19</sup> along the edges of the tell to provide stability and to drain were better preserved, allowing for a more accurate analysis of the structures. Despite the spreading of the same type of rampart throughout the Middle and Late Bronze Ages, archaeological evidence suggests that construction techniques and materials varied according to local availability. At Ugarit/Ras Shamra, for example, the rampart was built with undifferentiated light-colored material and yellowish soil alternating with layers of aggregate material of varying consistencies,<sup>20</sup> while at Byblos the Middle Bronze III rampart was composed of layers of sand and black soil interspersed with each other, after which the Late Bronze I rampart preferred the *terra rossa* soil that provides good drainage contributing to the soil being able to retain moisture without becoming waterlogged.<sup>21</sup> The use of large amounts of earth without alternating aggregates seems to occur more frequently at sites in the more inland regions such as Qatna/Tell el-Mishrife and Ebla/Tell Mardikh, while mixed fills with layers of earth, sand and gravels of different grains occur more frequently at sites in the more western and coastal areas that are more inclined to rainfall and thus erosion.

For the construction of the superficial glacis, which had to ensure a certain degree of impermeability of the levels below, the same materials were generally used as for the

<sup>12</sup> Bretschneider *et al.* 2004, 226; Burke 2008, 223; al-Maqdissi *et al.* ed. 2010, 21, figs. III.13-16.

<sup>13</sup> The chronology of Tell Tweini remains debated today (Burke 2008, 223; al-Maqdissi *et al.* ed. 2010, 21).

<sup>14</sup> Burke 2008, 223.

<sup>15</sup> Prausnitz 1975, 207-208; Burke 2008, 230.

<sup>16</sup> Matthiae 1997, 383.

<sup>17</sup> Badre *et al.* 1990, 87; Badre 1991, 630; Bounni 1997, 276; Burke 2008, 212.

<sup>18</sup> In Ugarit/Ras Shamra and Byblos, the main perimeter walls were not found, perhaps also due to the prolonged exposure.

<sup>19</sup> Mostly chipped or crushed stones, pebbles, or sand.

<sup>20</sup> Lagarce 1984, 159.

<sup>21</sup> Dunand 1955, 19; Burke 2008, 196-197; Sala 2014, 183-184.

rampart, i.e. earth, clays, bricks, and stones, with the difference that finer grains were favored in order to make the compound compact and thus water-resistant. Plaster was the most commonly used compound, even if the finding of the raw material and its processing did not always allow for the entire surface of the rampart to be covered. Thus, in several cases the chalky coat was replaced by coverings in other materials such as pebbles or large stones (see Beirut and Byblos), cut blocks (see Ugarit/Ras Shamra) but also bricks, beaten earth or compacted clay as at Tell Kazel. In general, for the coastal area, where the erosive factor was preponderant, greater efforts were made in the construction of glacis than in the more inland areas where the arid climate made the covering lighter, such as at Ebla/Tell Mardikh and Tell Afis where a brick covering was preferred,<sup>22</sup> or even superfluous as observed at sites such as Qatna/Tell el-Mishrife and Carchemish where the glacis is absent. This precise selection of materials and implementation according to geographical region supports the hypothesis that the surface covering of the rampart had a primarily protective and then strategic function.

## 2.2. *Historical continuity of defensive systems*

What emerges from the analysis of these systems is a remarkable continuity between the two periods, Middle and Late Bronze Age, both in material culture and in the framework of defensive solutions. Since in the Late Bronze Age the size of the cities and the population did not change significantly, people were able to exploit the mighty embankments of the Middle Bronze Age by carrying out more restorations and repairs.<sup>23</sup> This is the case in Byblos and Beirut, whose imposing defensive systems, with the exception of the new rampart erected in Byblos in the Late Bronze I, lasted for over five centuries.

Alongside sites, where continuity seems to prevail, it is possible to observe centers unrelated to this dynamic. At Akhziv, for example, the absence of a defensive compound after the Middle Bronze III testifies to the clear break between the two periods, while in the Late Bronze II levels of Ugarit/Ras Shamra and at Tell Arqa one sees the traditional composite system succumbing to the advantage of the casemate defensive typology.

It is interesting to note that it is precisely at Tell Arqa, during the Late Bronze I period, that the casemate system seems to make its first appearance in the area, ahead of the southern Levantine area where it will be an extremely widespread defensive typology only from the Iron Age onwards. In addition, of course, to strategic reasons of reinforcement in the face of the advancing threat from the Egyptians on the one hand and the Sea Peoples on the other, it is possible that the proximity to Anatolia, where casemates were already among the typologies in use,<sup>24</sup> conditioned the stylistic choices in the area, thus encouraging the introduction of the casemate model.

## 3. DEFENSIVE TYPOLOGIES IN CYPRUS

The analysis of Cypriot sites has shed light both on the general absence of fortifications that lasted approximately three centuries, namely from Late Cypriot IA to the beginning of

<sup>22</sup> Matthiae 1991, 315-316, fig. 2.; Affanni - Di Michele 2010, 43.

<sup>23</sup> Liverani 1988, 463.

<sup>24</sup> Yon 2006, 34.

Late Cypriot IIC (1650-1300 BC)<sup>25</sup> and on the spread of the cyclopean typology between Late Cypriot IIC and IIIA.

The only sites to present defensive enclosures during Middle Cypriot III, i.e. in the very early phases of Middle Bronze Age III (1700-1650 BC), are the fortress of Enkomi,<sup>26</sup> Agios Sozomenos and Korovia/Kuruova-Nitovikla.<sup>27</sup> All of these settlements have a sack masonry wall characterized by two parallel facing of moderately sized blocks, a pebble and earth fill and a brick superstructure.<sup>28</sup>

It is only with the beginning of the Late Cypriot IIC, at the end of the 14<sup>th</sup> century BC, that the island's main sites begin to be surrounded by walls. The defensive typology most frequently attested throughout the period, up to the Late Cypriot IIIA,<sup>29</sup> is the cyclopean one and is characterized by the use of a sack-like base in which the outer face was composed of large irregular blocks unworked or roughly dressed and assembled without mortar, but with small stones inserted into the chinks between them and a brick superstructure.<sup>30</sup>

At Enkomi the cyclopean typology is present from the mid-13<sup>th</sup> century onwards and thus from Late Cypriot IIC to IIIA.<sup>31</sup> The first Late Cypriot IB-IIA circuit with a stone base, a brick superstructure and several entrances, one of which was a folded 'dog-leg', reached a total thickness of almost 4 meters in the later period, to which towers and casemates were added. The first circuit was also equipped with a tunnel with bricks arranged in a corbelled arrangement that formed a semi-barrel vault that was probably used to move troops towards the gate.<sup>32</sup>

The cyclopean block foundation on which a brick superstructure rested has been identified similarly at Idalion,<sup>33</sup> whose circuit included three direct-axis gates, and at Maa Palaekastro (fig. 6). At the latter site, the defensive system built at the time of the foundation, between Late Cypriot IIC and IIIA, remained in use without substantial modifications until its abandonment in Late Cypriot IIIA.<sup>34</sup> The cyclopean base on which the brick elevation stood had a double curtain wall structure and pebble infill and had two gates along the northern slope, one with a simple direct axis and the other of the 'dog leg' type.<sup>35</sup>

Unlike the earlier Cyclopean systems, the Late Cypriot IIIA (1200-1100 BC) defense system of Kition/Larnaca consisted of a brick wall resting on a low foundation of rubble

<sup>25</sup> In Cypriot chronology, the two periods correspond to Late Cypriot IA and Late Cypriot IIB.

<sup>26</sup> P. Dikaios interpreted it as a fortress while by Fortin as a fortified workshop (Dikaios 1969; Fortin 1989; Bartelheim - Kizilduman - Müller 2019, 46).

<sup>27</sup> Bartelheim - Kizilduman - Müller 2019, 37-38.

<sup>28</sup> Fortin 1995, 101.

<sup>29</sup> Early Iron Age in the Levantine area.

<sup>30</sup> Loader 1995, 141.

<sup>31</sup> Dikaios 1969, 80, 120; Åström 1972, 40; Steel 2010, 812-814; Georgiou 2011, 114.

<sup>32</sup> Schaeffer 1947, 138-139; Dikaios 1969, 69-70, 73; Åström 1972, 40; Lagarce 1997; Gates 2011, 156; Bartelheim - Kizilduman - Müller 2019, 45.

<sup>33</sup> Gjerstad 1935, 476-477, 487, 626; Åström 1972, 35; Bartelheim - Kizilduman - Müller 2019, 44.

<sup>34</sup> Bartelheim - Kizilduman - Müller 2019, 44.

<sup>35</sup> Åström 1972, 42; Karageorghis - Demas 1988, 3; Georgiou 2012, 70; Bartelheim - Kizilduman - Müller 2019, 44. The same type of entrance was identified at Sinda, west of Enkomi, and dated to the Late Cypriot IIC.

and gravel. Leaning against this defensive line were two towers (fig. 7), approximately 24 meters apart, with a base of ashlar masonry blocks arranged in regular courses and joined by a mud mortar.<sup>36</sup>

### 3.1. *Evolving defensive solutions*

What emerges from the analysis of these contexts is certainly the relationship between the defensive system increase that occurred from the mid-Late Cypriot IIC onwards and the role of Cypriot sites in the context of Mediterranean trade. Two distinct phases in the development of the systems can be traced back to the increase in hoarded goods and subsequently to the changing socio-economic role of the centers under consideration. The first phase, which occurred around the 17<sup>th</sup><sup>37</sup> century and saw the appearance of the first fortified settlements, is related to the initial transformation of the Cypriot socio-economic structure. The metallurgical activities, which spread throughout the island, bear witness to the increasing development of the network of exchanges that was first established around the island sites, i.e. between coastal and inland centers, and then opened up to the entire Levantine and Aegean sides, with which a considerable increase in contacts can be observed in this period.<sup>38</sup> In the second phase, set in the Late Cypriot IIC, around the 13<sup>th</sup> century BC, the cyclopean typology appeared and spread across the territory, as evidenced by the systems of Enkomi, Idalion and Maa Palaeokastro. Interestingly, the emergence of new fortified centers occurs at the same time as the great economic expansion of Cypriot centers. The reasons for the strengthening that occurred from the Late Cypriot IIC onwards still remain difficult to determine with absolute precision although, the coastal and therefore naturally exposed nature of the sites in addition to the increase in international trade and the accumulation of goods may have been valid motivations behind the strengthening of the city limits. Due to the lack of information on the network of local relations and contacts in this precise period, it remains difficult to link the event of strengthening defense systems to internal causes, such as antagonism between the centers themselves or the deliberate demarcation of boundaries at the behest of the local population.<sup>39</sup> Undoubtedly, these imposing constructions testify to the increasing urbanization and the presence of wealthy sites capable of supporting and assisting large architectural achievements.<sup>40</sup>

## 4. CONCLUSION

Although at different times, Cyprus and the Northern Levant seem to have passed on and shared defensive knowledge. From a diachronic point of view, compared to the Levantine area in which the strengthening of systems occurred mainly between the Middle and Late Bronze Ages, in Cyprus the appearance of the first fortifications took place a few

<sup>36</sup> Karageorghis 1965, 266-268, fig. 53; Åström 1972, 43; Bartelheim - Kizilduman - Müller 2019, 44.

<sup>37</sup> Middle Cypriot III and Late Cypriot I (1700-1450 BC; Fortin 1995, 101).

<sup>38</sup> Knapp 1988, 152.

<sup>39</sup> Bartelheim - Kizilduman - Müller 2019, 37.

<sup>40</sup> Georgiou 2015, 134. The history of Cyprus Late Bronze Age settlements is not the same everywhere. Instead, this growth, representative of the first hierarchical Iron Age states (Peltenburg - Iacovou 2012, 355), corresponds to the abandonment of Kalavassos Ayios Dhimitrios and Maroni Vournes at the end of the 13<sup>th</sup> century BC (Meyer - Knapp 2021).

centuries later, towards the end of the Middle Bronze Age III (Middle Cypriot III, 1700-1600 BC), stimulated in all probability by the spread of metallurgy and related dynamics. The process of internal growth accompanied by the parallel strengthening of defensive systems reached its peak in Late Cypriot IIC-III A (1200-1100 BC), probably also driven by new populations from outside.<sup>41</sup>

From a structural point of view, in both regions the introduction of techniques and typologies, such as cyclopean masonry for Cyprus and casemates for the northern Levant, can be interpreted as both innovation and continuity. In the Levant, for example, despite the appearance of casemates at Ugarit/Ras Shamra and Tell Arqa, indicative of Anatolian cultural influence, the composite Middle Bronze Age system prevailed even with the transition to the Late Bronze Age (Late Bronze I), when local autonomy was threatened by the Pharaonic and Hittite power. The absence of fortifications in the Late Bronze II, on the other hand, is probably to be connected to strategic reasons in which conquered cities intentionally left unprotected in order to weaken them.<sup>42</sup>

Similarly, the cyclopean masonry considered a novelty in Cyprus was already adopted earlier by neighboring cultures. The use of large, more or less hewn blocks, for example, was not at all foreign to the Levantine area where it was widely used as early as the Middle Bronze Age II, both in free-standing walls and in glacis and, as the sites of Jericho/Tell es-Sultan, Shechem/Tell Balata, Tel Yarmouth/Khirbet Yarmouk, Gezer/Tell el-Jazari, Akko show, in revetment walls, integrated into the structure of the rampart.<sup>43</sup> It should be borne in mind that the use of large stones is the only feature shared with mainland cyclopean masonry proper, which was completely stone built and did not possess unbaked brick parts or other features typical of the North-Syrian and Anatolian tradition to which these structures most closely resemble. The continuity therefore in the use of similar techniques and typologies suggests that the contacts that occurred between Cyprus and the surrounding regions were essential in the circulation of ideas and the adoption of shared models.

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<sup>41</sup> Karageorghis - Demas 1988, 63-64; Karageorghis 1992, 81.

<sup>42</sup> Bieniada 2001, 178.

<sup>43</sup> Loader 1995, 141-148; Burke 2008, 55, 75, 82.

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Fig. 1 - Fortified sites mentioned in the text.

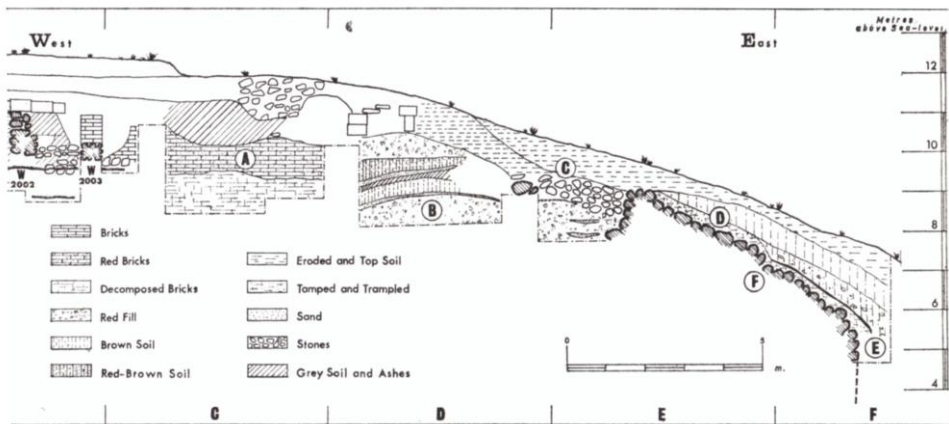


Fig. 2 - Achziv: east-west section of the defense system in area D (Prausnitz 1975, fig. 3).



Fig. 3 - Beirut: *Glacis I* (Badre 1996, fig. 5).



Fig. 4 - Ugarit/Ras Shamra: *glacis*, postern gate, and tower (Gates 2011, fig. 9.6).

Fig. 5 - The Block Wall of Middle Bronze Age III at Tell Tweini (al-Maqdissi *et al.* ed. 2010, fig. III.13).



Fig. 6 - The northern 'cyclopean' wall of Maa Palaeokastro (Georgiou 2011, fig. 6).

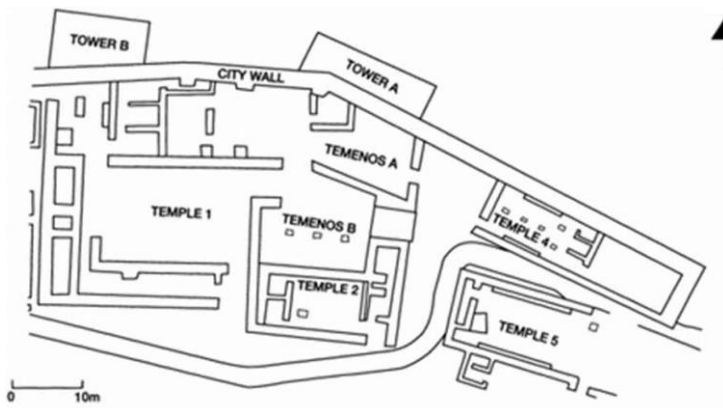


Fig. 7 - Kition/Larnaca: plan of the Late Cypriot IIC-III A (Negbi 2005, fig. 4).