SAPIENZA
UNIVERSITÀ DI ROMA

The Evolution of Defensive Elements in the Syrian Cities and Kingdoms during the Bronze Age.

"Syrian Jazirah, Euphrates region, Northern Levant, Between the Early and Middle Bronze Age"

By
ALI JABBOUR

A dissertation submitted to

The faculty of literature and philosophy “arts and humanities”

In candidacy for the degree of

Doctor of Philosophy

Department of Ancient Sciences “Near Eastern Archaeology”

At the

Sapienza University of Rome

Promoter: Prof. Davide Nadali

February 2020

CONTENTS

CHAPTER ONE

ANALYSIS AND STUDY THE STRUCTURE OF THE DEFENSIVE ELEMENTS DURING THE EB AND MB

CHAPTER TWO

STATISTICS AND TABLES

CHAPTER FOUR

FORTIFIED SETTLEMENTS DURING EARLY AND MIDDLE BRONZE AGE

LIST OF FIGURES

LIST OF THE TABLES

LIST OF DIAGRAMS

PREFACE

The thesis presents a study about the changes that happened on the defensive elements during the Early and Middle Bronze Age in the Euphrates region, Syrian Jazirah the Upper and Lower Northern Levant.

I studied archaeology at the University of Aleppo in Syria, and I have done there my Master degree, during my study, I have done a project with an archaeological team to achieve the ottoman inscription and ottoman buildings in the old city of Aleppo for three years. But the ancient architecture during the Bronze Age was my passion. Therefore, I wrote my MA thesis about the evolution of the Syrian Palace during the Early Bronze Age.

Furthermore, my study let me visit many archaeological sites which dated to varied periods in Syria, I have seen the old civil and military architecture when I saw the enormous earthen rampart surrounding Tell Mardikh / Ebla that gave me a passion for learning more about the fortification structures during the Bronze Age.

Because I read about the political and military events during the Early Bronze Age in Syria that pushed me to connect them with the military architecture, therefore, I applied to study the defensive elements in Syria during the Early and Middle Bronze Age at Sapienza University in Rome.

The archaeological studies that monitor the changes on the defensive elements during the Bronze Age in the Euphrates region, Syrian Jazirah, the Upper and Lower Northern Levant are very few. Therefore, this thesis can be considered as the first step towards further studies in the future, which shows the differences that have occurred in the military architecture during varied periods in the Northern Levant.

Be contacted at **alijabbour85@yahoo.com**

Ali Jabbour

ACKNOWLEDGEMENTS

Throughout the writing of this thesis, I have received a great deal of support and assistance. I would first like to thank the head of the department of Antiquity Sciences in the Sapienza University of Rome, Co-Director of Archaeological Expedition to Ebla prof Frances Pinnock for the help and the welcome provided to me.

Moreover, I would like to thank my supervisor, prof Davide Nadali for his guidance through each stage of the process, where we discussed the defensive elements in Tell Mardikh / Ebla. Besides, he provided me with many articles and gave many comments and advice which helped to write my thesis.

I would like to acknowledge to the head of Tell Chuera expedition Prof Jan-Waalke Meyer who explained to me about the fortification structure in Tell Chuera and Kharab Sayyar.

I would like to thank Dr Tobias B. H. Helms for spending time with me discussing the defensive system in Tell Chuera and provided me with some photos and information about the fortification structure in area Win Tell Chuera.

I want to thank Dr Glenn M. Schwartz Professor of Archaeology and Chair Department of Near Eastern Studies Johns Hopkins University who provided me with some articles about Tell Umm el-Marra, and Georges Mouamar who provided me with an article about Tell al-Sür article. I would like to acknowledge my colleagues in Ebla office in the department of Antiquity Sciences at Sapienza University for all of the opportunities/help; I was given to conduct my research and further my dissertation.

In addition, I want to thank my parents and my family in Syria, Belgium, and Germany, for supporting me during my study. Finally, the greatest thanks are due to my wife, Daniela Jabbour, who helped to translate many German articles and books.

ABBREVIATIONS

a.s.l	Above sea level
Alt.	Elevation
BC	Before Christ
cm	Centimeter
EB	Early Bronze Age
ED	Early Dynastic period
EJ	Early Jazirah period
ha	Hectare
km	Kilometer
LB	Late Bronze Age
m	Meter
M.	Mardikh
MB	Middle Bronze Age
MD.	Mohamad Diab
No.	Number
OJ	Old Jazirah period
Op	Operation
S	Soundages (sounding)
Sq	Square
TILB	Tilbeshar

ABSTRACT

A. The importance of the research

This work presents a comprehensive study of the Early and Middle Bronze defensive elements (around 3000 – 1600 BC.) in Syrian Jazirah, the Euphrates region, the Upper and Lower Northern Levant (Fertile Crescent), Where it provides a study about the methods of using the defensive elements, their structure, dimensions and their building materials and clarify the changes that happened to them between early and middle bronze age in the regions of the study.

B. The geographical framework

With regards to the geographical framework of this research, the core area of research concerns the Fertile Crescent; which consists four geographical regions: Syrian Jazirah, middle and upper Euphrates, Upper Northern Levant (northern Syria and southern Turkey) and Lower Northern Levant (southern Syria and Lebanon) between Mediterranean Sea in the west until Euphrates to the east and Syrian desert (Badia) [1] to the east -south, as illustrated in (Fig. 1- 2).

We should mention that the Northern Levant has been subdivided into two halves, termed here lower and upper based on two factors.

The first is the flow of the Orontes river and the second is the elevation of the upper half, which constitutes a large uplifted block with mountain ranges the Lebanon and anti-Lebanon that are higher in elevation than the lower half, the division of the lower and upper regions of the Northern Levant is Homs Gap.[2]

C. The chronological framework

In regards to the chronological framework of this research, it extends from the Early bronze age until the end of the Middle Bronze age, (around 3000 – 1600 BC.) The transition from the Early to the Middle Bronze Age represented a period of significant social and cultural change in many parts of the Near East, the archaeological record of this transitional period was characterised by changes in settlement patterns, the emergence of new cultural traits, and abrupt settlement destruction and abandonment. Explanations have ranged from foreign invasions or penetration of new (ethnic) groups to system collapse.[3] The war to obtain resources and to expand one's sphere of political control, [4] therefore, the regions of the study have witnessed many conflicts and the military events, which are reflected in one way or another on the fortification structures of the cities.

1 Semi-arid steppe or desert with an average rainfall below 200 mm per year (Akkermans, Schwartz 2003: 6).
2 Steiner, Killebrew 2014:11.
3 Wossink 2009: 2.
4 Liverani 2014: 23.

D. The aim of the research

1- Define the defensive elements that have been used to fortify the cities during the Early and middle bronze age in the regions of the study.

2- Analysis and study their structure; specifically, their dimensions, their shapes, building materials which have been used to build them and their functional use.

3- Study and clarify the changes that happened to them between the Early and Middle Bronze Age.

a. Size and shape.

b. Building materials.

c. Functional use.

4- Present an accurate statistical study of the fortified cities and their defensive elements.

5- Clarify how the defensive elements have been used in different ways from a city to another, moreover, how these elements were working together as one defensive unit to protect the cities against the invasion.

6- Study the correlation between the size of the settlements and the kind and width of the defensive elements that have used to fortify them.

7- Clarify the features and aspects of the fortification structures in the regions of the study, which includes the kind of the defensive elements that have been used to fortify the cities and the building materials that have been used to build the fortification structure (wall- rampart), moreover, the methods of using the fortification walls, the types of gates and the methods of using the towers and bastions, furthermore, the shape of the settlements

8- Clarify the reasons behind of fortifying and reinforcing some cities more than others, and how some cities have continued fortified from the EB to MB and other cities have become abandoned during the EB, whether due to natural disasters or the military invasion.

E. The method of the study / Research Methodology

Beside of the geographical and chronological parts, the defensive elements have studied through their methods of using because they were used in different ways.

Such as the ramparts, which have surrounded in some settlements the entire upper and lower cities, while in other settlements have fortified a part of the upper and lower cities, sometimes they have been used alone, or they were reinforcing the fortification walls.

The methods of the study the defensive elements have gone through three axes:

- Period; which is consisted of the Early and Middle Bronze Age.

- Geographical regions; Jazirah, Euphrates, the Upper and the Lower Northern Levant.

- Methods of using defensive elements, their dimensions and their building materials.

Then we have clarified the differences between these elements during the Early and Middle Bronze Age, how have they changed.

The thesis is divided into four chapters:

In order to be able to consider the types of defensive elements and the changes that happened to them, the first chapter presents a study about the structure of the defensive elements, their dimensions and building materials and clarifies the changes that accrued to them between EB and MB and attempt to answer the reasons of those changes.

The second chapter presents an accurate statistical study attached to tables and diagrams for the studied defensive elements in the first chapter, which contains:

- Shape and size of the Tells.
- Fortification walls, rampart, glacis, revetment, retaining and casemate walls.
- Towers and bastions.
- Buttresses.
- Gates.
- Forts and fortresses.
- Ditches.

While the third chapter presents a study to clarify the correlation between the size of the settlements and the kind and width of the defensive elements that have used to fortify the cities.

Moreover, we have clarified the features and aspects of the fortification structure in the regions of the study, which includes the kind of defensive elements and building materials have used in each region, method of using the fortification walls, towers and bastions, type of the gates and shape of the Tell in each region.

We have elucidated the reasons behind of fortifying and reinforcing some cities more than others, and how some cities have continued fortified from the EB to MB and other cities have become abandoned during the EB, whether due to natural disasters or the military invasion.

The last chapter presents the fortified settlements during the Early and Middle Bronze Age, which were excavated in the regions of the study.

Furthermore, we should mention that this study was done according to published data before 2018.

GEOGRAPHICAL BACKGROUND

Preface

A landscape approach helps us recreate the historical landscape in which the fortifications were originally built. It includes a multitude of types of analysis, which can help us understand the factors that commanded the construction of walls at a given place. [5] The development and location of human settlements, the accumulation of surplus, craftsmanship, and trade had a strong influence on the history of the area despite their relatively limited scale, consequently, a secluded and protected area, well connected to its surroundings, could experience a more effective and productive development than a larger, but fragmented area.[6]

The environmental diversity of the Near East caused its population to be distributed more unevenly than today. Communities mainly settled in the alluvial plains and the intermontane niches. In some phases, they even moved into vast hilly areas and plateaus and avoided the mountains and steppes, which were accessible on a seasonal basis, and by smaller, nomadic communities.

Therefore, even within these densely populated areas, the discontinuity of population levels remains, with irrigated patches of land (cultivated by sedentary and even urbanised communities) emerging from a territory potentially exploitable, but largely left uncultivated.[7] Therefore, it is essential to understand the geographical context, because it affects directly or indirectly on the town architecture, especially the defensive system, the Levant[8] consists of a stretch of the south-western Asia that forms a natural land bridge between Asia and Africa. Three prominent components define this general area from west-to-east: the Mediterranean, the great Syro-African Rift, and the vast desert expanse to the east.[9]

Geographically as well as geologically, the northern Levant and Jazirah can be divided into zones that are roughly aligned along an east-west axis. Bordering the Mediterranean Sea is a narrow coastal strip that until recent times was insalubrious and very sparsely settled. To the east, the land rises up to the mountain ranges of the Amanus, Jebel Ansariya and Libanon. Continuing to the east, the land descends into the valleys of the Orontes and the Jordan Rivers, and rises up again into the lower mountain ranges of the Jebel Samane, Zaouiye, Anti-Libanon and Hermon. Finally, the large flat steppes of inner Syria are reached, which stretch eastwards to the Zagros Mountains and are bordered by the Taurus in the north. These flat steppes are intersected by several rivers, of which the Euphrates and Tigris are the most important ones. Between these two rivers lies the area that is today known as the Jazirah.[10]

5 Fachard 2016: 416.
6 Liverani 2014: 19.
7 Liverani 2014: 22.
8 The term levant covers an area that is often referred to archaeological works by other term most notably Syria-Palestine and North Syria (Steiner, Killebrew 2014: 9).
9 Steiner, Killebrew 2014: 9.
10 Wossink 2009: 8.

We should mention that there is a difference in the overall disposition between the Upper and Lower Northern Levant. The upper is a spreading land opening onto other territories to the east and to the north; the lower is more particularised, compacted between sea and desert continuous only to its northern extension.[11]

The northern levant has often styled a "crossroads of civilisation." Located at the intersection of major traffic routes of the eastern Mediterranean and Near East, the region was traversed by caravans and military expeditions moving between the economic and political poles of the ancient Near Eastern world, from Egypt to Anatolia, from the Mediterranean to Mesopotamia.[12]

The project focuses geographically about the fortified settlements of the 'Fertile Crescent', namely, a semicircle of fertile irrigated lands prone to agricultural and urban settlements extending from the northern Levant to (Lebanon and western Syria) to middle and upper Euphrates and northern Mesopotamia (Syrian Jazirah), as illustrated in (Fig. 1- 2).

A. Northern Levant (upper and lower region)

It is extended from southern Turkey to western Syria and Lebanon, the northernmost range is the Amanus, in what is now the Turkish province of Hatay, to its south are two parallel north-south ranges, the Jebel Ansari yah to the west (1575 m maximum elevation) and Jebel Zawiyah to the east, with the Ghab depression situated between them (Fig. 3- 4).

The Horns (or Akkar) gap separates those two ranges from their counterparts to the south, the Lebanon and Anti-Lebanon (2700 m max. elevation) ranges, primarily in present-day Lebanon. Between the Lebanon and Anti-Lebanon mountains lies the Beqa'a valley.[13] The gaps between the mountain ranges are strategic and agriculturally significant zones allowing access between regions. Separating the Amanus from the Ansari yah and Zawiyah ranges is the Amuq (Antioch) plain, watered by the lower reaches of the Orontes River. A small gap through the Jebel Ansariyah is located east of Ras Shamra, but more significant is the Horns/ Akkar gap between the Ansariyah/Zawiyah and Lebanon/Anti-Lebanon ranges. Given its considerable extent, the Horns gap provides the easiest access between the Mediterranean coast and the Syrian interior.[14]

A narrow littoral, the Mediterranean coastal plain is bounded on the east by Lebanon, Jebel Ansariyah, and Amanus ranges. Relatively humid, the coast now receives an average of 600-1000 mm annual rainfall and was originally wooded. Also forested before the onset of human-induced deforestation, the mountain ranges parallel to the coast receive over 1000 mm of average annual precipitation. Both areas are characterised by Mediterranean Terra Rossa soils and are conducive

11 Wright 1985: 5
12 Akkermans, Schwartz 2003: 2.
13 Akkermans, Schwartz 2003: 4.
14 Akkermans, Schwartz 2003: 4.

to the cultivation of Mediterranean crops such as olives, figs, and grapes, given the availability of cultivable land.[15]

Because the coastal mountain ranges largely impede the movement of precipitation from the west, the plains to the east are much drier than the coast. The west Syrian interior, sometimes designated as a semi-arid steppe, nevertheless enjoys enough rainfall (200-400 mm annually) to support dry-farming agriculture traditionally characterised by winter wheat cultivation (i.e. winter planting, late spring harvesting). Olives and grapes are also cultivable in much of this region. In the north are the agricultural plains surrounding the city of Aleppo, bisected by the north-south flowing Qoueiq river.

Further south is the upper Orontes valley, whose dry-farming agricultural capabilities engendered the urban centres of Hama and Horns, occupied for many millennia like Aleppo. In the regions west and southwest of Aleppo are limestone plateaus that historically supported olive groves; here the "Dead Cities" of the Byzantine period are located.[16]

The major river of western Syria is the Orontes (Nahr al-Asi), which originates in the Anti-Lebanon mountains and proceeds north through the Horns gap past Horns and Hama. Although the river is unnavigable, it can furnish water for irrigating gardens and orchards the river twists to the west and makes its way between the Jebel Ansariyah and Jebel Zawiyah mountains, creating the marshy but fertile Ghab depression with its alluvial soils. Northeast of the Ghab is another agriculturally prosperous enclave, the Rouj basin Continuing north into the Amuq plain, the Orontes makes one last curve to the west and passes between the Amanus and Jebel Ansariyah to reach its final destination in the Mediterranean.[17]

To the **south** the Anti-Lebanon mountains inhibit the movement of precipitation to the east, resulting in the dry steppe north of Damascus. Damascus itself, however, is situated in the al-Ghutah oasis created by the waters of the Barada river, originating in Anti Lebanon. Often dubbed the "oldest continuously occupied city in the world," Damascus could easily share the title with Aleppo or Hama, reflecting both the early appearance of urbanism in Syria and its relative stability over a long time.

Unfortunately, the massive accumulation of settlement deposition in such long-lived centres has made an investigation of their pre-Hellenistic remains decidedly difficult, with a few exceptions like the Hama citadel. South of Damascus is the Hawran basalt plateau, a region of substantial fertility owing to the decomposition of its volcanic rock, with the Jawlan (Golan) region located to the west.[18]

15 Akkermans, Schwartz 2003: 4.
16 Akkermans, Schwartz 2003: 4.
17 Akkermans, Schwartz 2003: 4-5.
18 Akkermans, Schwartz 2003: 5.

In southeastern Syria, we find the driest part of the country, a semi-arid steppe or desert with an average rainfall below 200 mm per year, the region sustains enough plant life to support herbivores, however, and it has traditionally served as grazing land for mobile pastoralists.[19]

B. Euphrates region

The Euphrates River begins its long journey in the highlands of eastern Turkey, where its headwaters are fed by rainfall and melting mountain snow, in its 1400 km journey through the Syrian plateau, is characterised by a meandering channel that flows through a deep valley, 4-12 km wide. On either side of the valley, rising up to 80 m above the Euphrates floodplain, are the escarpments of two deserts.[20] The Syrian desert to the west, which constitutes a rocky and hilly area with little vegetation except for short grass and scattered shrubs, extends to the Orontes valley, to the east, the undulating, stony plain of the Jazirah desert extends as far as the Tigris valley and north to the outliers of the Taurus mountains (Fig. 5).[21]

After a steep descent through Anatolia, the Euphrates enters Syria just below the ancient city of Carchemish. As it flows through northern Syria, the river's meandering channel is contained within an alluvial plain that is as wide as 10 km in some places, while in other areas, it flows through long, narrow gorges featuring flood plains no wider than 500 m, surrounded on both sides by precipitous limestone bluffs that rise up over 100 m.[22] Where the river valley is wider, and the channel is less deeply entrenched, minor streams break off and rejoin the main channel between lengths of 3 and 6 km. The river may also occasionally break through its meanders, causing a shift in the course of the channel altogether. In such cases, ancient settlements that were once situated near the river's edge have either been completely erased by river erosion or obscured by sedimentation.[23]

In other cases, sites are situated on the edges of relict channels, which lie at a considerable distance to the present river course.[24] The annual flooding in spring would have inundated many of the fields of the adjacent flood plain where flooding coincides with the agricultural growing season, and freshwater and alluvial soil are welcomed as much needed nourishment for crops. The Euphrates flooded at precisely the wrong time of the year when cereal crops were beginning to ripen, and large volumes of water were no longer required for their growth. Such poor timing clearly made winter-spring farming on the flood plain a high-risk venture.[25]

19 Akkermans, Schwartz 2003: 6.
20 Cooper 1997: 12.
21 Cooper 1997: 12.
22 Cooper 2006: 28.
23 Cooper 2006: 28.
24 Cooper 2006: 28.
25 Cooper 2006: 29.

Furthermore, we can notice that in the Tabqa area the Euphrates floodplain is sub-divided into a low terrace at c. 4 m above the river level and a slightly higher terrace at c. 6 m. Before dam construction, this difference of 2 m placed the 6 m flood plain terrace just above the most frequent floods.[26]Consequently, most crops were grown on the gently sloping river terraces elevated several meters above the flood plain, safely beyond the limits of the annual inundation.

The Euphrates valley is flanked by a staircase of alluvial terraces[27] on both right and left banks which have different manifestations and sequences depending upon the local histories of deposition, incision and erosion; [28] these plains provided other natural resources in abundance. The vast grassy upland plateaus, extending away from either side of the valley, provided the potential for flourishing pastoral activities and they abounded in wild game. Trading opportunities afforded by the Euphrates River itself opened up the region to long-distance contacts. Such commercial relations were responsible for the procurement of surplus goods as well as foreign influences and cultural exchanges.[29]

We can see that the natural landscape of the Euphrates River valley of northern Syria, extending for approximately 100 km from the modern Turkish-Syrian border in the north to the region below the Tell Meskene/ Emar in the south. Presents a sharp contrast to the dry, deserted land that surrounds it, through the lonely expanse of the treeless, undulating steppe land of the northern Syrian plateau, the Euphrates River cuts a deep trough, creating a fertile valley of alluvial plains and terraces on either side of its banks.[30]

The navigable waterways of the Euphrates River provided an effective means of communication, enabling economic and cultural links between the inhabitants of this otherwise isolated region and people of other populated, cosmopolitan regions of Mesopotamia, Anatolia and the Levant. [31]

Some settlements were near to the river as Jerablus Tahtani; it is possible that the sites' proximity to the river allowed them to take advantage of economic opportunities afforded by commercial traffic along the river. Alternatively, the strategic location of these sites at key crossing points over the river may have enabled them to control overland caravan traffic arriving from points to the east and west. On either side of the river, a series of terraces gently slopes down towards the flood plain. These are the dry remnants of the large and oldest channels of the river, formed during the mid-to-late Pleistocene Era.[32]

Composed of chalky white limestone bedrock superimposed by a layer of brown limestone, river gravels and silty soil, the terraces now stand several meters above the level of the alluvial plain.

26 Wilkinson et al. 2012: 146.
27 Research applying radiometric dating techniques to basalts inter-stratified with selected terrace gravels, have pushed the dates of the earlier stages of the river back to some 3 million years ago, (Wilkinson et al. 2012: 145).
28 Wilkinson et al. 2012: 145.
29 Cooper 2006: 27.
30 Cooper 2006: 28.
31 Cooper 2006: 28.
32 Cooper 2006: 29.

Since they are safely above potentially destructive flooding events, they are favourable places to practice dry farming. On the western side of the Euphrates, the upland plateau extends in the direction of western Syria, while on the river's eastern side, the uplands comprise what is known as the Jazirah, a vast undulating upland steppe that extends all the way across northern Syria into northern Iraq, where it reaches the Tigris river.[33]

C. Syrian Jazirah

Located in northeast Syria, the Jazirah is part of the Arabian plate that slopes down towards the east. We can observe that the northern Jazirah consists of flat plains, with few striking relief features, of these, the Jebel Abd el-Aziz and the Jebel Sinjar are the most marked, with heights of 920 and 1480 m respectively,[34] as indicated in (Fig. 2 -6 -7).

Using both rainfall and geological data, Reifenberg described the soils of the Jazirah for those regions receiving less than 200 mm of precipitation annually as desert soils, and as Mediterranean steppe soils and alluvial Mediterranean steppe soils those areas receiving more than 200 mm. The northern half of the Jazirah is characterised by calcareous soils, whereas to the south gypsiferous soils dominate. In the northeast corner of the Jazirah, reddish-brown loams on igneous rock occur,[35] The rainfall allows tentative dry farming immediately north of the Jebel Abd el-Aziz and the Sinjar (350-400mm). The north part of the region benefits from more regular rainfall and is in the typical dry farming zone (400-650mm).[36] But soil micromorphological studies at and around Tell Leilan indicated the occurrence of an abrupt dry phase from 2200–1900 BC, possibly caused by an otherwise unidentified volcanic eruption, this evidence was supported by indications for drought elsewhere, notably Egypt, this drought led to the abandonment of urban settlements in the area around Tell Leilan including Tell Leilan itself.[37] some towns have been abandonment as resulted of changing climate especially northern Mesopotamia during the Early and Middle Bronze Ages (c. 3000–1600 BC).[38]

That means the changing in the climate has been reflected in the towns which were founded during the EB and MB, led to change in the demography, the social organisation of human societies and socio-cultural changes all of that has been reflected in the architecture for these towns. Because when the climate became drier during the late third to early second millennium BC, that means the agriculture has been negatively affected, and there was a lack of, consequently the town had to protect their crops from the looting that force them to build a strong defensive system around the settlements. Rivers and wadis in the northern Jazirah have cut into the plains, resulting in relatively

33 Cooper 2006: 31.
34 Wossink 2009: 8.
35 Wossink 2009: 8.
36 Lebeau et al 2011: 3.
37 Wossink 2009: 2.
38 Wossink 2009: 6.

shallow valleys. Most of the rivers and wadis drain into the Euphrates. The Khabur and Balikh are the most prominent of these rivers. [39]

The Khabur is fed by the karstic springs of 'Ras al-Ain and is joined by multiple wadis including the Wadi Jaghjagh[40] and Wadi Radd, creating the Khabur Triangle, [41] The Khabur river in its central valley traces its course between the Jebel Abd el-Aziz and Sinjar mountain ranges. North of those ranges, no physical barrier interrupts long-distance sight in this fat country; some geographical elements allow the traveller to locate himself like the Mardin breach. North of Tell Mozan, and the Kawkab volcano, close to the modern town of Hasakah.[42]

The Khabur River permits cultivation along its banks and chose of its tributaries, spread out like a fan. Contributing to the prosperity of the region, once rainfall is sufficient to assure intensive agriculture. The Khabur and its tributaries constitute the principal landmark in the region. All settlements are located along watercourses.[43]

39 Wossink 2009: 8.
40 Today, the Wadi Jaghjagh is an intermittent stream, but it carried water permanently until quite recently. (Wossink 2009: 8).
41 Wossink 2009: 8.
42 Lebeau et al 2011: 3.
43 Lebeau et al 2011: 4.

HISTORICAL BACKGROUND

The conflicts and the military events during the Early and Middle Bronze Age

Early Bronze Age

Early Bronze Age society, from its inception, was to focus on the land and its bounty, on communal action, and on relatively egalitarian manifestations of material wealth and wellbeing. In this sense, early EB I could be seen as the beginning of a trajectory. where at the start of the third millennium, the northern Levant specifically western Syria was not yet coveted for its resources, nor did it have any intermediary role in the relations between east and west, or between north and south. But that had changed with the establishment of the 'Byblos run' (the sea route between Asia and Egypt).[44]

The establishment of long-distance interaction along the coast doubtless brought western Syria into the purview of the rapidly growing economies of the Upper and Middle Euphrates Although the evidence for trade connections between Anatolia or Mari and western Syria does not seem to pre-date the mid-third millennium, the recognition that this area could be a hub of sea trade between western Asia, Cyprus, and Egypt must have its roots in this period.[45]

The latter part of the Early Bronze Age (EB IV in the Northern Levant) was characterized by a 'second urban revolution' in the north. Tell Mardikh/Ebla is the epicentre of the new urban order in the northern Levant, but the spread of northern Levantine urbanization was rapid and thorough, creating a new landscape of towns and dependent villages.

There can be little doubt that a significant element in the 'explosion' of settlement in western Syria and the concomitant meteoric rise of the kingdom of Ebla is the increased interest of Mesopotamian polities in the region. The success of Ebla attracted competition and violent confrontations with Mari and with Akkadian kings.[46]

The final centuries of the third millennium set the stage for the transformations of the second millennium BC, which represented a period of significant social and cultural change in many parts of the Near East, the archaeological record of this transitional period was characterised by changes in settlement patterns, the emergence of new cultural traits, and abrupt settlement destruction and abandonment. Explanations have ranged from foreign invasions or penetration of new (ethnic) groups to system collapse.[47] The war to obtain resources and to expand one's sphere of political control,[48] especially as I mentioned the climate has been changed and became drier during the late EB, therefore, the invasion to obtain resources, considered a solution for some towns.

44 Greenberg 2014: 272-274.
45 Greenberg 2014: 274.
46 Greenberg 2014: 275.
47 Wossink 2009: 2.
48 Liverani 2014: 23.

So, the relations between commercial networks were difficult to maintain, since each network was striving to grow at the expense of the others, and more than one centre was competing for the control of the same network. From here, we understand the importance of the defence system for protecting the settlements from looting and invasion. Therefore, these settlements have been fortified.

So, during the EB the most important aspect was fundamental for the functioning of a state was the use and monopoly of defence forces to protect internal cohesion. The wealth and technical knowledge accumulated in cities had to be defended against foreign attacks, both from other city-states and other enemies (for instance, nomadic tribes). This defence system then turned into an offensive tactic. The latter was aimed at getting hold of products.[49]

A. The conflict between Ebla and Mari

Syria was neither a political entity of its own. We can see that clearly in the conflict between Ebla and Mari was rooted in their respective position in the commercial network of the area. Mari was a crucial commercial junction between Lower Mesopotamia and Syria. Ebla controlled those territories[50] that would have allowed the expansion of Mari's commercial network further west, Ebla is clearly documented as an administrative and economic centre at least for inland northern Syria. It was in control of a section of the trade route between Mesopotamia and central Syria.[51] Ebla's position prevented the rise of Mari as a political and economic power in western Syria. Mari was therefore significantly hindered by Ebla, a fact that may be reflected in its alternation of two strategies.

The first one was a military strategy against Ebla, aimed at stopping its commercial supremacy in western Syria.[52] The second one was a diplomatic one, aimed at exercising an influential position on the south-eastern trade routes, that has been confirmed by the text TM 75.G2367 which interpreted as a military bulletin from Ebla or an introducing letter from Mari. The text refers to military operations of the rulers of Mari in the Euphrates region and an expansion of the influence

49 Liverani 2014: 80.

50 The kingdom did not reach the Mediterranean coast, ruled by several independent kingdoms such as Byblos, which must have been the most influential one. Similarly, the Eblaite kingdom did not control the Euphrates Valley, where there were several autonomous states, from Carchemish to Emar, Tuttul and Mari. In the south, Ebla did not extend beyond Hama, and bordered with the kingdom of Ibal (near Qatna). Even in the north, the kingdom did not extend beyond Aleppo, where there were other independent states.
Therefore, the kingdom of Ebla was more a large state than a regional one. However, its territory was larger than the one of contemporary Mesopotamian states and with a population of a similar size. However, the lower density of population effectively compensated for the larger size of the Eblaite kingdom, Ebla was a hegemonic centre in the area, and it controlled several of the surrounding states, both politically and economically. Nevertheless, the supremacy of Ebla in the area experienced several fluctuations. At the peak of its expansion, Ebla controlled the Euphrates Valley (from Carchemish to Emar), the Balikh Valley (with the Harran and Irrite kingdoms), and the Taurus foothills (with the Urshum and Hashshum kingdoms, near Gaziantep). (Liverani 2014: 121).

51 Klengel 1992: 26.

52 Liverani 2014: 118.

of Mari upstream as far as Emar and Hazuwan/Hashum, before Ebla could regain its influence there.[53]

However, Ebla and Mari were not the only centres in the Upper Mesopotamian regional system: there were also Nagar (Tell Brak), located in the Khabur basin, Armi in the Upper Euphrates, and Kish, a hegemonic power in Middle Mesopotamia at the time.[54] Ebla's alliance with Nagar and Kish against Mari and Armi at the time of the final conflict between the two cities clearly indicates this political and commercial situation (nearby cities being enemies of each other, and forming alliances with cities located around their enemies). [55]

That initially Ebla was under the supremacy of Mari. In fact, following the victorious campaigns of Iblul-Il, the king gained control over the Euphrates Valley and Ebla itself, which had to pay substantial tributes. The situation dramatically changed under Ibrium. He led several campaigns against rebellious vassal-rulers, and more demanding campaigns against Abarsal (at the time of Arrukum), Halsum, Kakmium, and the powerful Armi (on the Upper Euphrates). [56]

Apart from continuing the first in the north, Ibrium's son and successor Ibbi-Zikir led some military expeditions to the south (against Ibal). He also fought against Mari through an alliance with Nagar and Kish (which sent their military contingencies). [57]

The war ended with a battle near Terqa, where Mari was defeated, and its supremacy removed. Alongside the military and territorial expansion of Ebla, Ibrium and Ibbi-Zikir also increased the kingdom's commercial activities, with a ten-fold increase in investments compared to previous periods,[58] This is indicated by TM.75. G2420, considered to be a treaty between Ebla and Ashur or between Ebla and Abarsal, a place or territory different from Ashur. The treaty concerns the trading activities of merchants from Ebla in the area of the Euphrates or the Habur.[59]

Having defeated Mari, Ebla never sought to destroy it and preferred to seal an alliance. This decision was possibly made for commercial reasons since Ebla was not able to control commercial relations with the east on its own. Moreover, Mari was in a crucial position to control Kish, whose rise under Sargon initiated that expansionistic policy which would characterize the dynasty of Akkad. However, due to a series of events unknown to us, Mari managed to recover from the defeat

53 Klengel 1992: 28.
54 Liverani 2014: 118.
55 Liverani 2014: 119.
56 Liverani 2014: 122.
57 Liverani 2014: 122.
58 Liverani 2014: 122.
59 Klengel 1992: 29.

and to attack Ebla,[60] conquering it and sacking its palace,[61] after the destruction of the Ebla of Palace G, the city and its entire territory experienced a period of crisis.

B. Invasion of the Akkadian empire Upper Land' the Khabur and Middle Euphrates region and Armanum and Ebla

Sargon king of Akkad ca. 2340–2284 BC / EB IVB,[62] was a war hero, he founded the Akkadian empire, that led to Considerable changes also appeared in the realm of political and military interventions (with an empire that actually managed to reach the Lower and the Upper Sea),

in the second phase of the empire's formation was more focused on the re-organisation of commercial routes reaching outside Mesopotamia, rather than on military campaigns. Beyond the Euphrates delta, in the Lower Sea. Further north along the Euphrates, Sargon had to stop at Tuttul.[63]

Only the god Dagan would grant him access to resources from Mari, Yarmuta, Ebla and the Upper Euphrates region, including the 'cedarwood' and the 'mountains of silver[64] (the names conveniently given to the Amanus and Taurus regions). Sargon was therefore quite honest, stating that he controlled the area from Tuttul to the Persian Gulf, while his commercial network stretched from the Mediterranean to Magan and Meluhha. [65]

The successor of Sargon, **Rimush** (2284-2274) his influence appears in upper Mesopotamia, at least as is indicated by the archaeological material from Tell Brak.[66] With **Naram-Sin** 2259–2223 BC / EB IVB, [67] the grandson of Sargon and Manishtusu's successor.[68] The empire not only did not collapse but experienced a new surge of expansion. He attributes to himself the title of a ruler of the land "Subartum" in northern Mesopotamia as far as the "Cedar Forest", which is defined as the Amanus. Naram-Sin boasts to have been the first to subdue Arman and Ebla; he took the ruler

60 This is the most probable hypothesis for the destruction of Ebla. Another suggestion is that Sargon destroyed Ebla, but this seems less plausible. First of all, Sargon himself, celebrating his conquests in the Middle Euphrates, declared that he stopped at Tuttul, while the god Dagan granted him access to the west (Ebla above all).
Therefore, Sargon only gained access to the commercial networks of the west. After all, the destruction of a wealthy city such as Ebla would have been celebrated in an entirely different way.
Moreover, when, a couple of decades later, Naram-Sin declared his destruction of Ebla (evidently the city that was rebuilt after the time of the Palace G archives), he would state that the achievement was unprecedented, something that he could not have said if Sargon had destroyed the city first. Finally, we know that Sargon conquered and destroyed Mari only a decade after the fall of Ebla, making its destruction militarily impossible with a still powerful Mari in the way. (Liverani 2014: 122).
61 Liverani 2014: 122.
62 Klengel 1992: 31.
63 Liverani 2014: 135.
64 Klengel 1992: 33.
65 Liverani 2014:135.
66 Klengel 1992: 34.
67 Klengel 1992: 31.
68 Rimush is son Sargon and the first successor to his father and Manishtusu is the second son Sargon and brother Rimush was the second successor and Naram Sin was the third successor (Liverani 2014: 135).

of Armanum Rish-Adad, as a prisoner.[69] He managed to control an empire that stretched from one sea to the other.

The north experienced two phases under Naram-Sin, documented in various later sources.[70] First, Naram-Sin reached the Upper Mesopotamian city of Talhat and declared that he had conquered Subartu (Upper Mesopotamia), reaching the 'cedarwood' (the Amanus). Naram-Sin also stated that he subdued the *ensi* of Subartu and the lords of the 'Upper Land'.[71] This division was not geographic (Subartu being Assyria and 'Upper Land' the Khabur and Middle Euphrates region), but rather socio-political. The *ensi* were local city rulers, while the 'lords' were the tribal chiefs of the steppes beyond the urbanised areas. This control over Upper Mesopotamia is confirmed by the spread of Naram-Sin's inscriptions. One of Naram-Sin's palaces was excavated at Tell Brak, and we know that one of his daughters married the king of Urkish (Tell Mozan).

The second phase of Naram-Sin's expansion was his victorious campaign against Armanum and Ebla. This expedition allowed him to conquer the Amanus (the 'cedarwood') and the Upper Sea.[72] The sources emphatically describe Ebla's destruction as an unprecedented feat. Knowing the wealth of Ebla, this celebratory tone is understandable. However, the Ebla destroyed by Naram-Sin was not the Ebla of Palace G, but the one built immediately after. Summarising Naram-Sin's conquest, he essentially managed to conquer the area from the Euphrates delta to Ullisum (maybe Ullaza, in northern Lebanon) and the Upper Sea.[73]

C. Dynasty of Ur and Hurrian kings

After the fall of the Akkadian empire, the Hurrian kings declared that they controlled the area from Urkish to Nawar. The first city was Tell Mozan itself, while the second one could have been either Nagar (Tell Brak), or a region in the Samarrian hinterland. Therefore, surrounded the Gutian territories in the north,[74]during reign Shulgi[75] son of Ur-Nammu's, the Third Dynasty of Ur clearly tried to conquer Hurrian region, there were fertile lands and important cities (from the Assyrian Urbilum and Nineveh to Urkish).[76]

The number of expeditions sent to the area indicates that the security of the 'Hurrian frontier' and the conquest of Upper Mesopotamia were difficult to achieve. However, in order to justify his title

69 Klengel 1992: 34.
70 the Akkadian kings attempted to make their political and military plans coincide with their commercialinterests. They therefore found a way to directly reach the areas providing raw materials, without relying too much on intermediaries. (Liverani 2014: 142).
71 Liverani 2014: 135.
72 Klengel 1992: 34.
73 Liverani 2014: 137.
74 Liverani 2014: 153-54.
75 Following the re-organisation of the army in the twentieth year of Shulgi's reign, and the creation of a new register in his twenty-first year, the second half of Shulgi's reign focused on a series of campaigns in the north where (Liverani 2014: 159).
76 Liverani 2014: 159.

of ‘king of the four quarters’, Shulgi continued to pursue his expansionist policy outside Sumer and Akkad.

On the one hand, this policy ensured more protection to the centre. On the other, it guaranteed the empire’s control over the trade routes managed by the three commercial hubs of Susa (for the east), Assyria (for the north and Anatolia) and Mari (for Syria).[77]

In this way, the kings tried to keep the circulation along the Tigris and access to Upper Mesopotamia under control. This strategy was meant to oppose the rise of the Hurrians (Urkish-Nawar) and the incursions of the people inhabiting the Zagros area. At first sight, this effort seems to have been excessive for the results obtained and its apparent aims. It is necessary to note, however, that without these military interventions in the north, the kings of Ur would have become a strictly local power. [78] In their attempt to become an imperial power, they saw Upper Mesopotamia as their main target. Moreover, it is possible that the kings of Ur were trying to reach beyond this difficult area, namely, the mineral deposits of Anatolia. [79]

D. The effect of nomadic groups (Amorite) on the Syrian towns

At the end of the third millennium, the western Semitic nomads, called *Martu* in Sumerian and *Amurru* in Akkadian (from which the name ‘Amorites’ comes from) [80] a west Semitic group who are first identified in Mesopotamian source at the end of the third millennium BC,[81] played an important role in effect in the economic, political and military life in the Levant.

Most explanations of the diffusion of Amorite culture have adhered to one of two models: military invasion or economic colonization.

The so-called Amorite Hypothesis associated with the work of Kathleen Kenyon suggested that two waves of nomadic warriors, at the beginning and end of the EB IV, swept in from the steppes of Syria across the northern Levant and destroyed major settlements such as Ugarit, Byblos, and Ebla as they moved southwards,[82] where the infiltration of Amorite groups into the area of the "Fertile Crescent" adjacent to the Syrian desert is witnessed by the increasing number of West Semitic personal names in the texts of the IIIrd Dynasty of Ur.[83]

However, the interaction between cities and nomadic groups was one that had existed for centuries, and this interaction was gradually adapted to the several administrative and economic

77 Liverani 2014: 159.
78 Liverani 2014: 170.
79 Liverani 2014: 170.
80 Liverani 2014: 175.
81 Burke 2014: 404.
82 Burke 2014: 405.
83 Klengel 1992: 37.

developments affecting the two.[84] These pastoral groups had their own culture and political organisation; nonetheless, city-dwellers continued to see nomadic groups as barbarians devoid of the characteristic aspects of civilisation (such as houses and cities, agriculture and sedentariness, tombs and cults).[85] Nomads were more dedicated to plundering than to a productive economy and were motivated by the desire to steal the wealth accumulated by the farming communities, thus forced to defend themselves.

Administrative texts in Ebla archives describe the Martu as working for the cities as shepherds, mercenaries and even sellers of their own products, especially metal objects (such as the typical 'Amorite dagger') and leather. The sources recount the history of the relations between pastoral groups and sedentary communities as a one-sided series of expeditions aimed at pushing these nomadic groups as far away as possible but in vain. [86]

Proponents of the Amorite Hypothesis mistakenly attributed the destruction of settlements connected with these campaigns to Amorite conquests. However, not only do the Amorites seem to have endured these military raids, but the raids may have ultimately contributed to the formation and consolidation of Amorite social and political identity from the EB IV to the MB I. Recent work in the late third-millennium levels of Umm el-Marra in the Jabbul may shed light on the details and chronology associated with the crystallization of Amorite ethnicity.[87]

The identity of Amorite rule at the start of the Middle Bronze Age may be owed to military campaigns by Mesopotamian kings into the northern Levant which began as early as Lugalzagesi (c.2250 BC) but continued through the Akkadian and Ur III periods,[88] More recent models, however, draw upon economic data associated with the arrival of Amorite culture in different parts of the Levant during the Middle Bronze Age.[89]

The sedentary states' attempt at containing these nomadic groups was a recurrent phenomenon in the history of the Near East. On the one hand, in order to reassure the population of their security against incursions, the problem was dealt with by a propagandistic celebration of sedentary states. On the other hand, the administrative texts reveal a completely different picture, whereby nomadic groups contributed to the economy and armies of sedentary states. However, at the end of the third millennium BC, the situation became increasingly more dangerous, with nomadic groups placing increasingly more pressure on sedentary states. The situation eventually developed into a series of expansionistic outbursts into urbanised areas, both in Egypt, at the beginning of the Second Intermediate Period, and in Mesopotamia, at the time of the fall of Ur.[90]

84 Liverani 2014: 175.
85 Liverani 2014: 176.
86 Liverani 2014: 179.
87 Burke 2014: 405.
88 Burke 2014: 405.
89 Burke 2014: 405.
90 Liverani 2014: 179.

Many reasons pushed these nomadic groups to become fully sedentary. As increasing desiccation of the pastures and cultivable soils on the fringe of the Syrian desert, brought about by variations in rainfall quantities and micro-climate, could have had serious consequences as to the borderline of settled areas and the subsistence pattern of the semi-nomads.[91] Perhaps there was also considerable growth in population among the Amorites, causing "demographic pressure" with no possibility of proportional economic development.[92]

Of importance in this respect was the political situation in the cultivated regions. If the centralising power was weak or- as it was the case in Syria - was missing, this might have encouraged semi-nomads to become fully sedentary.[93]

The collapse of many towns of the second urbanisation[94] during the end of the Early Bronze Age, have contributed in some Syrian areas to spread of nomadic more easily, causing a strong Amorite influence on Syrian culture.[95] At the beginning of the second millennium BC, the Amorite expansionistic wave developed in successive phases, first invading Palestine, then Syria and Upper Mesopotamia and finally reaching Lower Mesopotamia.[96] The textual sources of the early 2nd millennium show that Amorites seized political power in many Syrian centres.[97]

Middle Bronze Age

The northern Levant was predominantly influenced by historical events in Anatolia and Mesopotamia, which included cultural and military incursions during the first half of the second millennium. The archaeological record of the northern Levant reveals that the transition between the EB IV and MB I was not dramatic. In nearly all respects the material culture of the northern Levant during the MB I appears to have evolved directly out of the preceding EB IV culture, which is most evident at Ebla (Tell Mardikh). [98]

In fact, the Middle Bronze Age is the first archaeological period which the ethnicity of the Levant's inhabitants is revealed through personal names. The majority of individuals can be identified as ethnically Amorite, so, that Middle Bronze Age material culture should be predominantly identified as Amorite. The emergence of the Amorites during the early and millennium was the result of a gradual process that had already begun in the northern Levant during the late third millennium.

91 Klengel 1992: 38.
92 Klengel 1992: 38.
93 Klengel 1992: 38.
94 The second urbanisation peaked in Syria around the mid-third millennium BC.(Early Bronze period) This period saw the rise of cities and villages across the entire semi-arid plain, as well as in the few irrigated areas and on the coast. This urban growth was already known through some excavations (from Amuq in the north, to Hama in the south, and the coastal centres of Ugarit and Byblos) (Liverani 2014: 119).
95 Liverani 2014: 180.
96 Liverani 2014: 180.
97 Klengel 1992: 38.
98 Burke 2014: 403-404.

more likely that the spread of Amorite culture throughout the Levant from c.1900 to 1700 BC resulted from different social and economic circumstances, which were nevertheless associated with the establishment of Amorite cultural and political centres. Despite their differences, each of these models recognizes that the origins of MB I material culture associated with the Amorites are traced back to the northern Levant. [99]

Therefore, the spread of Amorite culture represents, a protracted process that resulted in the foundation of Amorite dynasties in the Levant, Mesopotamia, and Egypt from the end of the Ur III period in Mesopotamia (c.1900 BC) until the Amorite takeover of Avaris (c.1640 BC), the capital of the 'Hyksos' during the 15th Dynasty.[100]

Together, textual sources indicate that by the end of the MB I, Amorite kingdoms (the largest located in the north) dominated the entirety of the Levant from Aleppo to Ashkelon. Archaeological evidence also supports the identification of these kingdoms. The leading indicator of political organization is the defences employed by these kingdoms

Historical sources from Mesopotamia from the late third millennium through the first half of the second millennium indicate that long-distance military campaigns into the northern Levant occurred with regularity. In response to these campaigns Amorite rulers adopted a type of defence common to settlements in the Middle Euphrates during the third millennium. Massive earthen ramparts were crowned by thick mud-brick walls, which were supplemented by deep fosses. [101]

This explanation of the military concerns of Amorite kingdoms during the Middle Bronze Age supersedes earlier suggestions which asserted that conflicts between city-states were the primary motivation for the construction of fortifications or, more recently, that this process was predominantly one of conspicuous consumption and peer polity emulation. Although there is only limited evidence for the destruction of Levantine settlements as a result of conflict before the expansion of the Egyptian and Hittite Empires in the 16th century BC, the sustained threat posed by Mesopotamian powers such as Assyria and Mari up to the end of the MB II against northern Levantine states like Yamhad and Qatna required the construction and maintenance of these defences. [102]

A. The Amorite kingdoms

Syria experienced a phase of political fragmentation between the twentieth and nineteenth-century BC and of increased unity in the eighteenth-century BC. by the start of the MB II Amorite dynasties were established throughout the Levant and Mesopotamia. While it is impossible to determine to

99 Burke 2014: 405.
100 Burke 2014: 405.
101 Burke 2014: 406.
102 Burke 2014: 406.

what extent dynasties in these two regions may have been consanguine, a shared Amorite identity resulted in the emergence of the first koiné culture of the Near East. Rulers throughout these regions appear to have spoken Amorite, although they corresponded with each other in Old Babylonian.[103]

At that time, a large part of Syria was under the control of Yamhad and its capital Aleppo, the first hint of an entity called Yamhad is given in a report by king Yahdun-Lim ruler of Mari.[104]Yamhad under the leadership Yarim-Lim[105] become one of the main power in the conflicts and the diplomatic and commercial relations of the period, which Yarim-Lim's army is attested in Mesopotamia during the war that brought an end to Shamshi-Adad's reign. Resulted of that, the Euphrates region remained under the control of Aleppo, which had Emar as its main harbour and even parts of Mesopotamia as far as the Balikh.[106]

With Zimri-Lim's generation, Mari experienced a more stable period. The matrimonial ties between Zimri-Lim and the royal family of Aleppo (A daughter of Yarim-Lim, Shibtu, was married to Zimri-Lim),[107] the increased political stability, the succession of the more modest Hammurabi on the throne of the energetic Yarim-Lim, brought a period of increased peace and stable commercial relations. However, the Emar-Balikh line remained the fixed boundary between Yamhad and Mari.[108]

The supremacy of Yamhad did not affect the independence of Qatna, which was one of the major states during the period between c.1800 and 1600 BC. At the time, relations between Yamhad and Qatna were difficult. This fact led the ruler of Qatna, Ishi-Adad, to seal an alliance with Shamshi-Adad,[109] soon after Shamshi-Adad's death,[110] Ishi-Adad also passed away and was succeeded by Amut-pi-El[111]. The latter preferred to seal an alliance with Yamhad, through the mediation of Zimri-Lim,[112] The texts to be attributed to the reign of Amut-pi-El (Amutpi'el) give no witness for a further struggle between Qatna and its northern neighbour, Yamhad.[113]

In the far north of Syria, the kingdom of Carchemish (most important neighbour of Yamhad in the north)[114] and other centres between the Euphrates and the Taurus (Urshum[115], Hashshum and

103 Burke 2014: 408.
104 Klengel 1992: 49.
105 Son of Sumu'epuh, he began his rule around 1781-1780 B.c from 12th or 13th year of Harnmurapi of Babylon, His death occurred B.c 1765 B.C, in the 28th year of reign of king Harnmurapi of Babylon (in the 9th year of reign Zimri-Lim), In the year of his accession, IshhiAdad of Qatna was still alive and ruling; during the reign of Yarim-Lim Amutpi'el followed his father as ruler of Qatna (Klengel 1992: 54).
106 Liverani 2014: 234.
107 Klengel 1992: 56.
108 Liverani 2014: 234.
109 Klengel 1992: 55.
110 May suppose that his death happened during the fighting with Yamhad in the 17th year of reign of Hammurabi of Babylon (c. 1776 BC). (Klengel 1992: 55).
111 The famous letter of lturasdu mentions Amutpi'el among the most powerful rulers of his time; 10 to 15 "kings" are said to follow him, the same number as given to the rulers of Larsa, Babylon, and Eshnunna. (Klengel 1992: 68).
112 Liverani 2014: 234.
113 Klengel 1992: 59.
114 The first king of Carcamish mentioned in the 2nd millennium so far is an Amorite, Aplahanda (Klengel 1992: 70).
115 The northeast Syrian centre and important station on the route between Ashur and Kanish (Klengel 1992: 74).

Hahhum) were not formally included in the kingdom of Yamhad,[116] but the dominant role which was exercised by Yarim-Lim in northern Syria was supported by the good relations with them.[117]

In Alalahk the local Syrian kings are attested recognising the authority of Yamhad. The first king of the dynastic sequence attested in the Alalahk archives was the son of a king of Yamhad. [118] The archives attest to two generations of kings at Alalahk: Yarim-Lim,[119] son of the king of Yamhad Abba-El, and Ammi taqum. They ruled during the reigns of Aleppo's kings Abba-El (son of the Hammurabi of the time of Zimri-Lim), Yarim-LimII, Niqmepuh and then Irkabtum, Hammurabi II and Yarim-Lim III. [120] The latter's reigns were shorter and brought us to the first half of the seventeenth century BC when Alalahk VII was destroyed.[121] At the time, the political role of Ebla must have been similar to the one of Alalahk, with a relatively wealthy local dynasty, who recognised the supremacy of Yamhad, just like Alalahk, this phase of Ebla abruptly ended in the mid-seventeenth century BC.[122]

By the mid-seventeenth century BC, Hittite kings Hattusili I and Mursili I, were in conflict with Yamhad and the other north Syrian states, Hattusili I attacked the cities in the north, mainly Alalahk VII, Hashshum and Hahhum, the Syrian states tried to join forces against the Hittites, further supported by Carchemish and Yamhad. [123] In a second phase Mursili I, attacked again, reaching further south, and put to an end the kingdom of Aleppo, destroying several cities, such as Ebla, and taking control over northern Syria. [124]

The reasons for the Hittite invasion

The situation in Anatolia, i.e. the emergence of a state (Hatti) and a monarchical rule, needed to be stabilised by military success abroad. Prestige and booty could help to strengthen the position of the dynasty with regard to the' people in Anatolia and the foreign powers.

There were also the natural and productive resources of the highly developed north Syrian plains and the wealth of the political and economic centres in this region. Precious metals, products of specialised handicraft, objects of prestige and luxury goods were attractive for the northern neighbours of Syria. Important trade routes crossed Syria, linking Mesopotamia and Iran with the

116 Liverani 2014: 234.
117 Klengel 1992: 58.
118 Liverani 2014: 234.
119 Was not considered as an independent ruler of an own kingdom; he was the owner of a "masterhousehold" (*oikos*} within the territory of the kingdom of Yamhad, when mentioned in the same context with the king of Yamhad, Yarim-Lim was called only "man" of Alalakh; the tide of a king was given to the rulers of the Alalakh oikos later on, when the kings of Yamhad began to designate themselves as "great kings" (Klengel 1992: 60).
120 Liverani 2014: 234.
121 Liverani 2014: 234.
122 Liverani 2014: 234.
123 Liverani 2014: 234.
124 Liverani 2014: 234.

Levant and, mediated by Syrian sea-ports such as Ugarit[125] and Byblos,[126] Egypt or the Aegean; they gave special power to those who were in control of them.[127]

B. Egyptian influence in the Lower Northern Levant

In the southernmost part of the Levant, the revival of cities and state organisation after the Early and Middle Bronze Age took place on a local level, but with a strong Egyptian influence. Having experienced a series of incursions of Semitic nomadic groups from the Sinai and the southern Levant around 2000 BC, Egypt had become a unitary state.[128]

The Egyptian presence between the nineteenth and eighteenth-century BC, in southern and coastal Syria and the Levant, was relatively strong. Used to be interpreted as a form of imperial exploitation. This was allegedly supported by a strong political and military pressure in the area. It is clear now, however, that this presence was purely for commercial reasons, mainly due to the prestige, as well as the economic and military power of Egypt, it did not require military or political interventions. The city that was most influenced by the continuity and intensity of interactions with Egypt was Byblos, under the thirteenth dynasty, Egyptian commercial relations continued to include Byblos and Ebla. [129]

By the second half of the eighteenth-century BC 1900–1750 BC, as revealed by Sesostris III's campaign against Skmm (i.e. Shechem) mentioned in the Khu-Sebek stele (c.1850 BC), that Egypt posed an occasional threat[130] and relations between Egypt and the Levant changed. Egypt was a powerful and unified state, while in comparison, the Levant was going through a phase of reorganisation of both its political structure and the relationship between nomadic groups and cities.[131] Functional reasons dictated, therefore, the investment of large quantities of human resources in the construction of defences throughout the Levant during the Middle Bronze Age.[132]

The following phase ca. 1750–1600 BC, saw the decline and political fragmentation of Egypt. This was in marked contrast with the Levant, which was now a newly re-organised and prosperous region.[133]

125 The role played by Ugarit as a centre of inter-regional trade and its special place as a mediator of tin to the Aegean and of copper from Cyprus to Syria and Mesopotamia contributed to the emergence of economic contacts between the Levant and the Aegean and/ or Cyprus and was at the same time connected with the change of the main orientation of Mesopotamian trade to the Mediterranean Sea. (Klengel 1992: 78).
126 The archaeological material from Byblos/ Gubla, especially the fact that the rulers used Egyptian titles and designated themselves as "servants" of the king of Egypt, point to a strong influence of Egypt both economically and politically. Byblos/ Gubla was the most prominent harbour place for the trade between Asia and the Nile valley during this period. (Klengel 1992: 79).
127 Klengel 1992: 80.
128 Liverani 2014: 235.
129 Liverani 2014: 235.
130 Burke 2014: 406.
131 Liverani 2014: 236.
132 Burke 2014: 406.
133 Liverani 2014: 236.

C. The conflict about the Khabur Triangle

The period attested in the Mari archives features the alternating supremacy of Mari and Shubat-Enlil (Tell Leilan).[134] The former controlled the Middle Euphrates and the Lower Khabur region. The latter controlled Assyria and the Upper Khabur region and was chosen by Shamshi-Adad as his own residence. In the Mari sphere of influence, there were the provincial palaces of Terqa (Tell Ashara), Saggaratum, Qattunan and Tuttul (Tell Bi'a), while in the one of Shubat-Enlil there were Shaghar Bazar and Karana (Tell Rimah).[135]

The wider political system of the region was divided into two levels, the kings of Yamhad and Qatna in Syria, Mari and Assyria in Upper Mesopotamia, Babylon and Larsa in Lower Mesopotamia and Elam, with its imperial ambitions, had a series of vassal kings depending on them.[136] The conflict caused by the expansionistic ambitions of several kings ruling at the time: from Yahdun-Lim of Mari to Naram-Sin of Eshnunna, Shamshi-Adad of Assyria and Hammurabi of Babylon, worsening a situation that was already unstable in upper Mesopotamia.[137] The Mari texts reveal that Amorite dynasties in the northern Levant and Mesopotamia vied intensely for military supremacy. During the MB II, fortifications were improved as rectilinear layouts, six-pier gates, and bastions were adopted at newly fortified centres. [138]

In order to pursue these wars, kings relied on copious numbers of tribal troops, Therefore, far from fearing the arrival of nomadic groups,[139] palaces eagerly encouraged their arrival in order to form an army large enough to cope with their various offensive or defensive undertakings. Wars were fought in summer, which was the only season when roads were accessible, and food resources were available from the late spring harvests,[140] using the nomadic groups, the states managed to create large armies of thousands of soldiers, who could travel over long distances, bringing destruction to the places where they needed to find provisions. The vast majority of wars were pursued through sieges. Therefore, village dwellers hid within the large walled cities, which were better prepared to resist the attacks.[141]

134 Liverani 2014: 224.
135 Liverani 2014: 224.
136 Liverani 2014: 229.
137 Liverani 2014: 224.
138 Burke 2014: 408.
139 The political organisation of these groups was centred on a kin-based structure, with several types of sub-groups, from smaller kin-based groups (the pastoral camp or migratory group) to the tribe and the tribal confederation, Tribes and smaller kin-based groups were normally centred in villages acting as permanent bases. These leaders were military leaders as well as political representatives of the tribes before the palace, which considered these leaders as some sort of local functionaries. The palace provided them with a sort of investiture or formal recognition, requiring the exchange of gifts and payments. (Liverani 2014: 224).
140 Liverani 2014: 224.
141 Liverani 2014: 230.

Moreover, the building programs and wars are undertaken by the palaces[142] were occasional, yet equally aggravating, initiatives. The economy of the Middle Euphrates could not bear this growing pressure. However, this situation did not affect pastoral groups, which managed to return to their former rhythms. It affected the palaces, which collapsed one after the other, for a variety of reasons.

When Shamshi-Adad managed to expand and consolidate his kingdom, forming what came to be defined as the 'kingdom of Upper Mesopotamia', he then moved his residence to Shubat-Enlil (Tell Leilan), to the east of the Khabur Triangle, this was a strategic location to control the routes between Assyria and Upper Mesopotamia.[143] Shubat-Enlil was significantly reduced after Shamshi-Adad's reign.

Hammurabi destroyed Mari, even Terqa suddenly collapsed and so did Tuttul. Around 1800–1750 BC, the Middle Euphrates Valley and the Lower Khabur had been a large network of thriving palaces. However, only a century later, the area became a de-urbanised region. It began to be ruled by pastoral groups that were hindering commercial activities, but could not be conquered by the sedentary states, now located increasingly further away from this region.[144]

142 The economy of the palaces was partly based on the agricultural activities in the fertile valleys. These were limited, but still able to support the small palaces. Moreover, palaces could rely on taxes on sheep farmed by the tribes and on the north-to-south and east-to-west commercial networks that had to cross this strategic region. The lands directly managed by the palace were not vast compared to their Mesopotamian counterparts. A large share of the surplus was therefore gathered through taxes levied on villages and pastoral groups. Due to its proximity to raw materials, such as wood and metal from Syria and Anatolia, the quality of craftsmanship continued to be as high as the one from Mesopotamia.
the life in the palaces of the region seems to have been marked by a scarcity of human, technological and economic resources. The situation became significantly worse at the time of Shamshi-Adad. In fact, the construction of his palace at Shubat-Enlil required large amounts of resources. Consequently, the older palaces of Mari and Ashur had to provide parts of their workforce and expertise (Liverani 2014: 224).
143 Liverani 2014: 227.
144 Liverani 2014: 225.

CHAPTER ONE

ANALYSIS AND STUDY THE STRUCTURE OF THE DEFENSIVE ELEMENTS DURING THE EB AND MB

Preface

After we have understood the historical context of the cities in the Syrian Jazirah, the Euphrates region, the Upper and Lower Northern Levant and during the Early and Middle Bronze Age, we have found that it was normal for these cities protected themselves against political and military upheavals by building a defensive system. Which was different from city to another, and these differences relate to many factors such as the economic power and the geographic location of the city.

These factors interacted with each other, thus stimulating further economic growth, which led to the development of fortified city-states with complex defensive systems and administrative centres during the third millennium BC in the Levant and Syrian Jazirah.[145]

Moreover, these factors played an important role to determine the size, shape and kind of fortification structure, which was varying from city to another such as dimensions, general shape, and building materials.

Consequently, fortifications have been varied between the Euphrates region, Syrian Jazirah, the Upper and Lower Northern Levant during the EB and MB, we can say the defensive system considered a witness of a certain period and a particular society, it is a monument that has been conceived and built during a specific moment of culture and human thought.[146]

We should mention that some cities during the EB and MB have consisted of the upper city (located on top of the mound, containing the palace of the ruler, temples and administration centre of the city) and the lower city (which contains house, food-storages and craft workshops). They were protected by a fortification structure, which was an essential part of the city structure, consists of different defensive elements such as the fortification wall which was built of mudbrick above a stone foundation, sometimes they were reinforced by towers and buttresses; furthermore, some cities were fortified by a moat, a glacis, and a massive earthen rampart.

The defensive systems in some cities were homogeneous; which consist of a fortification structure was surrounded the entire city without any changing in its dimensions and structure. While the other defensive systems were heterogeneous, which show differences in alignment, construction techniques from part of the city to another and sometimes they consist of many defensive elements

145 Akkermans, Schwartz 2003: 8.
146 Leriche 2016: 10.

which their dimensions and structure have been changed from sector to another. Furthermore, we should mention that some cities used their natural location, which was near to rivers, lakes or cliffs as a defensive element.

This chapter aims to shed light and clarify the changes that occurred in the defensive elements in terms their structure, building materials, and functional use, in the regions of the study between the EB and MB. This study includes fourteen defensive elements, starting from the ramparts and their reinforcements as the glacis, revetment walls, retaining walls and Core walls. Then we have casemate walls, the fortification walls and their reinforcement elements as towers, bastions and buttresses, besides the gates, forts and fortress and ditches.

Those elements were studied in their chronological and geographical frameworks besides their functional use.

A. RAMPART

Definition and Function

Earthworks, in the forms of ramparts, played an important role in the defensive system in the cities in the Levant during the Early and Middle Bronze Age. It is considered the most recognisable and observable defensive element, which is supposed to convey to the enemy an impression of power and fear and to those who live behind the wall, a sense of reliance upon the commander and a feeling of security to the population.[147] And the strategic value of the rampart that it offered obstacles to advances against the settlement's fortifications.[148]

Where the cities during Early Bronze Age were the rising ever higher on their autogenous mounds, that had created vulnerable slopes, which is composed largely of unconsolidated rubble, brick debris, and as often as not, loose occupation rubbish, thrown over the walls by thoughtless citizens, their natural surfaces, perhaps baked hard in the summer heat, would have been scoured and scarred by the winter storms, when veritable gullies would have been cut into them by run-off waters, Added to this would have been the detrimental effects of small boys and grazing animals scrambling over the slopes. that made them as a source of weakness for those cities, the architects of the Early Bronze Age in the Levant had met this problem in a variety of ways, each of which was designed to consolidate and regularize the embankment. Their Middle Bronze Age successors, faced with the same problems, adopted much the same remedies. By this time the ancient mounds were higher, and the slopes correspondingly steeper.[149]

The earliest known attempt to revet the slopes of a mound in this way seems to be that at Mersin, at about the beginning of the 4th millennium. Five hundred or a thousand years or so later the architects of Troy were complete masters of the technique and the clay-faced ramps which they constructed closely resembled the Syro-Palestinian ones of the Middle Bronze Age. But already in the 3rd millennium, the idea of the artificial rampart was known in Palestine, and no doubt in Syria and the rest of the Near East, and there is no reason to suppose that the Middle Bronze Age rampart there resulted from a re-introduction of the idea from Anatolia in the early part of the 2nd millennium.[150] We can define the rampart as an earthen mound piled up surrounded the entire city as a fortification structure to limit the accessibility of the approach against the walls with either the battering ram or the siege tower, is built in order to actually impede the advance of an enemy approaching the fortification wall by adding elevation to the wall.[151]

147 Leriche 2016: 10.
148 Burke 2008: 41.
149 Parr 1968: 43.
150 Parr 1968: 44.
151 Burke 2004: 96.

We can say the rampart has always been reinforced by the glacis,[152] and because of the natural factors, most of them have been disappeared, beside the glacis, the ramparts were reinforced sometimes by the core, revetment and retaining walls, their function to keep the soil filling of the rampart in its place and protect the rampart against the erosion. The ramparts were varying from one city to another; whether the dimensions or the building materials, and it is used to protect the upper city/ mound and the lower city/ mound, it is surrounded the entire city or a part of it.

Two **main types of ramparts** can be identified based upon their morphology; the freestanding rampart and the supplemental rampart.

Freestanding rampart

It may be defined as an artificially engineered embankment which raised the level of the base of the fortification wall above the surrounding plain and featured both interior and exterior slopes;[153] by another word "double-sloped rampart" (see Fig. 8); as the rampart which is surrounded **Tell Mardikh/ Ebla** during the MB. It is easy to recognise because both their interior and exterior slopes can be identified: this type of rampart could not be employed in the fortification of sites built upon Tells or natural hills and for the fortification of the acropolis. Because building freestanding ramparts at these sites would have required an incredible amount of additional work to expand the base of the mound in order to facilitate the construction of freestanding ramparts.[154]

Supplemental ramparts

This kind of rampart has just one outer slope build against the fortification wall, it has an asymmetrical design (see Fig. 9), on the contrary of the freestanding rampart which has a symmetrical design, this rampart attempts to obtain the advantages of freestanding ramparts with only modest modifications of the defences of sites perched upon mounds or Tells. Though they were constructed using the same techniques and materials as freestanding ramparts, they were usually much more modest in size and were rarely more than a few meters high. Nevertheless, their slopes were equally steep, and the fact that they were constructed atop existing tells meant that the elevation of the base of the wall above the surrounding landscape was often equal to if not greater than that of the wall atop a freestanding rampart.[155] This rampart has been used in the sites built upon Tells or natural hills and for the fortification of the acropolis, as in the inner rampart in the fifth phase in **Tell Afis** during the MB.[156]

152 The terms rampart and glacis—which were originally borrowed from French terms for Medieval fortifications by scholars over the years—has obscured the importance of distinguishing between these two functionally unique techniques for defending settlements against both aggressors and the natural. (Burke 2004: 95).
153 The plan of the typical freestanding rampart depended mostly upon the original topography of the site. Where the plain was open and relatively flat and early occupation was limited in extent or had not yet begun (an ideal situation for their construction), the rampart could be laid out according to a systematic plan. Their layouts were usually either elliptical (Tell MardiKh/Ebla) or rectilinear (Tell Mishrifeh /Qatna), (Burke 2004: 97-98).
154 Burke 2004: 101./ Burke 2008: 48.
155 Burke 2004: 102./ Burke 2008: 49.
156 Affanni, Michele 2009: 41.

The structure of the ramparts

Early Bronze Age

We should mention that the ramparts have been used in different ways to fortify the cities, and we can divide the methods of using the rampart into four ways:

1. Surrounding the entire upper or lower cities.
2. Reinforcing and supporting the fortification walls and surrounded entire cities.
3. Reinforcing and supporting the fortification walls which protect a sector of the cities.
4. It was a part of the defensive system and protected a sector of the cities.

1. Some cities were surrounded by a rampart, whether in the upper or lower city:

That could be observed in the **Euphrates region**, where the upper city of **Jerablus Tahtani,** which has an elliptical shape, was fortified by a supplemental rampart, which has been detected in areas III and IV (Fig. 10). It was at least 12 m wide, is comprised of deep homogeneous brick deposits and charcoal flecked lenses;[157] this rampart has changed the appearance of the city to a gleaming edifice artificially raised to an impressive height beside the river.[158]

While in the **Upper Northern Levant,** we can see that the lower circular city of **Umm el-Marra** (Fig. 12) during the EB IVA, was fortified by a freestanding rampart. It is made of the brown soil with pebbles, and regularly spaced lenses of ash sloping down from the east to the west at a 45° angle, and the upper surface is smooth. The evidence of this rampart may suggest that the site became a large and circumvallated centre early in its history, considering that Umm el-Marra was founded in the Mid-EB period.[159]Moreover, the lower circular city of **Tell al-Rawda** (Fig. 14) during the EB IVA,[160] was fortified and surrounded by a double fortification structure consists of a freestanding rampart and a front-wall.[161] The rampart is 1200 m, in circumference. It has been excavated in sector 2a to the west of the Tell and sector 2b to the north side of the Tell.[162] The width of it was 2.4 m to 2.7 m,[163] while it was just 2 m wide in sector 2C2.[164] There it was erected on the virgin soil and consists of a base of rubble stones a little less than a meter high surmounted by masonry in raw bricks preserved in elevation over 1.30 m. [165]

157 Peltenburg et al. 1996: 7.
158 Peltenburg et al. 1996: 7.
159 Schwartz et al. 2000: 426.
160 Castel 2008: 6.
161 Castel 2008: 6.
162 Castel 2008a: 302.
163 Castel 2008 a: 303.
164 Castel 2008: 28.
165 Castel 2008: 28.

Moreover, we can notice in the **Lower Northern Levant** that **Tell Sh'airat,** which has a circular shape was protected by the successive circular ramparts (Fig. 11). Where the upper city was fortified by a 3 m wide rampart during the EB IV.[166] While the lower city was fortified by a 4 m wide freestanding rampart, its circumference 1784 m.[167] It has been built of large blocks, sometimes exceeding 1 m long and 5 m wide.[168] It has been reinforced by 47 buttresses (redans)[169]during the EB IV. During the EB IVB the city was protected by the third rampart (4 m wide, preserved to 482 m long), and the fourth one (5 m wide, it has never been completed).[170] That means the city has been expanded at least two times during the EB IV - EB IVB, therefore, was protected by two more ramparts. While **Tell al-Sür,** which has an elliptical shape during the EB IVA (Fig. 13), was fortified by a 4 m wide stone freestanding rampart which was built directly on the virgin soil with large blocks of stone, some of them exceeding 1 m long and 40 cm wide, probably surmounted by raw bricks that have disappeared.[171]

2. Some fortification walls were reinforced by a supplementary rampart, some of them entirely surrounded the lower city:

We could observe in **Jazirah** that the outer fortification wall of **Tell Leilan,** which has an elliptical shape (Fig. 16) has been reinforced by 10 m wide rampart during the EB III and EB IVB,[172] (Fig. 63), it is made of the red virgin soil.[173]

Moreover, we can see in the **Euphrates region**, that the lower city of **Tell es-Sweyhat,** which has an almost rectangular shape (Fig. 15), was fortified by a fortification wall, that has been reinforced by an 18.50 m wide earthen rampart during the late third millennium.[174] It has been detected in Op 25; it is sloping away at an angle of about 38°, it has been built of the soil. Therefore, it would have required moving more than 170,000 m^3 of earth.[175]

3. Some fortification walls were reinforced by a supplementary rampart which protects a sector of the lower city:

One can notice in **Jazirah**, that **Tell Rad Shaqrah,** which has an elliptical shape (Fig. 17). It was characterised by a heterogeneous fortification structure, where its outer fortification wall has been

166 Mouamar 2016: 74.
167 Mouamar 2016: 75.
168 Mouamar 2016: 75.
169 Mouamar 2016: 75.
170 Mouamar 2016: 76.
171 Mouamar 2013: 99.
172 Ristvet 2007: 186. / Weiss et al 1991 534.
173 Ristvet 2007: 190.
174 Zettler 1997: 48-49.
175 Zettler 1997: 170.

reinforced by a steep rampart[176] made of clay, ashes,[177] broken mudbricks and basalt boulders.[178] It was at least 4.40 m wide in trench A and B3. It has protected the mudbrick wall to a height of 5 m.[179] This fortification structure measured over 10 m wide with the rampart[180] (Fig. 62). Moreover, we can see in the lower city of **Tell Chuera** (Fig. 19) in area W-4 (Fig. 58-59) during the EB IVA, that a massive rampart was banked up against the old phase (3) of the city wall.[181] The substructure and lower part of the rampart were constructed of more or less horizontal layers of gravel, mudbricks and loam, but it also contains ashy deposits, indicating that garbage was used for construction.[182] Moreover, a ramp between the outer wall and the revetment wall in area P has been built of complete and fragmented mudbricks, its width around 6 m, as illustrated in (Fig. 61).

While in the **Euphrates region**, it is possible to observe that the lower city of **Tell Halawa A** (Fig. 18), has been reinforced by a natural slope was expanded as a rampart.[183]As in Sq U and T[184] (Fig. 67). One can see in area C in the lower city of **Tell Bi'a /Tuttul** which has an elliptical shape (Fig. 20), the fortification wall was reinforced by a ramp was far away of 1.50-2.0 m from the wall. After an interspace filled with gravel, mudbrick fractures [185] could be worked as a rampart. And in the lower city of **Tell Selenkahiye,** which has an elliptical shape (Fig. 21), we can recognise a ramp has been erected against the new wall (wall II) in area D. It has been contained by a thin retaining wall (D),[186] is made of mass of grey mudbricks debris.[187]

Moreover, we can see in the **Lower Northern Levant,** that the lower city of **Byblos** which has an elliptical shape (Fig. 22), that during the EB III in the northern fortification, a ramp has been built of reddish mass of earth to protect the wall B, (Fig. 73 -74 -75-76), it is sloping away at an angle of about less than 40°.[188]

4. Some ramparts were part of the defensive system in some cities, and it used to protect a sector of the lower city:

We can clearly notice that in the **Lower Northern Levant,** where **Khirbet el-Umbashi** has an elliptical shape (Fig. 23). It was fortified during the EB I-II, in Dams sector (the north-eastern corner) by an earth embankment (VS1.02), it has been built of clay mixed with pebbles.[189]This

176 The excavator defined the rampart as glacis.
177 Bielinski 1994: 157.
178 Bielinski 1992: 80.
179 Bielinski 1992: 80.
180 Bielinski 1994: 159.
181 Helms, Meyer 2016: 151.
182 Helms, Meyer 2016: 151.
183 The excavator defined the rampart as glacis.
184 Orthmann 1989: 16.
185 Miglus, Strommenger 2002: 17.
186 Van Loon 2001: 53.
187 Van Loon 2001: 86.
188 Lauffray 2008: 293.
189 Braemer et al. 2004: 49.

rampart constitutes a veritable artificial dike installed on the edge of the small cliff overlooking the wadi. Its width at the base is 17 m, at the top is 1.50 m, and its length is 50 m. It has a volume of more than 1500 m^3.[190]

While one can observe in **Byblos** (Fig. 22) during the EB II- III, that the eastern side of the city was fortified by a rampart, which reached 30 m wide.[191] It is divided into two parts; the northern part and the southern part. The northern part is located between the castle and the Persian podium. Under the castle it begins an arc of the circle towards the south of nearly 145.00 m, then it follows a level curve of the natural elevation.[192] The southern one is located between the Persian podium, and the southern valley, it has been built of calcareous stones.[193] Moreover, we can see that the southern side of the city was fortified by a rampart, with abrupt cliff constitutes a natural defence in this region.[194] Furthermore, we can see in the south-east of **Tell Labwe** (Fig. 24) during the EB II – III, that a rampart has been built around the sacred or the palatial area.[195]

Middle Bronze Age

The methods of using the rampart divided into:

1. Surrounding the entire upper or lower cities.
2. Reinforcing and supporting the fortification walls and surrounded the entire cities.
3. Reinforcing and supporting the fortification walls and protect a sector of the cities.
4. It was a part of the defensive system which protected a sector of the cities.
5. Outer rampart.

1. Some cities were surrounded by a rampart, whether in the upper or lower city:

That could be observed in the **Euphrates region**, where the upper city of **Carchemish,** which has an elliptical shape (Fig. 25). It was fortified by a huge earthen rampart, has been made of clay. It reaches in some places 20 m high.[196] Furthermore, one can see in the lower city of **Tell Mumbaqa,** which has an elliptical shape (Fig. 26). It was fortified by a freestanding rampart reaches to 10 m high,[197] was built of pebbles, 10 to 20 cm wide, alternately fine and coarse-pebbles, sometimes with large clay parts and mudbricks.[198] While in **Qala'at Halwanji,** which has a square shape (Fig.

190 Braemer et al. 2004: 49.
191 Lauffray 2008: 323.
192 Lauffray 2008: 303.
193 Lauffray 2008: 313.
194 Lauffray 2008: 319.
195 Al-Maqdissi, Braemer 2006: 117.
196 Woolley 1921: 44.
197 Machule 1971: 55.
198 Machule 1971: 54.

37), we can see that it was fortified by a wide rampart. Unfortunately, we don't have data about its width, but from the map of the site, we can see that its length could reach around 200 m, on each side.

Moreover, we can notice in the **Upper Northern Levant**, that the lower city of **Tell Mardikh/Ebla,** which has an elliptical shape (Fig. 27-28). It was characterised by a huge freestanding rampart has been built during the MB I.[199] Its width reaches 45 and 60 m at the base, and still 22 m high over the fields level in some spots and reaching an average height of 18-20 m over the level of the base of the rampart itself outside. It is nearly 2,800 m long,[200] approximately elliptical, it may be quite described as a rectangle with the long sides to the east and west, slightly curved outside, and the short sides to the north and south, with a quite evident curve.[201]

It has been built of greyish and brownish soil with a large amount of ash, frequently rich with pottery fragments. Most of them dating to the EB IVB (ca. 2300-2000 BC), with some shards of the EB IVA the soil laid in oblique layers. It was clear in some segments as the western side of the rampart, while in other segments soil was almost horizontal layers alternating reddish, quite compact clay, and whitish limestone crumbs, without pottery fragments.[202] It was built around remains of the EB fortification wall that is clear in the centre of the western rampart.[203]

In the same time, the lower city of **Tell Mishrifeh / Qatna,** which has a rectangular shape (Fig. 29-30), was fortified by a freestanding rampart. It has a rectangular shape, its height measured between 13 -15 m, and in some places, it reaches 20 m. Its length measured around 4100 m; 950 - 1000 m. (east-west) and 1050 m (north-south). Its width at the base measured around 70 m,[204] the profile of the rampart is slope about 60° towards the exterior.[205] It has been built of different building materials; therefore, it has three different colours due to the different composition and provenance of the building materials used in the construction. (white, pink and Brown).[206]It composed of chipped limestone and earth extracted in front of the present rampart,[207] and a huge accumulation of gravel, corresponding petrographically to the Pleistocene gravel and conglomerate of fluvial origin, fragments of the pedogenetic calcareous crust (caliche) and inclusions of red palaeosols.[208]

199 Matthiae 2002: 34.
200 Long west side, it is nearly 830 m long, 45 m wide and an average height of 20 to 22 m, was probably accomplished in three sectors, from south to north, short north side, it is nearly 560 m long, may be divided into two segments, quite different from each other in planning and accomplishment, long east side, it is nearly 790 m long divided into three sectors, short south, it is nearly 610 m long, divided into two segments. (Matthiae 2002: 32).
201 Matthiae 2002: 30.
202 Matthiae 2002: 30.
203 Matthiae 2002: 30.
204 Du Mesnil du Buisson 1926: 293.
205 Du Mesnil du Buisson 1926: 292.
206 Cremaschi et al.2002: 19.
207 Du Mesnil du Buisson 1926: 293.
208 Cremaschi et al.2002: 19.

Moreover, it is possible to recognise that the lower city of **Touqan** which has an elliptical shape (Fig. 31), was enclosed by a massive freestanding rampart during the end of the MB I. It has been excavated in area G.[209] Furthermore, the remains of an earthen rampart could be observed in the southern side of the of **Tell 'Acharneh** which has an elliptical shape (Fig. 32). It is clearly the rampart surrounded the entire lower city, its width measured about 50 m at its base and its height measured about 10 m. While its length measured around 3200-3300 m (1.2 km from the north to south, and 500 – 650 m from the east to west).[210]

While in the **Lower Northern Levant,** we can observe that the lower city of **Tell al-Sür** has been expanded. Its shape has been changed from the elliptical to the rectangular shape during the MB (Fig. 33). That accompanied by changes in the defensive elements, we can see it was fortified by a freestanding rampart, which has a rectangular plan. It is enclosed an area 29 ha, was built above of the EB elliptical settlement.[211] It is composed of enormous earth-levees,[212] from the map of the city we can see the length of the rampart could reach 2284 m. While in **Tell Nebi Mend,** which has an elliptical shape during 17th century BC (Fig. 35). The city was surrounded by an 18 m wide freestanding rampart and 4 m high. It has been excavated in two trenches IX and VI,[213] its inner slope lying at an angle of about 30° and has been made of clay, gravel and occasional red soil layers in trench IX.[214] From trench VI, we can say it was composed of reddish soil (natural lacustrine marlstone has an irregular indurated crust frequently penetrated by solution holes and root channels filled with reddish-brown soil. clay and ravel). That sometimes contains sherds of pottery dating back to the MB and different periods.[215]

Furthermore, both of the lower cities of **Tell Debbeh**[216](Fig. 36) and **Tell Sefinat-Nouh**[217](Fig. 34), were fortified by a freestanding rampart; in **Tell Debbeh** the rampart was erected on an artificial terrace that is 5 to 15 m wide, [218] while there are not excavations works of the fortifications in **Tell Sefinat-Nouh** have yet been made. [219]

2. Some fortification walls were reinforced by a supplementary rampart; some of them surrounded the entire lower city:

We can notice in the **Lower Northern Levant**, that the lower city of **Tell es-Salihiyeh** which has an elliptical shape (Fig. 38) in the first half of the second millennium in level XII, it was fortified by an earthen rampart (XII b1) which is preserved to 3 m high,[220] it has been built of grey clayey

209 Baffi 2013: 165.
210 Fortin 2006: 12.
211 Mouamar 2013:99.
212 Mouamar 2013:99.
213 Parr 2015: 353.
214 Parr 2015: 351.
215 Parr 2015: 348-349.
216 Braemer 1984: 244.
217 Mousli 1986/87: 74.
218 Braemer 1984: 244.
219 Mousli 1986/87: 74.
220 Von der Osten 1956: 38.

soil, and was erected against the wall (P1). The eastern profile of the rampart has been enlarged at least once (XIIb1a).[221]

3. Some fortification walls were reinforced by a supplementary rampart which protects a sector of the city:

We can clearly see in the **Upper Northern Levant**, that the inner fortification wall of **Tell Touqan,** which has an elliptical shape during the MB II (Fig. 31). It was reinforced by a rampart has been built against the wall. It had a thickness of 19,50 m [222] and is preserved to a height of 4.90 m.[223] The upper surface of the rampart is formed of a coarsely equalised plane of compacted clay, which is arranged on a very slight slope towards the north, that is to say towards the lower city, and it has been built of compacted clay. This rampart and wall were protected the entire city except for the south.[224]

4. Some ramparts were part of the defensive system in some cities, and it was used to protect a sector of the city:

That possible to observe in the **Upper Northern Levant,** where some sectors of the lower city of **Tell 'Atchana/ Alalakh,** which has an elliptical shape, in level VII during the MB (Fig. 39), it was protected by a freestanding rampart. It measured 8 m high and 16 to 20 m wide,[225] is sloping away at an angle of about 35°, it is composed of earth.[226]

We can see on the eastern side of the upper city/ acropolis of **Tell Afis** specifically in area N2 (Fig. 40). That the defensive system during the first phase it has consisted of a fortification wall built on top of a rampart, which had 2.85 m high and is sloping away at an angle of about 40°.[227] While during the fifth phase, we can observe that the defence strategy of the eastern side of the upper city was changed. Where it was reinforced by a supplemental rampart,[228] which is preserved to a height of 2.20 m and is composed of layers arranged in a so-called "sandwich-technique" in which yellowish earth and reddish clay layers were interspersed with an occasional layer of smashed limestone.[229]

221 Von der Osten 1956: 38.
222 Baffi 1990: 66. / Matthiae 1982: 319.
223 Matthiae 1982: 319.
224 Baffi 2013: 169.
225 Woolley 1955: 133.
226 Woolley 1955: 137.
227 Affanni, Michele 2009: 41.
228 Affanni, Michele 2009: 41.
229 Affanni, Michele 2009: 41.

5. Some cities have an outer rampart:

That could be seen in the **Upper Northern Levant,** where two outer ramparts (could be one rampart and has been divided into two parts) dated to the MB, were situated in the eastern and the southern side out of the lower city of **Tell Mardikh** (Fig. 41). The outer freestanding eastern rampart, measured 527 long and 40-60 m wide at the base, with a slope of ca. 20-25°, running south-north at a distance of ca. 250 m from the outer foot of the eastern fortification wall of the city, it is ca. 10-12 m high.[230] It has been made of packed limestone crumble, is covered by a red clayish earth layer, ca. 40-50 cm wide. [231] While the outer Southern freestanding rampart it is run east-west for ca. 600 m long, at a distance of 200 m from the rampart of the city.[232]

Changes in the ramparts between the EB and MB

We can observe that; the changes have occurred in two axes;

1. Size and shape of the ramparts.
2. Building materials.

1. **Size and shape of the ramparts**

We can say that the ramparts during the MB, in most situations have been used to protect the entire settlement, that could be noted at least in ten cities, while during the EB we can notice that, just five cities used the rampart to fortify the entire settlement.

In terms of dimensions, specifically the width of the ramparts, we can clearly see that the ramparts during the MB became huge than the EB rampart. That could be observed in Tell Mishrifeh where the rampart during the MB reaches 70 m wide and in Tell Mardikh reaches 60 m at the base. While during the EB the width of ramparts was between 3 m to 30 m. We can relate the cause of this change with the military situation and the technical improvements that happened in weapons, especially the bow and sling during the MB. Where some clay sling bullets during the late third millennium could be effectively used within 100 m of the target compared to 200 m for sling stones,[233] for more protection the cities during the MB have built a huge and wider rampart than the EB cities.

230 Peyronel 2015: 135.
231 Peyronel 2015: 136.
232 Peyronel 2015: 140.
233 Burke 2004: 59.

Moreover, we can notice that ramparts during the MB became steeper and more gradient, they were 25° 30°- 35° - 40° - 60° that impede the progress of the attackers who are trying to climb ramparts, while during the EB the slopes of the ramparts were 38° - 40°- 45°.

In regard to shapes, we can observe that during the MB, the shapes of the ramparts have been changed in some cities from the circular shape to a square or a rectangle shape. While we can clearly see during the EB, that most of the shapes of the ramparts were circular or elliptical shapes. We can say the reasons behind this change were related to locations and topography of the settlements, in addition to defensive strategies of the cities. Where they have been realised that the straight lengths of the fortifications were more easily defended than curving segments, by dividing the defences into a discrete number of straight lines each archer could protect greater stretches of the city wall and rampart. Particularly from towers which were located at the points where the direction of defences changed.[234]

In addition to the previous functional use of the rampart during the EB, it has appeared during the MB a new functional use of the rampart represent by (outer rampart) which was located beyond the fortified city as we have seen in Tell Mardikh. It is not clear who built these ramparts? When exactly did they build? Why did they decide to build it? For what aim?

Four possibilities have probably to be taken into consideration.

1- Integrate the defence system for giving greater protection to the city on the east and south side.
2- Tell Mardikh during the MB was going to expanded to the east and south, by another word rampart were part of a plan to enlarge the city and, but its wall, which was later on abandoned, before the new rampart reached the planned height and before it was connected with the north and south ramparts of the older.[235]
3- Thirdly, they were built by a besieging army to protect the camps located in front of the besieged city to the East, but, in this case, the advantage for the besiegers is not very clear.[236]
4- These ramparts protected the workshop area or market area, or some activities were happened out of the city?

2. Building materials of the ramparts

We should distinguish between two different kinds of ramparts depending on their actual structure, terre pisée ramparts[237] and the stone ramparts; in our study case, we can observe that different building materials have been used to build the ramparts during the EB and MB. It is possible to see when the ramparts have a huge width, they have been built of light building materials. I mean by

234 Burke 2004: 100.
235 Matthiae 2002: 48.
236 Matthiae 2002: 48.
237 This term which was borrowed from French refers, however, to the construction of a core wall or structure by packing earth in a mold or frame, (Burke 2004: 105).

light, it easy to transport it, such as the soil, earth, brick deposits, charcoal flecked lenses and clay mixed with pebbles, as we have seen in Tell Mishrifeh.

In this situation, they have reinforced the rampart by building a strong glacis which muss comprised of strong building materials. I mean by strong as coarse white limestone fragments or hard mudbricks.

We can notice that the ramparts, which have a short width of around 3 – 4 m, they have been built of heavy building materials. Such as the large blocks of stone as in Tell Sh'airat. In these ramparts, we didn't find the glacis, maybe it could be built from light building material as the clay and have been disappeared later.

We can say that the stone ramparts, which existed during the EB, they have been disappeared during the MB. By another word, the large blocks of stones have not been used during the MB to build the ramparts. Instead, a new technique called "sandwich" technique has been used in some cities to build their ramparts during the MB. This technique represented by using alternating layers of varying types of fills that could be observed in the lower city of Mumbaqa and the upper city of Afis.

So, as a result, we can say most of the ramparts during the MB have been built of pebbles, gravel, soil, ash, pottery fragments, broken mudbricks and clay, and this applies to some ramparts during the EB, which have been built of same materials.

The question is why these materials and "sandwich" technique, have been used to build the ramparts?

The most important factors involved in the selection of materials for rampart construction was drainage, it was not desirable for a rampart to hold water because it would diminish the strength of the rampart and lead to erosion.

As we have seen, most of the ramparts in the regions of the study, have been built of the cohesive clay soil. Because it is widely available and easy to transport, moreover, it so strong and very hard to dig when it gets dry and baked from the sun. Therefore, it is ideal for using to build the rampart and to protect the city against the attackers. Although the clay has been chosen for its toughness, the builders must also have known how susceptible to collapse clay becomes when wet.[238]

Proper compaction minimises water penetration, but the best quality could not have provided complete protection from rain and incidental moisture, especially as construction must have extended over several seasons leaving clay open at least some of the time to rain that would have spelt disaster for the structure in a short time. Because the core would serve as a natural reservoir for the accumulation of stormwater, as it filled, the surrounding clay would have become saturated,

238 Pennells 1983: 60.

losing its strength the rising water level would have added massive forces acting to demolish the earthworks causing the collapse of the structure. [239]

For this reason, **Ernest Pennells** said, the "layered fill" technique ("sandwich" technique) used to increase drainage, especially in soils that contain a high proportion of fine particles in the range designated silts and clays Such soils, naturally cohesive, do not allow easy movement of water within them. [240]

The layered fill technique, therefore, guaranteed that water would drain from earthy layers through rock-filled layers below and evaporate through rocky layers above. It was necessary to keep ramparts from becoming saturated, which would have facilitated erosion and sliding[241] for that the ramparts were reinforced by a glacis.

We can clearly say that the rampart during the MB became stronger and wider, furthermore, in many situations, they have been used to fortify the entire cities. A new building technique called "sandwich" technique has been used, by another word the cities during the MB were depending on the ramparts as effective defensive elements to face the weapons of the siege, demolition and penetration.

Finally, we can say that the freestanding rampart was derived from EB IV settlements as we have seen in that Umm el-Marra and Tell al-Rawda were fortified by a freestanding rampart during EB IV, but during the MB with the spread of the Amorite tribes, throughout Syria, the freestanding rampart became a feature for the MB cities.

239 Pennells 1983: 60.
240 Pennells 1983: 57.
241 Burke 2004: 108.

B. GLACIS

Definition and Function

As I have mentioned before, most of the ramparts during the EB and MB have been built of gravel, soil and ash. That considered as soft materials that are affected by rainfall. Therefore, every rampart was reinforced by a glacis, which considered as merely a surface treatment for the slope which was intended primarily to protect it against the erosion.[242]

Furthermore, some fortification walls have been reinforced by the glacis as the walls in the upper city of **Tell Beydar** during the EB and the lower city of **Tell Bderi** during the EB, that to protect the city wall from being undermined by the water erosion, especially during the river inundations.[243]

So, the main function of glacis is protecting the outer surface of the rampart or the wall against erosion due to rainfall, for that was built in most of the time by different materials than those available for ramparts, or in the wall.

The structure of the glacis

We can say that the methods of using glacis during the EB and MB have divided into two ways:

1. Covering the surface of ramparts.
2. Reinforcing the fortification walls.

Early Bronze Age

1. Covering the surface of ramparts;

That could be observed in **Jazirah** where the ramp in **Tell Chuera** between the outer fortification wall and the revetment wall have been covered by a glacis in area P (Fig. 61). It has been made by a black fine ash layer during the EB III and has been renovated during the EB IVA.[244] While we can see that the glacis in trench A, which was reinforcing the rampart in **Tell Rad Shaqrah** is made of several layers of tightly packed stone boulders.[245] Later this glacis has been renewed and covered with a new layer of clay and stones, 1.20 m wide.[246] While the glacis in trench B3 was made of basaltic stones, [247] (Fig. 62).

242 Burke 2004: 96.
243 Lebeau et al. 2011: 140.
244 Novák 1995: 175.
245 Bielinski 1992: 80.
246 Bielinski 1994: 157.
247 Bielinski 1994: 157.

Moreover, in the **Euphrates region**, we can notice that the rampart in **Tell Jerablus Tahtani** in area III (Fig. 10). It has been reinforced by a glacis, which was comprised of the wide mantle of coarse white limestone fragments.[248] The purpose of such exaggerated thickening of the defensive system at Jerablus-Tahtani has helped in Euphrates erosion control.[249] It is possible to see in **Tell Halawa A,** that the surface of the rampart was reinforced by a layer of hard clay as in Sq P,[250] furthermore, in **Tell Selenkahiye** (Fig. 21) we can see that the ramp in area D which was retained by the wall (D), has been reinforced by a pebbled sloping surface. [251]

In the **Upper Northern Levant,** one can observe that **Tell Umm el-Marra** has been characterised by two glacis have been built up against the outer face of the EB rampart. The first one is red glacis because it was made of reddish-brown soil.[252] The second is white glacis, because of its lenses of white limestone fragments and pebbles, was constructed against the red glacis. [253] They are sloping away at an angle of about 45°. Additionally, of that we can observe the rampart in **Tell al-Rawda** has been reinforced by a glacis during the EB IV, which has been excavated in sector 2C (Fig. 14), where it was arranged against the eastern face of the enclosure.[254]

Moreover, it is possible to recognise in the **Lower Northern Levant**, that the southern part of the eastern rampart during the EB III in **Byblos**, was reinforced by a glacis which has been made of limestones and homogeneous texture. It extends to the south for a length of 18.00 m, then turns at right angles to the west. It is preserved to a height of 2.00 m.[255] Furthermore, the ramp which is situated in front of the wall (B) during the EB III, was reinforced by the glacis (C). It has been made of small blocks of calcareous mixed with sandy stones, is sloping away at an angle less than 40°.[256]

2. Reinforcing the fortification wall;

That could be identified in **Jazirah,** where the inner fortification wall of **Tell Beydar** (Fig. 47), has gone through three successive phases of rebuilding during the EB I, II, III. It has been reinforced on its outer side by a sloping "glacis," whose upper surface was repeatedly coated with a layer of hard clay.[257] The EB I glacis was made of grey bricks and coated with a 5 cm wide layer of red clay.[258] Furthermore, we can see that the EB II glacis has been made of grey bricks and coated with

248 Peltenburg et al. 1996: 7.
249 Peltenburg et al. 1996: 9.
250 Orthmann 1989: 16.
251 Van Loon 2001: 86.
252 Schwartz et al. 2000: 427.
253 Schwartz et al. 2000: 427.
254 Castel 2008: 31.
255 Lauffray 2008: 313.
256 Lauffray 2008: 293
257 Lebeau, Suleiman 2005: 10.
258 Suleiman 2003: 303.

hard layers of clay, of a different quality from that used for its bricks. [259] Besides that, the EB III glacis has been coated with hard, whitish soil.[260] We can recognise that the outer fortification wall in the northern side of the city of Tell Beydar, was reinforced by sloping layers of hard clay which have been excavated in area H.[261] In **Tell Bderi** (Fig. 53), we can notice that the outer fortification wall during the EB I, was reinforced by a glacis measured 1.70 to 2 m wide.[262] It was made of mud with a special technique of *pise* is applied, partitions of mud - 0,5 to 1 m wide and sometimes more than 1 m long - are set side by side in several layers, in the eastern part of the wall the glacis seems to be renewed and broadened once or even twice.

Moreover, we can observe that the base of the inner fortification wall in **Tell Mozan/Urkesh** was reinforced by a glacis during EBI. It reaches 10.5 m wide and has been detected in area K. [263] While during the EB II in **Tell Knedig** (Fig. 48), we can see that the outer side of the fortification wall was reinforced by a glacis that has been made of sloping mudbricks.[264]

Furthermore, the same thing applies in the **Euphrates region**, where some fortification walls have been reinforced by a glacis as in **Tell el-'Abd** (Fig. 69). We can notice that its outer fortification wall during the EB IVB, was reinforced by a glacis in some spots as in area I. It measured 1.20 m wide (Fig. 70),[265] Moreover, in **Tell Bi'a,** we could observe that a slanting glacis has been added to the southern outer edge of the wall, it consists of hard mudbricks with a smooth surface, the glacis was covered with grey-brown, mud mixed with pebbles.[266] This glacis has been renewing later with pebbles and river debris. We can see in **Tell Selenkahiye** in Sq Q 21 a glacis was made of a pebble layer ran up against the wall (A).[267]

In **Lower Northern Levant**, it is possible to observe that the fortification wall of **Tell Labwe** during the EB II – III, is set back a few meters (2 to 5 m) from the gradient line, the natural slope of the rock was used as a glacis, without any specific shape.[268] At the same time, the western side of the fortification wall (VS1.03) in the east sector of **Khirbet el-Umbashi** has been reinforced by a glacis measured 5 m long and 1 m wide during the EB I-II.[269]

259 Suleiman 2003: 303.
260 Quenet 1997:170.
261 Lebeau, suleiman 2005: 11.
262 Pfälzner 1987b: 294. / Pfälzner 1989/90: 216. / Lebeau et al. 2011: 140.
263 Kelly, Buccellati 1990a: 123.
264 Brandt et al. 2005: 34.
265 Finkbeiner 1995: 58. / Sconzo 2013: 15.
266 Miglus, Strommenger 2002: 10.
267 Van Loon 2001: 89.
268 Al-Maqdissi, Braemer 2006: 116.
269 Braemer et al. 2004: 51.

Middle Bronze Age

1. Covering the surface of ramparts;

That could be observed in the **Upper Northern Levant**, where the slope of the upper city of **Tell al-Nasriyah** (Fig. 107), was reinforced by a glacis. That apparently was made of successive layers of massive earth measuring on average 40 cm wide and 10-15 cm high.[270] Moreover, we can notice that the northern side of the outer rampart in **Tell 'Acharneh** was reinforced by a steep glacis. The same thing applies to the rampart of the lower city of **Tell 'Atchana** which was characterised by a mud-plastered glacis, was sloping away at an angle of about 35°.[271]

Moreover, we can see that the inner rampart in area N2 of in **Tell Afis** during the first phase, was reinforced by a hard glacis has been made with compact red clay with a 40% gradient,[272] and during the fourth phase, a new glacis (slope) was laid down on the previous one. It was made of a very hard layer of yellowish clay mixed with smashed limestone.[273]

In **Lower Northern Levant,** we can see that most of the glacis have been made of stones, that could be observed in **Byblos** where the northern fortification (Fig. 73 -74-75-76), was reinforced by the glacis (D) during the MB I. It was laid against the outer face of the previous the EB III rampart, consisted of a less than 1 m wide earthen fill with a stone cap roughly constructed with limestones and sandstones cobbles and stones, and is sloping away at an angle less than 40°. Larger blocks were used in the lower part of the glacis (up to 3 m high to the north-west), while cobbles were employed in its upper mantle. [274] During the MB II, the "Hyksos" glacis (E) has been built against the northern fortification structure within a refurbishing and reinforcement of the city defences. It consisted of an earthen fill of intermingled dark brown earth and sand layers laid against the outer face of the preceding cobblestone glacis. It is covered with a renewed glacis which has been made of big kurkar (calcareous sandstone) blocks, more than 1 m wide, to form a 60° slope at the foot of the rampart. [275] It was at least 8 m high, and it reached an overall thickness of ca. 25 m at its base on the northern side, and 45 m on the eastern side incorporating the pre-existing the EB II-III ramparts.[276]

Additionally, it is possible to recognise that **Tell el-Burak** (Fig. 155) during the MB has been characterised by a stone-glacis which was protecting the steep slope on the coastal side.[277] Furthermore, the rampart of the lower city of **Tell Debbeh** was reinforced by a glacis.[278]

270 Al-Maqdissi et al 2010: 9-10.
271 Woolley 1955: 137.
272 Affanni, Michele, 2009: 41.
273 Affanni, Michele 2009: 41.
274 Sala 2013: 181.
275 Sala 2013: 183.
276 Sala 2013: 183.
277 Kamlah, Sader 2003: 159.
278 Braemer 1984: 244.

2. Reinforcing the fortification wall;

We can notice in **Jazirah**, that the fortification wall (3635) which is situated on the top of the hill A, in **Tell Mohamad Diab** (Fig. 87). It was protected by a glacis (3960), which was made of the earth compacted and it slopes towards the west. Furthermore, a small glacis has been built between the wall (4341 and 4344) in the lower part of the hill A; it was made of an accumulation of horizontal layers of ash and light land,[279] (Fig. 88).

Moreover, we can observe in the **Euphrates region**, that the outer fortification wall of **Tell el-Qitar** has been reinforced by a glacis, which has been excavated along the south-western corner of area Y (Fig. 80), it was made of yellowish-white limestone chunks alternating with darker layers of stony fill and patches of fire dark grey ashy soil.[280]

In the **Upper Northern Levant**, we can see that the northern side of the inner fortification wall in **Umm el-Marra** during the MB II, was reinforced by a brown clay glacis sloping down from the south to the north.[281] While during the late MB II, it is possible to observe that the outer fortification wall in the north-west area was reinforced by an earth and pebble glacis.[282] Moreover, we can notice that the defensive system of **Tell Abou Danne** during the first phase (Fig. 45) was reinforced by a glacis laid against the retaining wall (narrower wall).[283] It was composed of loose, limestone gravel, and compact earth belonging to inclined to 40° approximately,[284] and during the second phase, a new glacis has been added to the wall above the old one.[285]

We can observe in the **Lower Northern Levant**, that the wall (W 353) in **Beirut** in the area (Bey 003) (Fig. 91-92-93), has been reinforced by a glacis was made of the thick sloping of rammed clay embankment. It is sloping away at an angle of about 30° during the MB I.[286] Moreover, during the MB II, a glacis I **(**120/230) has been built against the chicane wall (W 320), it was made of pebble stones and large rubble limestone 30 cm long, bonded with a brown soil mortar, is sloping away at an angle of about 20°.[287] Furthermore, the fortification wall in **Tell Kazel** in area III (Fig. 85), has been reinforced by a glacis is sloping away at an angle of about 45° and was made of a hard-yellow clay.[288]

279 Nicolle 2006: 46.
280 Mcclellan 1986: 88-90.
281 Schwartz et al. 2003: 342.
282 Schwartz et al. 2003: 341.
283 Tefnin 1979a: 192.
284 Tefnin 1979a: 193.
285 Tefnin 1979a: 193.
286 Badre 1997: 28.
287 Badre 1997: 48.
288 Badre et al. 1990: 87.

Changes in the glacis between the EB and MB

In terms of building materials, we can say, there is no huge difference between the glacis during the EB and MB. In both periods the glacis have been used to protect the ramparts and the fortification walls and their building materials were nearly the same in both periods.

We can clearly see that the glacis have been made of water-resistant building materials, especially in areas, which have the highest precipitation, they had to have stronger glacis. That could be observed in the cities along the coast, such as Beirut during the MB II, we have noticed that the glacis I **(**120/230), has been made of pebble stones and large rubble limestone 30 cm long, bonded with a brown soil mortar.[289] Moreover, in Byblos, the glacis (C) during the EB III, was made of small blocks of calcareous mixed with sandy stones.[290]

While, regarding the slope of the glacis, we can recognise that, the glacis during the MB were steeper than the EB glacis, which could be seen in the glacis of Tell ‘Atchana 35° and Beirut 20° during the MB.

289 Badre 1997: 48.
290 (Plural hypogea) literally means "underground", from Greek hypo (under) and Gaia (mother earth or goddess of earth).

We could observe that besides of the glacis, the ramparts were reinforced sometimes by core, revetment and retaining walls for more stabilisation.

C. REVETMENT WALL

Definition and Function

It has been built in front of the rampart and in sometimes in front of the glacis, at their foot with their exterior face. It has three functions; the first one is protecting the rampart against the erosion. The second is preventing the sliding of rampart fills,[291] the third is a defensive role, where it has provided more protection for the rampart, that could be observed in some settlements where the revetment walls have been built of stones, and they were thick as in Tell el-Qitar, that have created a difficult of penetrating the rampart.

The structure of the revetment walls

We could divide the revetment walls during the EB and MB depending on their building materials into:

1. Stone revetment wall.
2. Mudbrick revetment wall.

Early Bronze Age

1. Stone revetment wall; which could be observed in **Jazirah** where the outer rampart in **Tell Rad Shaqrah** has been reinforced by a stone revetment wall [292] which is composed of very large basalt boulders, some of them nearly 0.80 m in diameter.[293] It has been excavated in trench B3 as illustrated in (Fig. 62).

In the **Euphrates region,** we can see the outer rampart of **Tell es-Sweyhat**, was faced on its outer side with a sloping stone revetment, which is sloping away at an angle of 38°. It has been detected in Op 25.[294]

Moreover, we can notice in the **Upper Northern Levant**, that two revetment structures have been built to reinforce the outer rampart of **Umm el-Marra** during the EB IV. The first one was built

291 Burke 2004: 112.
292 Bielinski 1994: 157.
293 Bielinski 1994: 159.
294 Zettler 1997: 48-49.

against the red glacis. It has been built of stones and measured 1.6 m wide and 1.4 m high, furthermore, a horizontal "tongues" of grey clay were noted inside the exterior face of the glacis above the revetment wall.[295] The second built against the white glacis, was built out of stone, it measured ca. 5.3 m wide and 1.5-2.3 m high, the outer face of the revetment was not battered or sloping.[296]

2. Mudbrick revetment wall; that possible to recognise in **Jazirah** where a 1.2 m wide mudbrick revetment wall was built on the front of the outer rampart during the EB III in **Tell Chuera** and has been excavated in area P (Fig. 61). We can see during the EB IVA; the revetment wall had a foundation of relatively large, unprocessed limestones.[297]

Middle Bronze Age

1. Stone revetment wall; we can see that in the **Euphrates region,** where the fortification structure in **Tell el-Qitar** has been reinforced by a revetment wall (747) has been built of limestone, it was parallel to the curtain wall and laid in the bottom of the glacis. [298]

Moreover, in the **Upper Northern Levant**, we can observe a massive stone wall has protected the bottom of the upper hill in **Tell Mardikh**. It has been found in the southern part of the acropolis.[299] Furthermore, the outer and inner bases of the outer rampart were protected by a stone escarp, which was at the same time a revetment, and a containing wall for the very crumbly materials of the rampart. We can see that the outer escarp, which was found only at the base of the rampart in the north-west of the south-west gate, in sector A, included large limestone blocks, is preserved only for a height of 1.50 m. However, it probably was originally between 4 and 5 m high, and was possibly quite steep, in order to prevent the rampart being climbed too easily, while the inner escarp, clearly singled out in area Z, near the middle of the west rampart, and in sector DD, includes much more modest.[300] Furthermore, we can see that the late MB II glacis in **Umm el-Marra**, was faced by a stone revetment wall, which has been detected in the north-west area of the lower city.[301]

2. Mudbrick revetment wall; which could be seen in the **Lower Northern Levant**, where the rampart and the fortification wall in **Tell es-Salihiyeh** have reinforced by a 1.90 m wide revetment wall (XIIa1) has been made of alternately yellowish and grey mudbricks measuring 43-44 × 10-11 cm.[302]

295 Schwartz et al. 2000: 427.
296 Schwartz et al. 2000: 427.
297 Meyer 2010: 175.
298 Mcclellan 1986: 88-90.
299 Pinnock 2001: 17.
300 Matthiae 2002: 30.
301 Schwartz et al. 2003: 341.
302 Von der Osten 1956: 38.

D. RETAINING WALL

Definition and Function

It has been built inside the rampart to support the weak points of it, in addition, it has played an important role to protect the rampart against the erosion and to keep the soil in their places. In terms of size, it is considered smaller than the revetment wall.

The structure of the retaining walls

Early Bronze Age

We can observe in the **Euphrates region**, that the outer rampart of **Tell es-Sweyhat**, has been reinforced from inside by a 1.15 m wide retaining wall. That has been built of mudbricks set on the substantial stone footings three to four courses high.[303] Thinner retaining wall (D) could be noted in **Tell Selenkahiye** in area D, specifically in Sq SSS07 as indicated in (Fig. 68). This wall was retained the grey mass of debris, and its northern face was plastered. Moreover, we can see in **Tell Halawa A**; a mudbrick retaining wall measured 0.8 m wide built without foundation,[304] has been constructed to support the natural slope, as illustrated in (Fig. 67).

Middle Bronze Age

In the **Upper Northern Levant**, it is possible to observe a retaining wall in **Tell al- Nasriyah** specifically in area B in the lower city. It has been built with several types of cut blocks,[305] also, in **Khan Sheikhoun** we can see a retaining wall has been built of mudbricks was detected in area C, was erected on a foundation of a large block of stone up to 1.50 m wide.[306]

In **Lower Northern Levant**, it could be noted that **Tell el-Burak** during the MB was protected by a retaining wall, was consisted merely of one row of massive blocks which is surrounded the hill and kept the red[307] filling in their place.[308] While, we can notice in **Beirut** specifically in area Bey 003, which was characterised by a 1 m wide retaining wall (W353), that 15 m long of it was preserved at an average height of 1.70 m. This wall was parallel to the wall (W351), [309] as indicated in (Fig. 93). It has retained the fill between the walls (W351 and W353) during the MB I-IIA. Their

303 Zettler 1997: 48-49.
304 Orthmann 1989: 16.
305 Al-Maqdissi et al 2010: 11
306 Du Mesnil du Buisson 1932: 174.
307 Reddish soil, this layer is a filling, which was deliberately set against the massive Middle Bronze Age wall (Kamlah, Sader 2003: 159).
308 Kamlah, Sader 2003: 159.
309 Wall W351 was part of complex I, it located 3.50 m north of wall 353. (Badre 1997: 26).

stone foundations lie directly on the bedrock, and a layer of disintegrated black clay was found on the top of the stones. Indicate that there was almost certainly a mudbrick wall at its crest its outer face was is carefully coated with a layer of grey clay.[310] Furthermore, we can see that the rampart of **Tell Debbeh** was reinforced by a retaining wall, which has been built of uncut blocks measured 0.60 m.[311]

E. CORE WALL

Definition and Function

We can define it as a supportive wall where the rampart has been built around it, by another word, the core wall has been crowned by the rampart, its primary function was stabilising the rampart from the outset of construction.[312]

We should say that this wall was an old fortification wall, which was used in previous periods to fortify the settlements, over time it has lost its original function, and it reused later as a core wall, which has integrated into ramparts.

The structure of the core walls

Middle Bronze Age

Unfortunately, we don't have data about core walls during the EB. But during the MB, we can observe two core walls have been detected in the **Upper Northern Levant.** The first one in **Tell Afis** during the MB IB-IIA where the old inner fortification wall from the first phase, which has been built of mudbricks and measured 3 m wide, it was reused as a core for the supplemental rampart during the fifth phase.[313] The second in **Tell Mardikh** where the EB fortification wall which has been built of mudbricks and measured 6 m wide, it was reused as the core of the freestanding rampart during the MB.[314]

310 Badre 1997: 26.
311 Braemer 1984: 244.
312 Burke 2004: 111.
313 Affanni, Michele 2009: 41.
314 Affanni, Michele 2009: 41.

Changes in the revetment, retaining and Core walls between the EB and MB

In terms of the building materials, we can see that the building materials of the **revetment walls** have not been changed during the EB and MB. Both stones and mudbricks have been used to build the walls. On the contrary of **retaining walls,** we can see that the building materials have been developed during the MB and became stronger than the EB, where some retaining walls have been built of stone as in Tell el-Burak and Tell al-Nasriyah.

Concerning the dimensions precisely the width of the walls, we could observe that the average width of the **revetment walls** during the EB was 2.7 m, while during the MB was1.9 m that means it became thinner. While the average width of the **retaining walls** during the EB was 0.9 m and during the MB became wider, where its average width reaches 1.2 m.

We can say that the reason behind that is, the ramparts during the MB were wider than the rampart during the EB, and as we have seen that the primary function of the retaining wall is keeping the soils in their places, therefore those walls became wider during the MB to supporting and stabilising the huge ramparts.

F. FORTIFICATION WALL

Definition and Function

It is possible to observe in addition to the rampart, that some cities were protected by fortification walls, which are sometimes surrounded the entire settlements (upper-lower cities), and in other situations, they have protected some sectors of them. Those walls have been built either out of mudbricks or out of stones, they were built on occasion on stone foundations or directly on the virgin soil. We can see in sometimes they have been reinforced by towers, buttresses and glacis to provide more protection for them and the cities. We can notice that as the rampart, the fortification walls have been pierced by many gates which have provided access to the cities.

The walls in some cities were homogeneous, they have the same width and were built of the same kind and size of mudbricks, and in other cities they were heterogeneous.

We can say that the main function of the fortification wall represents by protecting the city against the attackers or the wild animals. Therefore, its width was varying from city to another, depends on what kind of danger they faced it.

Four important elements relate to the fortification walls have to be taken into consideration;

- The methods of using the fortification walls.
- The dimensions.
- Building materials.
- The foundations.

In terms of the methods of using the fortification walls during the EB and MB, we can divide them into three ways:

1. Surrounding the entire upper or lower cities and has not been renewed.
2. Surrounding the entire the upper or lower cities and has been renewed many times during the EB.
3. It was a part of the defensive system and was protected some sectors of the cities, sometimes has been renewed many times.

Dimensions and methods of using the fortification walls

Early Bronze Age

1. Many upper and lower cities were surrounded by fortification walls.

These walls have not been renewed during the EB, which could be noticed in **Jazirah**, where the inner fortification wall of **Tell Mozan** measured 8 m wide, it is preserved more than 6 -7 m in height. [315] In (Fig. 42) we can see its length measured around 1500 m, it has an elliptical shape, and has been built during the EB I, by the EB III was no longer used for its defensive purposes and has been detected in areas K, KW, and S1.[316] In area K, we can observe that its outer face was plastered[317] and it was reinforced by a small front-wall.[318] It considered the widest inner fortification wall, which has been detected in Jazirah. While we can see that the inner fortification wall in **Tell Leilan**, was smaller, where its width measured 2.5 m. In (Fig. 16) we can see that its length measured around 1600 m, nearly the same length as the inner fortification wall in Tell Mozan. This wall has an elliptical shape. It has been built during the EB III.[319]

It is possible to observe that the lower city of **Tell Beydar,** which has a circular shape (Fig. 47), has been characteristic during the EB I, by a 4.5 m wide fortification wall.[320] Its height is preserved between 4-7 m while its length measured 1884 m,[321] it has been excavated in area H. More evidence about the fortification walls during the EB I, could be identified in **Tell Bderi** where the lower city which has an elliptical shape, was surrounded by a 2 m[322]- 2.8 m wide wall.[323] From (Fig. 53) we can see its length measured around 840 m. While we can notice that, the outer fortification wall in **Kharab Sayyar** measured 3.25 m wide, it is stood directly on the ground, and it has a circular shape (Fig. 49). This wall consists of two segments (677 and 678), which were separated by a gap of about 5 cm wide, as illustrated in (Fig. 50 -51). These segments differed both in their width; the north north-western section (677) was about 1.40 m wide, while the south-eastern one (678) measured 1.80 m.[324] It has been detected in trench A, phase 27.[325]

Moreover, we can see that **Tell 'Atij** was surrounded by a 2.5 m wide fortification wall which is preserved to 4 m the height, was built on the virgin soil during the EB II.[326] It has been excavated on the summit of the main Tell in Sq (B-C 13), and in the north on the main Tell Sq E 5.[327]

315 Buccellati, Kelly-Buccellati 1997: 79. / Kelly-Buccellati 1990: 150.
316 Buccellati 1998: 12.
317 Kelly-Buccellati 1990a: 123.
318 Lebeau et al. 2011: 143.
319 Weiss 1997: 343.
320 Lebeau, Suleiman 2005: 11.
321 Lebeau, Suleiman 2005: 13.
322 Lebeau et al. 2011: 140.
323 Pfälzner 1987b: 294.
324 Hempelmann 2013: 29.
325 Hempelmann 2013: 29.
326 Fortin, Cooper 1994:44.
327 Fortin, Cooper 1994:44.

Depending on the (Fig. 52), we can see the reconstruction wall has an elliptical shape, with diameters around 72-75 m, from the north to the south, and 45-50 m, from the west to the east, that leads its circumference is 191-194 m. Also, in the same time the lower city of **Tell Knedig** which has an elliptical shape (Fig. 48),[328] was surrounded by a 2.4 m wide fortification wall during the EB II, it has been detected in Sq 97,7.[329]

We can observe that the lower city of **Tell Mozan** which has a polygonal shape (Fig. 42-43), was surrounded by a fortification wall during the EB III, [330] which has been observed by the magnetic survey in the south-east corner of the lower city. It is approximately straight along a distance of 270 m; from the west to the east and 340 m, from the south-west to the north-east.[331] There is another settlement which was surrounded by a thick fortification wall as the lower city of **Tell Kerma**,[332] but we don't have data about its dimensions.

More fortification walls could be recognised in the **Euphrates region**, where the upper city of **Tell es-Sweyhat,** which has an elliptical shape, was surrounded by a 2.5 m wide fortification wall during the EB IV.[333] It is preserved to 1'17 m in height in trench D. From (Fig. 15) we can see that the length of the wall is 1100 m. While we can observe, that the upper city of **Tell Kannas,** which has a circular shape (Fig. 46), was surrounded by a fortification wall during the EB IV.[334] Just two segments of it have been excavated, the first one runs from the south-west to the north-east, for 40 m and its width is 1 m. The second runs from the north to the south for 35 m, and its width is 2 m.[335]

We can see the lower city of **Tell Bi'a**, was surrounded by a 4.70-6,30 m wide fortification wall,[336] and in some places reached the 8 m wide,[337] so the average width is 6 m, it has been excavated in four areas (M, A, C and K). In addition to the main wall, the city was protected by a thinner outer wall was situated in front and parallel of the main fortification wall and far away to the south of 16 m. It was 1.8 m wide, it has been excavated in area M.[338] While the outer fortification wall of **Tell Selenkahiye** during the EB IV, has a different structure from one sector of the city to another and it has been detected in two areas; area B (Sq O-Q 26) where four walls have been detected (wall I-wall II – wall III – wall IV).[339] Area D (Sq SSS07 - Z 07 - Q 21- N 25-26), we can observe that

328 Brandt et al. 2005: 1.
329 Brandt et al. 2005: 34.
330 Buccellati 1998: 18.
331 Pfälzner et al. 2004: 47.
332 Fortin 1991: 13.
333 Zettler 1997: 4.
334 Finet 1972: 64.
335 Finet 1972: 64.
336 Miglus, Strommenger 2002: 9.
337 Miglus, Strommenger 2002: 20.
338 Miglus, Strommenger 2002: 10.
339 In Sq O-Q 26, we can see that the wall I, remained to a height of some 40 cm with width of 2.50 m, there is a 10 cm wide ashy layer topping the rubble, over this rubble the wall II has been built, basing it on a course of pebbles laid on the ash. The new mudbrick wall was 2.5m wide. Wall III left an open space between it and the western remnants of its predecessor; the new wall was thus narrower than the original stone foundations. Pebbles deposited against the new wall (wall II), as the wall was doubled in width (from 180 to 360 cm) on the inside. the resulting new eastern face (wall IV), (Van Loon 2001:53).

they measured between 1.8-3.6 as the wall (III) and 2.5 m as walls (I -II) in area B as illustrated in (Fig. 157).[340] Moreover, it measured 2.25 m in area D, specifically in Sq SSS07, as indicated in (Fig. 68).[341]

Furthermore, it is possible to see that the upper[342] and lower[343] city of **Kazane Höyük,** which has an elliptical shape (Fig. 54), in addition to the lower cities of **Tell Banat** (Fig. 56) during the EB IV,[344] and **Hammam et-Turkman** (Fig. 57) during the EB IV,[345] they were fortified by fortification walls but there is no data about their dimensions.

More fortification walls could be observed in the **Upper Northern Levant**, where the upper city of **Tilbeshar,** which has an elliptical shape (Fig. 44), was surrounded by a fortification wall during the EB I, which has been excavated by a deep sounding carried out on the acropolis. This wall consists of several parallel walls including a buttressed one, in the south of the trench, one of this wall, measured 4 m wide.[346] Furthermore, we can notice that the lower city of **Tell Abou Danne,** which has a circular shape (Fig. 45) during the EB I-II, was fortified by a 3 m wide fortification wall and it is preserved over 7.5 m in height. It is possible that the wall has been built directly on the ground without foundations.[347] While we can see that the lower city of **Mardikh** during the EB IVA, was fortified by a 6 m wide fortification wall,[348] its length could reach 2800 m, if this wall was surrounding the entire city in all directions. In the same time, we can notice that both the upper and lower city of **Tell Khirbet al-Qasr,** which has more or less a circular shape[349] (Fig. 55) during the EB IV,[350] was fortified by fortification walls but there is no data about their dimensions.

In the **Lower Northern Levant,** it is possible to observe that the lower city of **Labwe** (Fig. 24) during the EB II – III, was fortified by a continuous wall with an average width of 1.40 to 2 m, the southern part of the wall was doubled along its entire length, by a front-wall.[351]

2. Other cities were fortified by fortification walls which have gone through many phases of constructions and have been renewed many times during the EB.

That could be recognised in **Jazirah**, where the inner fortification wall of **Tell Chuera** measured 1.85 m wide during the EB I, which has been excavated in area H,[352] later during EB II, this wall

340 Van Loon 2001:51.
341 Van Loon 2001: 86.
342 Creekmore 2010: 74.
343 Creekmore 2010: 74.
344 Bevan 1997: 4.
345 Van Loon 1986/87: 311.
346 Kepinski 2005: 147.
347 Tefnin 1983: 142. / Tefnin 1981/82: 201.
348 Matthiae 2002: 30.
349 Castel et al. 2014: 27.
350 Castel et al. 2014: 30.
351 Al-Maqdissi, Braemer 2006: 117.
352 Helms 2018: 341

has been improved to reach 4 m wide, and is preserved to 6 m in height.[353] From (Fig. 19) we can see that its length could reach 2500 m,[354] and it has a circular shape. We can notice that the outer fortification wall of the city measured 5.5-8 m wide during the EB III,[355] which has been excavated in areas (P, U, Z and W). It has a circular shape, and its length reaches 3100 m. Later during the EB IVA, this wall was reinforced on a massive scale in some places, [356]and the outer wall in those places has been expanded to 9-12 m wide. It is preserved between 7-9 m high in area Z,[357] as illustrated in (Fig. 60). Some segments of the outer fortification wall were even partly demolished and completely rebuilt,[358]and in some places, they have used the wall of period IC during period ID as in area W, as indicated in (Fig. 58).

Clear evidence for the continuity of the fortification walls from the EB I to EB III was retrieved at **Tell Beydar** where the inner fortification wall has gone through three successive phases of rebuilding. Consequently, its width has been changed from 1.85 m during the EB I in the wall (7917), to 1.5 m during the EB II in the wall (7904), and later during the EB III, it reaches 4.5 m in the wall (7662).[359] It has been excavated in area G, from (Fig. 47) we can see it has a circular shape and its length reaches 1250 m.

While it is possible to observe that the outer fortification wall of **Tell Rad Shaqrah** which has been excavated in four trenches (A, A2, D, B3) was heterogeneous (Fig. 62), where the older wall specifically during the EB II-III was measured 2 m wide,[360] and later one, during the EB III measured 3.9 m wide. It is preserved to 3.8 m high in trench A, which is located on the eastern slope of the Tell.[361] From (Fig. 18) we can see that the wall has an elliptical shape and its length could reach 400 m. Moreover, we can clearly see that the lower city of **Tell Leilan** was fortified by a fortification wall measured 3 m wide during the EB III, it is preserved to a minimum height of 2.5 m and extending for 3.7 km.[362] During the EB IVB, it was enlargement by another wall measured 1.04 m which is preserved to a height of 1.75 m,[363] that means the total width of the wall has been increased to 4 m,[364] as illustrated in (Fig. 63).

More successive development of the fortification walls could be observed in the **Euphrates region**, where the lower city of **Habouba Kabira,** which has an elliptical shape (Fig. 65), was fortified during the EB by a fortification wall which has been improved many times. This wall has been destroyed by a fire in layers 2-3 during the EB I, later it was renovated with plaster in layers 5 and

353 Meyer 2007: 137.
354 Meyer 2007:141.
355 Meyer 2010: 181.
356 Helms, Meyer 2016: 148.
357 Meyer 2007: 141.
358 Helms 2018: 343.
359 Quenet 1997:170.
360 Bielinski 1993:127.
361 Bielinski 1992: 77-80.
362 Ristvet 2007: 200.
363 Ristvet 2007: 190.
364 Lebeau et al. 2011: 145.

6.[365] Then the fortification wall got wider with another wall measured 1 to 1.2 m wide which has been added in front of the old wall in layer 6.[366] While in layer 7 we can see that the fortification wall has been improved and rebuilt,[367] and in layer 10 the construction technique has been changed, on the one hand, the foundations are built of stones and on the other hand, they were careful in the production and processing of mudbricks. The width of the wall measured 1.2 m, is preserved to 1.5 high.[368] While we can observe that in layer 11 the wall in the eastern side of the Tell was 3 m wide and in the northern and southern side of the Tell was 1.2 to 2 m wide, [369] and in layer 14, it measured 2,8 m wide and is preserved to 5 - 6 m in height [370] as indicated in (Fig. 66). Moreover, it is possible to observe the lower city of **Tell el-'Abd** which has an elliptical shape (Fig. 69), that it was fortified by a 2.50 wide fortification wall which is preserved to 4 m in height during the EB III in level 2.[371] In return, during the EB IVA, specifically in level 4, the wall was reinforced on both sides by a mudbrick packing, which broadened the structure up to a thickness of almost 10-12 m wide[372] as illustrated in (Fig. 70-71). It has been excavated in the north-east side in area I; in Sq 18/28 - 19/28 - 19/27, 19/26, and 20/26).[373]

3. In some cities, the fortification walls were a part of the defensive system, they have been used to protect a sector of the cities, sometimes it has been renewed many times during the EB.

That could be observed in the **Euphrates region** where the lower city of **Titriș Höyük,** which has an elliptical shape (Fig. 72) was fortified in the east by a 2 m wide fortification wall during the middle EB.[374] During the late EB, this wall became wider and reached 3-3.5 m wide, and it has been excavated in Sq 82/88-111.[375] The magnetometry map of the lower city which has been made in 1994, allows tracing this defensive system for a distance of at least 148 m.[376] Also, we can notice that the lower city of **Tell Halawa A** was fortified by a fortification wall from all direction except for the south. This wall has gone through two phases of rebuilding, where its width was almost 2 m in the older phase 3C, while in recent phase 3B, its width was 3- to 4 mudbricks wide,[377] it has been excavated in Sq U, P and T.

365 Heusch 1979: 164.
366 Heusch 1979: 166.
367 Heusch 1979: 168.
368 Heinrich et al. 1970: 38.
369 Heusch 1979: 172-74.
370 Heusch 1979: 174.
371 Sconzo 2013: 15.
372 Sconzo 2013: 15. / Weiss 1994: 116.
373 Weiss 1994: 116.
374 Algaze et al. 2001: 34.
375 Algaze et al. 2001: 33.
376 Algaze et al. 2001: 33.
377 Orthmann 1989: 13.

Moreover, we can recognise in the **Lower Northern Levant**, that the north side of the lower city of **Byblos** was fortified by the wall (A) during the EB II, as indicated in (Fig. 73 -74 -75-76). Its width in some places reaches 2 m,[378] and during the EB III, another wall (B) has been built instead of the wall (A). [379] It was 4.75 m wide and its height, in the best-preserved parts, reaches 7.25 m,[380] that means this part of the city became stronger during the EB III and better fortified than the EB II, maybe because it separates the city from the port area.

While we can see that the lower city of **Khirbet el-Umbashi** which consists of five sectors, that it was fortified by many fortification walls during EB I-II, which were protected many sectors of the lower city as illustrated in (Fig. 23). We can observe that the north-west sector was protected by the wall (VS 4.01 until VS 4.06), it measured 3.50 to 4 m wide, and it can be followed for 160 m long (Fig. 114).[381] While it is possible to notice that the north-east wall (VS 4.07), which was protected the north-east sector consists of a solid wall with double siding, it has an average thickness of 2.30 m.[382] In the north-eastern corner of the site specifically, in the Dams sector, we can observe that the wall (VS 4.09) measured 2.20 m wide on at the summit and more than 4 m at the base, it is tripled by two walls on its west and east faces.[383] While the wall (VS 1.01), which was protected the northern part of the Dams, was 1 to 1.50 m wide.

Moreover, the east sector has been protected by the wall (VS1.03) which is preserved to 1.90 m high (Fig. 115),[384] while we can see that the wall which was protected the south-east sector has an average width of 2.40 m.[385] And the wall (VS 2.01) was 5 to 12 m wide, inside of it spaces could be rooms.[386] Furthermore, there is a narrower wall measured 1 to 1.50 m wide,[387]was associated with a city gate. The fortification wall can be followed to the north, the east and the south of the city, on a length of nearly 1000 m.[388]

378 Lauffray 2008: 291.
379 Lauffray 2008: 323.
380 Lauffray 2008: 293.
381 Braemer et al. 2004:41.
382 Braemer et al. 2004:42.
383 Braemer et al. 2004:45.
384 Braemer et al. 2004:51.
385 Braemer et al. 2004:57.
386 Braemer et al. 2004:58.
387 Braemer et al. 2004:58.
388 Braemer et al. 2004:39.

Middle Bronze Age

1. Many upper and lower cities were surrounded by fortification walls.

That could be seen in **Jazirah**, where the fortification wall (3635) of **Tell Mohamad Diab** measured 1.2 – 1.5 m wide and is preserved to a height of 0.89 cm, this wall has been found in level 5b.5 on the top of the hill A, and it is possible to restore a diameter of approximately 50 m for the entire enclosure.[389] While we can see in the lower city specifically in level 2- 4, an enclosure structure consists of two walls of pisé (4341) and (4344), it is possible to see that the wall (4341) was measured 1.2 m wide and is preserved to a height 1.30 m. while the wall (4344) measured 1 m wide and is preserved to height 0.4 m.[390]Between of them 1.85 m wide gap as illustrated in (Fig. 86). In (Fig. 87), we can see their length could reach 450 m. Moreover, we can observe that the outer fortification wall of **Tell Leilan** was measured 5 m wide during the 1900-1728 BC.[391] Furthermore, **Tell Brak** which has an elliptical shape (Fig. 89) was fortified by a large wall was part of the defensive system which has been identified as the city wall, which has been detected in area TW. [392]

More evidence about fortification walls could be identified in the **Euphrates region**, where the upper city of **Tell Hadidi** was fortified by a fortification wall was built on the top of the slope. It measured between 2 to 4 m wide.[393] We can see from (Fig. 77) that its length measured around 1300-1400 m, this wall has been detected in areas A, B, G and p.[394] While we can recognise that the lower city of **Tell Meskene/ Emar** was fortified by a 3 m wide fortification wall during the MB II, it is preserved to height 2.5 m and has been excavated in Sq 082-085/048-049,[395] as indicated in (Fig. 78). Also, the outer fortification wall of **Tell Bi'a**, was measured 3.50 to 3.60 m wide in Sq 30-31 / 16 and in other areas was 4.70 m wide, such as in area K and C.[396] this wall in the western part of area C, was preserved to 3.70 to 3.80 m in height. We should mention that the outer side of the wall was covered with a very thin white plaster, measured 0.2-0.3 cm wide.[397]

We could observe that **Tell el-Qitar** was fortified by a 2 m wide fortification wall, which was well preserved on the west side of area Y (Fig. 80).[398] While it is possible to see that the lower city of **Hammam et-Turkman,** specifically in level VII, was fortified by 3 fortification walls which have been excavated in Sq O 16-17-18 in the northern slope of the Tell; the first wall measured 7 m wide and is preserved to 1 m in height, it was built parallel to the contours of the Tell, while the second wall which parallels to the first one, was measured 2 m wide, and the third wall measured

389 Nicolle 2006: 118.
390 Nicolle 2006: 46.
391 Stein 1991: 554.
392 Oates et al. 1997: 142-143.
393 Dornemann 1979b: 225.
394 Dornemann 1979b: 216.
395 Finkbeiner, Leisten 1999/00: 32.
396 Miglus, Strommenger 2002: 13.
397 Miglus, Strommenger 2002: 18.
398 Culican, Mcclellan 1983/84: 33.

1.5 m wide.[399] Moreover, the lower city of **Tell Mumbaqa** was fortified by a saw-tooth design fortification wall, which is preserved over 1.5 m high. [400]

In the **Upper Northern Levant**, we can notice that the upper city of **Tell Mardikh** (Fig. 27-28), was fortified by a fortification wall which its remains have been found in the east side of the acropolis.[401] Furthermore, the upper city of **Umm el-Marra** (Fig. 12) during the MB II, was fortified by an enclosure wall, which measured four bricks wide (ca. 1.5-1.6 m[402] wide), has been found in the east of the acropolis in the unit 1302/ 3858. It had only a brief period of use restricted to the early MB II.[403] While it is possible to observe that the lower city during the MB II was fortified by an enclosure wall measured 7 m wide, has been excavated in the west area A.[404] And during the late MB II, the fortification wall in the north-west side of the city, was measured 4.5-6 bricks wide (1.5-2 m wide) which is preserved up to 1.4 m.[405] We can see that lower city of **Tell Gindaris** (Fig. 81) was fortified by an 8 m wide fortification wall, which its remains still visible. It runs approximately 325 m to the northern direction and 100 m to the eastern direction.[406] **Tell Massin** which has an elliptical shape (Fig. 82) was fortified by a 3 m wide fortification wall, which is preserved to 1.90 m high, it has been detected in the west side of the Tell, specifically, in trench 3.[407] Moreover, the lower city of **Tell Khan Sheikhoun,** which has an elliptical shape (Fig. 83), was fortified by a fortification wall,[408] unfortunately, we don't have data about its dimensions.

One can recognise in the **Lower Northern Levant**, that the lower city of **Tell Kazel,** which has an elliptical shape (Fig. 85) was fortified by a 0.8 m wide fortification wall which has been detected in area III.[409] Also, the elliptical lower city of **Tell Deir Khabiye** (Fig. 86) was fortified by a 3-3.5 m wide fortification wall which is preserved to 5 m in height. It has been detected in area A in the south side of the Tell.[410]

399 Van Loon 1983a: 300.
400 Machule 1993: 76.
401 Pinnock 2001: 17.
402 Schwartz et al. 2003: 341.
403 Curvers, Schwartz 1997: 227. / Schwartz et al 2012: 179.
404 Curvers, Schwartz 1997: 215.
405 Schwartz et al. 2003: 342.
406 Sürenhagen 1999: 166.
407 Du Mesnil du Buisson 1935: 131.
408 Du Mesnil du Buisson 1932: 174.
409 Badre et al. 1990: 87.
410 Von der Osten 1956: 14.

2. Other cities were fortified by fortification walls which have gone through many phases of constructions and have been renewed many times during the MB.

That could be observed in the **Upper Northern Levant**, where the lower circular fortification structure of **Tell Abou Danne** in level VI, has gone through three phases of constructions. In the first one, it consists of the fortification wall measured 2.10 m wide,[411] with a 0.85 m wide narrow outer wall, which was protected the walkway and parallel to the fortification wall[412] as illustrated in (Fig. 90). In the second phase, a new fortification wall has been built instead of the first one, which has been destroyed; the new wall was reinforced by towers,[413] in the third phase after the destruction a new fortification wall was measured 0.70 m wide has been built on 50 cm wide layers of ash.[414]

More successive development of the fortification walls could be seen in the **Lower Northern Levant**, specifically in the lower city of **Tell es-Salihiyeh**, during the first half of the second millennium in level XII. The city was fortified by fortification wall (P1), which has already been erected on an older wall (P 2); one can notice that wall (P 1), was partially covered by the earthen rampart (XII b1). While a 1.20 m wide wall (XII b2) has been built on 2.20 to 2.30 m behind the earthen rampart and parallel to it.[415]Another wall (XIIa2) which its width measured 1.90 m, has been built on the earthen rampart and far away 2.10 m from the revetment wall and parallel to it.[416] Furthermore we can observe that the wall (XIIa3) has been built far away 1.7 to 1.8 m from the wall (XIIa2) and parallel to it.[417] In level XI after destroyed all the walls, we can see that a new wall (XI 1) has been built on the old settlement level XII, it measured 2.5 m wide.[418]

3. In some cities, the fortification walls were a part of the defensive system, they have been used to protect a sector of the cities, sometimes it has been renewed many times during the MB.

That could be identified in the **Upper Northern Levant**, where the western side of the upper city of **Tell Afis** during the MB IB-IIA was fortified by a 3.5 to 4 m wide fortification wall,[419] which has been detected in area E3 (Fig. 40). While we can see in area N2, which is located on the eastern side of the acropolis that the fortification structure has gone through many phases of construction; in the first phase, was consisted of a 3 m wide wall has been built on the top of a rampart, which was protected by a hard glacis. This wall is preserved to a height of 4.50 m. In the next phase, it

411 Tefnin 1979a: 192.
412 Tefnin 1979a: 192.
413 Tefnin 1979a: 193.
414 Tefnin 1979a: 193.
415 Von der Osten 1956: 38.
416 Von der Osten 1956: 38.
417 Von der Osten 1956: 39.
418 Von der Osten 1956: 35.
419 Affanni, Michele, 2009: 41.

has been reinforced by another wall measured 80-120 cm wide, which is preserved to a height of 1 m. [420] That means the cumulative width of this fortification structure was roughly 3.80 m. In the third phase, the fortification structure was restored by adding a new wall after the collapse the elevation of the wall was built in the first phase. A new glacis (slope) was laid down on the previous one in the fourth phase. While during the fifth phase, we can observe that the old fortification wall pertaining to the first phase, was reused as the core wall of the supplemental rampart.

Moreover, one can notice that the upper city of **Tell Touqan**, during the MB II, was fortified by a 4.5 m wide fortification wall was surrounded the entire city except for the south. This wall has been excavated in area E, where it was preserved to a height of 5.40 m, in some other areas is preserved to a height 0.50 / 0, 80 m just.[421] While we can recognise that a part of the lower city of **Tell 'Atchana / Alalakh** was fortified by a fortification wall during the MB about 1800 -1750 BC. It was measured 2.50 m wide and has been detected in area H, in level VII.[422]

We can observe in the **Lower Northern Levant**, that the Middle Bronze city of **Beirut/ Biruta** has been expanded towards the south, where fortification wall (W329-398) was 13 m away from the retaining wall (W353), which has been excavated in area Bey 003, as indicated in (Fig. 93-94). We can see on its southern side was carefully designed facade where long blocks alternate with smaller stones,[423] this wall measured 3.75 m wide,[424] we can fallow it in area Bey 020, where it runs for about 12.5 m from the north-west to the south-east and turns then towards the east[425] as illustrated in (Fig. 91-92). In area Bey 013, we can notice that the wall runs for about 35 m to the east, and is preserved to a height of 4 to 7 m.[426] While in area Bey 020, in the second phase, the remains of this wall were integrated into a wall which is much better preserved, at places, the wall is still more than 5 m high and 1.2 m wide.[427] Furthermore, one can see a part of the lower city of **Kamid el-Loz** which has a roughly elliptical shape (Fig. 96), was fortified by a fortification wall measured 2 m wide, which is preserved to a height of 2 m, its superstructure several times has renewed, it has been excavated in ID14-15, IC15- 16, IC18, IIC1 and IID1.[428] Furthermore, it is clear that the lower city of **Tell al-Ash'ari**, which has an elliptical shape (Fig. 84), was fortified by a massive fortification wall during the MB.[429] It is still visible at the north-eastern, the eastern and the southern side of the Tell, while the western and northern side there are no walls.

420 Cecchini et al. 2006: 384.
421 Matthiae 1982: 316.
422 Woolley 1955: 144.
423 Badre 1997:28.
424 Badre 1997:30.
425 Finkbeiner, Sader 1997: 124.
426 Karam 1997: 107.
427 Finkbeiner, Sader 1997: 124 -126.
428 Marfoe 1995: 104.
429 Kropp, Mohammad 2006: 131.

Changes in the fortification walls between the EB and MB.

We can study the changes in two axes, the first one, the methods of using the fortification walls and the second is the dimensions of them precisely the width of the walls.

Regarding the methods of using the fortification walls, one can see during the EB that, sixteen lower cities and seven upper cities were surrounded by a fortification wall while this number became smaller during the MB, where thirteen lower and four upper cities were surrounded by a fortification wall.

Moreover, we could observe that during the EB, four lower cities have used the fortification walls to protect a sector of the city, which three of them have renewed their fortification walls. While during the MB we can see that, six cities (two upper cities and four lower cities) have used the fortification walls to protect a sector of the city, and just two of them have renewed their fortification walls.

On the contrary of the rampart which became stronger during the MB, we can say that the fortification walls were stronger and better renewed during the EB and that could be noticed through seven cities (two upper cities and five lower cities), which were surrounded by fortification walls during the EB. As we have seen, these walls had been renewed many times during this period, while one can see during the MB, that just two lower cities their fortification walls have gone through many phases of construction.

We can say that the reason for these successive reinforcements and enlargements of the city walls suggest that the threat of danger in the region had not subsided over time.[430]

As a result of that, we can say, the cities during the MB have not been fully depended on fortification walls to protect themselves, by another word the fortification walls during the MB were not considered as main defensive elements as the rampart. While during the EB the cities were depended on fortification walls as main elements in the defensive system more than MB cities, therefore, these walls have been improved and developed many times.

In terms of dimensions specifically the width, one can see that the width of fortification walls, which are surrounded the entire lower cities during the EB was between 1.4 until 8 m with an average width of 3.3 m, from eleven cities.[431] While during the MB the width of fortification walls was between 1.2 until 8 m with an average width of 3.5 m, from ten cities.[432]

As a result of that, we can say, there is no big changing in the width of the outer fortification walls between the EB and MB. While the observable change in the width could be identified in the inner fortification wall. Where the inner fortification walls, which were surrounding the entire EB upper

430 Cooper 2006: 79.
431 We don't have data about the width of fortification wall in other 5 cities.
432 We don't have data about the width of fortification wall in other 3 cities.

cities were wider than the MB inner fortification walls, their width was between 1 to 8 m during the EB with an average width of 4.2, from four cities, while during the MB their width was between 1.5 to 4 m with an average width of 2.7 m, from two cities.

We should mention that some fortification walls in some cities during the EB and MB were homogeneous; I mean by that; they have an almost the same width and structure along with their extensions. Such as the outer fortification wall of Tell Leilan during the MB, Tell ʻAtij and Tell Abou Danne during the EB II. Other walls were varying from sector to another, by another word they were heterogeneous, such as the outer fortification wall of Tell Selenkahiye during the EB IV and Tell Biʻa during the MB. Furthermore, some cities were fortified by one kind of a defensive element and others fortified by many diverse defensive elements, which were varying from sector to another as Tell es-Sweyhat during the EB IV.

The question is if this homogeneity and heterogeneity of the defensive system are related to the politic and economic factors and how?

One of the possible answers that the homogeneous defensive system is a sign of the presence of a centralised political authority. Which plan the city structure included the defensive system, that means the city was under supervision by a few powerful individuals who ruled it from its acropolis.[433] While the heterogeneous defensive system, that reflects not all the city construction projects were under the direction and execution of a single authority, on the contrary, some efforts may have been left to individual community groups, or city neighbourhoods, to coordinate and to renew the defensive system.

That could be observed in Tell Selenkahiye during the EB IV,[434] where the width of the fortification wall has been changed from sector to another. The reason of the differences as the excavator of Tell Selenkahiye said: "a general indication was given by the authorities as to its location the actual construction was left to individual quarters, or blocks, of the settlement, this assumption entails a decision - making structure in which the central authority was limited in power, it may have been something like a council of elders such as that postulated for early Uruk"[435]

Moreover, that be true for the outer fortification wall at Tell es-Sweyhat, which present a rather diverse set of features that appear to vary from one city sector to another.[436]

433 Cooper 2006: 87.
434 Van Loon 2001: 86.
435 Van Loon 2001: 110.
436 Zettler 1997: 49.

Long Fortification Wall, Très Long Mur (TLM)

In addition to all previous walls and ramparts, which are protected the cities. We can observe there is a long fortification wall called **(TLM) (Très Long Mur)** (Fig. 158), has been built most probably during the EB IV.[437] Where a part of it, is located only 10 km to the east of Tell al-Rawda, this wall has been built over a large region. It has been traced over more than 220 km along the Syrian steppe.[438] The main wall measured 60 to 90 cm wide, and the covering measured 30 to 45 cm wide. However, the width of TLM does not exceed more than 125 cm in total, most often reached 110 cm wide and does not have a width less than 90 cm.[439] It has been built out of stones, which measured 0.8 - 1.1 m wide.[440]

The most important question; is TLM a defensive wall? especially there is a large, solid, square construction of 3 x 5 m, was attached to the wall, and other installations may be related to a more "defensive" function, such as two constructions set back a few dozen meters west of the wall, which could be towers, due to their shape and location.[441]

Or TLM is just a marking the border of a territory belonging to a political entity powerful! Since the width of the wall does not exceed more than 1.1-1.25 m, and that it is built in dry stone means that it could not have been a defensive wall.[442]

So, to understand the reasons behind building this long wall, we must try to recreate the historical landscape during the EB IV, when it had been built. By doing that, it becomes possible to understand the various factors -not only military ones, which, by the way, are often the easiest to perceive- influenced their construction.

We have known from the historical records, that the western Semitic nomads at the end of the third millennium, started to penetrate to Syrian cities and placing increasingly more pressure on sedentary states. Since this wall encloses the regions favourable for exploitation, either continuously, or in places, especially for extensive barley cultivation. Beyond are only pasture lands, except for a few oases. The frontier would possibly have separated two worlds, that of the farmers and that of the nomadic herdsmen. Thus the most reasonable hypothesis is that of a wall defining the territory of a city or kingdom, marking a limit which the nomad tribes had to respect during their migrations,[443] and if there are installations, such as the towers whether they were associated to the wall or located near to it, they could have been used as watchtowers to observe the movement of the nomadic groups.

437 Depends on the survey 2008 from the French-Syrian archaeological mission, in the Syrian steppe we can say that the TLM dates back with great probability to the very beginning of Early Bronze IV. (Castel et al. 2014: 16-17).
438 Castel et al. 2014: 12.
439 Castel et al. 2014: 14.
440 Castel et al. 2014: 12.
441 Castel et al. 2014: 17.
442 Geyer et al. 2007: 278
443 Geyer et al. 2007: 279.

We should mention that this wall was built during the EB IV, that means it was contemporary to the long fortification wall (Martu wall), which was located slightly to the north of Akkad, and with the Prince's Wall, which has built by the twelfth Egyptian dynasty to face the nomadic groups.[444]

Building materials of fortification walls and their foundations

One can observe that the fortification walls during the EB and MB have been built of mudbricks or block of lime or basaltic stones, which their sizes were varying considerably, from area to another and from city to another and sometimes from sector to another in the same city.

The mudbricks were made of soil, water and straw or other fibres that are strong in tension are often added to the bricks to help reduce cracking. The soil has varied colours because it was composed of different materials like sand, silt and mineral composition, these proportions can vary to a degree, however, and result in different types of loam soils, the different types of soils each have slightly different characteristics, with some draining liquids more efficiently than others. Most typically, mud was shaped into mould-made, sun-dried bricks (Arabic *libn*) in the Bronze Age and later, bricks were sometimes kiln-fired or baked, but fuel requirements made this an expensive practice. [445] Furthermore, they were often trimmed for specific needs after being moulded, usually where a normal size brick was too large.[446]

An alternative form of mud architecture is *pise* (Arabic *tauf*), where wet mud was packed into the desired shape rather than being formed into bricks, whether a building was constructed of bricks or *pise*, its roof was usually made of wooden beams and thatch unless a mudbrick dome was constructed.[447]

While the mudbrick or *pise* is the most common architectural media in the Jazirah and throughout Mesopotamia, the greater availability of stone in the Lower Northern Levant allowed for its integration into local architecture. Particularly frequent was the use of stone boulders or cobbles for wall substructures, with courses of mudbricks laid on top. Occasionally, buildings were constructed entirely of stone.[448]

We can divide the building materials into:

1. Walls building materials; which consist of mudbricks and (lime – basaltic) stones.
2. Foundations building materials; which consists of the limestone (block – rough), basalt stone, pebbles, complex structure and miscellaneous material.

444 Liverani 2014: 159.
445 Akkermans, Schwartz 2003: 6.
446 Burke 2004: 154.
447 Akkermans, Schwartz 2003: 6.
448 Akkermans, Schwartz 2003: 7.

The structure of the building materials

Early Bronze Age

1. Building materials of the fortification walls

a-Mudbricks

It is possible to observe in **Jazirah**, that the inner fortification wall in **Tell Mozan** has been built of the mudbricks which measured (32-33×8,5-9 cm),[449] while we can see in **Tell Bderi** anther size of square mudbricks have been used to build the outer fortification wall, they measured (20×20 cm).[450] We can notice that grey reddish-brown mudbricks have been used to build the outer fortification wall in **Tell Kharab Sayyar**,[451] while in **Tell Leilan**, the wall (A) has been built of alternating red and black bricks measured (33×17×8 cm), was made from the calcic horizon plain soil and the black mud of the wadi Jarrah respectively.[452]

More evidence about the mudbricks could be recognised in the **Euphrates region**, where the fortification walls in **Tell Kannas** have been built of mudbricks measured (40×40×10 cm).[453] While in **Tell es-Sweyhat,** the mudbricks which have used to build the inner fortification wall, measured (40×50×10 cm) and have been detected in area IV.[454] Moreover, we can see that in **Habouba Kabira** varied sizes of mudbricks have been used to build the fortification walls, such as in layer 10 where the mudbricks measured (40×55 cm), they were grey colour, [455]also, another kind of mudbricks which have a long rectangular format, have been used to build the walls, they measured (34 -38×48 -50×10-12 cm).[456] While in layer 14, it is possible to see that square mudbricks have been used to build the walls, and they measured (38 - 40×10 -12 cm).[457] Furthermore, **Tell Halawa A**, has been characterised by the non-uniform format of mudbricks, which have been used to build the fortification walls, that could be observed in Sq U and T, where the bricks measured (50×30×12cm, 40×30×12cm and 40×40×12cm). Besides, the broken mudbricks,[458] while in Sq P, another kind of mudbricks has been used, which measured (50×30×12 cm). [459]

The same thing applies on in **Tell Bi'a**, which has been characterised by the varied mudbricks, that could be observed in area M, where the grey, brown, orange and reddish mudbricks of varying

449 Buccellati, Kelly-Buccellati 1988: 62.
450 Pfälzner 1987b: 294. / Pfälzner 1989/90: 216.
451 Hempelmann 2013:29.
452 Ristvet 2007: 200.
453 Finet 1979: 84.
454 Holland 1976: 49.
455 Heusch 1979: 168.
456 Heinrich et al. 1970: 38.
457 Heinrich et al. 1971:18.
458 Orthmann 1989: 13.
459 Orthmann 1989: 16.

quality have been used to build the fortification walls.[460] Some of them were partly brittle (especially the dark brown) and contains small to medium-sized pebbles, sometimes small pieces, and occasionally also, crystalline inclusions, the used bricks have very different formats: rectangular sizes measured (38×34/ 42× 36/ 43 × 30/ 47×32/ 48×38/ 49×31 cm) and often (50×36) cm are available and square bricks (30, 36, 43, 46, or 48 cm on a side) besides the half brick,[461] the thinner wall has been built of the red square mudbricks which measured (42×42×10 cm).[462]

Moreover, we can notice in the **Upper Northern Levant**, specifically in **Tell Abou Danne** that the mudbricks which have been used to build the wall measured (18-20×6-7 cm) during the EB I-II.[463] While in **Tilbeshar** the mudbricks have a large rectangular shape and measured (50×30×10 cm), they were arranged in headers and stretchers.[464] And in **Tell Mardikh** we can see that the wall has been built of the rectangular bricks, which measured (60×40 cm) during the EB IVA.[465]

b- Stones

- Limestones

One can distinguish in the **Lower Northern Levant**, that the wall (A) in **Byblos** has been constructed of the large, rough-sized blocks of limestone, [466] as well as the wall (B), which was built of the limestone, cut into pieces (with an average size 35 cm).[467]

- Basalt stones

That could be seen in **Jazirah**, where the basaltic stones have been used to build a part of the fortification wall in **Rad Shaqrah** which has been detected in trench B3.[468]

Moreover, we can observe in the **Lower Northern Levant** that **Khirbet el-Umbashi** has been characterised by the non-uniform format of basaltic stones. That could be noticed in the north-west sector; where blocks of bullous basalt with an average dimension (70×60×40 cm),[469] have been used to build the wall, while smaller blocks of medium size measured (45×30 cm) have been used to build the north-east sector wall.[470] We can see the larger blocks which measured (150×100×60 cm) [471] have been used to build the wall (VS4.09), while smaller one measured about (60×40×50

460 Miglus, Strommenger 2002: 9.
461 Miglus, Strommenger 2002: 9.
462 Miglus, Strommenger 2002: 10.
463 Tefnin 1979a: 197.
464 Kepinski 2005: 147.
465 Matthiae 2002: 30.
466 Lauffray 2008: 323.
467 Lauffray 2008: 291-293.
468 Bielinski 1994: 157.
469 Braemer et al. 2004: 41.
470 Braemer et al. 2004: 42.
471 Braemer et al. 2004: 50.

cm)[472] have been used to build the wall (VS1.03), and the wall of the south-east sector was built of blocks measured (60×40×40 cm).[473] Moreover, we can see that the basalt stones have been used to build the fortification walls in **Labwe** during the EB II– III. [474]

2. Foundations of the fortification walls

a. Limestones

In the **Lower Northern Levant**, one can observe that the wall (A) in **Byblos** in some places was rest directly on the rock,[475]as well as the wall (B), which was rest on the rock which slopes steeply towards the ravine.[476]

While in the **Euphrates region** we can notice that the inner fortification wall of **Tell es-Sweyhat** has been built on the rough stone foundations, is preserved to just over 1'17 m high, which has been detected in trench D.[477] More evidence about the limestone foundations could be noticed during the EB III in **Tell el-'Abd,** where the outer fortification wall has been built on a stone foundation of the limestone over 2 m high and 2.50 wide, which set above virgin soil.[478] Furthermore, in **Tell Titriș Höyük** we can see that the outer fortification wall during the middle EB was built on a 2 m wide solid stone foundation, while during the late EB, it was built on a stone foundation of the limestone some 1.5 m in height.[479] Furthermore, it is possible to see in **Tell Habouba Kabira** that the outer fortification wall in layer 11, was built on a large limestone measured 1 m wide.[480]

b. basalt stones

That could be identified in **Jazirah**, where the later phase of the fortification wall in **Tell Rad Shaqrah** has been built on the basalt boulders.[481]

c. pebbles

The evidence of pebbles foundation could be recognised in the **Euphrates region**, specifically in **Tell Selenkahiye** where the outer fortification wall in area D in Sq SSS07 has been built of on pebbles and gravel.[482] The foundation courses in area B in Sq O-Q 26 have a total width of 2.50 m

472 Braemer et al. 2004: 51.
473 Braemer et al. 2004: 57.
474 Al-Maqdissi, Braemer 2006: 116.
475 Lauffray 2008: 323.
476 Lauffray 2008: 291-293.
477 Holland 1977: 37.
478 Sconzo 2013: 15.
479 Algaze et al. 2001: 33.
480 Heusch 1979: 172-74.
481 Bielinski 1992: 80.
482 Van Loon 2001: 86.

and a height of some 1.50 m.[483] Moreover, we can see in **Tell Habouba Kabira** that the outer fortification wall in layer 10, was built on coarse pebbles and limestones (it was nearly 1.5 m wide).[484]

d. Complex

In the **Euphrates region**, we can see that **Tell Halawa A** has been characterised by a complex foundation, which has been composed of an outer and inner shell (shell wall) of coarse-cut limestones, and the gap between of them was about 2.0 to 2.5 m wide. It has been filled with small stones and field stones, based on the ground soil. The surface of the foundation has been covered with a layer of clay mixed with small stones, where the lower part of the mudbrick wall was placed,[485] as illustrated (Fig. 97). These foundations have been excavated in Sq P, T and U.

Middle Bronze Age

1. Building materials of the fortification walls

a. Mudbricks

We can notice in **Jazirah**, that the fortification wall in **Tell Brak** has been built of large mudbricks which measured (46×25×8 cm) and have been detected in area TW.[486] We can see the outer fortification wall of **Tell Leilan** has been built of a very clean dark reddish-brown mudbrick with the large lime inclusions.[487]

More evidence about mudbricks could be observed in the **Euphrates region**, where the inner fortification wall of **Tell Hadidi** has been built of bricks measured (36×74×14 cm). It has been excavated in area P.[488] While in **Tell Bi'a** we can see that the rectangular reddish-brown and the grey-brown mudbricks have been used to build fortification walls, these bricks measured (38-40×31-34×8-9 cm),[489] and in **Hammam et-Turkman** the grey square mudbricks which measured (35×35 cm)[490] have been used to build fortification wall (wall V) which have been excavated in Sq O18.

Other sizes of the mudbrick possible to identify in the **Upper Northern Levant**, specifically in **Tell Afis** where a red square mudbrick measured (30×30×10 cm) has been used to build

483 Van Loon 2001: 51.
484 Heusch 1979: 171.
485 Orthmann 1989: 13.
486 Emberling, Mcdonald 2001: 23.
487 Stein 1991: 554.
488 Dornemann 1979a: 144.
489 Miglus, Strommenger 2002: 13.
490 Van Loon 1988: 80.

fortification wall in area E3[491] and a red, grey and yellow square mudbrick with a unit size of either (36×36×10 cm) or (38×38×12 cm),[492] has been used to build fortification wall in area N2. Besides, we can see that the inner fortification walls in **Umm el-Marra** have been built of mudbricks measured (37 cm) wide[493] during the MB II. They have been excavated in the eastern side of the acropolis, [494] (Fig. 12). In the west area A, the grey and red bricks have been used to build the fortification walls with a technique of alternate courses of flat-lying grey bricks and vertically standing red brick has been used.[495]

While we can observe that **Tell Abou Danne** has been characteristic by the non-uniform format of mudbricks. The mudbricks which measured (33×33×7 cm)[496] have been used to build the fortification walls in the first phase, while the narrower outer wall has been built of mudbricks measured (28×28×7).[497] In the second phase anther size of grey square bricks measured (38×38×10 cm) have been used to build the walls.[498] While in the third phase square bricks measured (35×35×8 cm) have been used to build the fortification wall.[499] One can notice that the mudbricks which have used to build the fortification wall in **Massin** were measured (38-40×38-40×12-14 cm).[500]

Moreover, we can observe in the **Lower Northern Levant**, that the wall (XIIa2) in the level XII in **Tell es-Salihiyeh**, has been built of mudbricks measured (36-39×10-12 cm),[501] while in the level XI the bigger bricks measured between (44-57×11-15 cm) have been used to build the wall (XI1).[502]

b. Stones

It could be identified in the **Euphrates region**, where a large block of stone has been used to build the fortification wall in **Tell el-Qitar**.[503] Also, we can see in **Lower Northern Levant**, that the wall (W329 – 398) in **Beirut** specifically in area Bey 003, has been built of a block of limestone of irregular size joined together with small flat stones without mortar (Fig. 95). Their length varies between 0.15 m and 2.85 m, and their width is generally around 0.20 m.[504] While in area Bey 020

491 Affanni, Michele 2009: 41.
492 Affanni, Michele 2009: 41.
493 The width of the inner wall four bricks wide around 1.5-1.6 m wide, that mean the width of the mudbricks is 37 cm (Schwartz et al. 2003: 341).
494 Schwartz et al. 2003: 341.
495 Schwartz et al. 2000: 426.
496 Tefnin 1979a: 192.
497 Tefnin 1979a: 192.
498 Tefnin 1979a: 193.
499 Tefnin 1979a: 193.
500 Du Mesnil du Buisson 1935: 131.
501 Von der Osten 1956: 38.
502 Von der Osten 1956: 35.
503 Culican, Mcclellan 1983/84: 33.
504 Badre 1997: 28.

in the first phase, the wall has been built of limestone ashlars, some of them longer than 1 m.[505] It is possible to notice that the outer fortification wall of **Tell Kazel** has been built of the stone rubble.[506]

2. Foundations of the fortification walls

a. Limestones

The evidence about them could be observed in the **Euphrates region**, where the fortification walls in **Tell Meskene /Emar**[507] and **Qala'at Halwanji**,[508] have been built on the limestone foundations.

We can see in in the **Upper Northern Levant** that the outer fortification wall in **Tell Gindaris** has been built on a stone foundation,[509] as well as the first phase of the outer fortification wall in **Tell Abou Danne,** which has been built on small stones.[510] Furthermore, it is possible to notice that the outer fortification wall in **Tell Massin** has been built on stone foundations up to 3 m wide,[511] while one can see in **Tell ʻAtchana /Alalakh** that the outer fortification wall has been built on stone rubble foundations.[512]

In the **Lower Northern Levant**, we can observe that the second fortification wall (W329-398) in **Beirut** has been built on courses of large stones.[513]

b. Complex

That could be seen in the **Upper Northern Levant**, where the inner fortification wall in **Tell Afis** in area E3, has been built on the course of large blocks with an upper fill of small stones, pebbles, and sherds as a base for the mudbrick solid structure.[514]

c. Miscellaneous material

We can notice in the **Euphrates region**, that the outer fortification wall in **Tell Biʻa**, has been built on ash rubbles and thin red-brown loam layers of about 30 cm thickness in the on older settlements.[515]

505 Finkbeiner, Sader 1997: 124.
506 Badre et al. 1990: 87.
507 Finkbeiner, Leisten 1999/00: 32.
508 Eidem, 2013: 5.
509 Sürenhagen 1999: 166.
510 Tefnin 1979a: 192.
511 Du Mesnil du Buisson 1935: 131.
512 Woolley 1955: 144.
513 Badre 1997: 28.
514 Mazzoni 1994: 148.
515 Miglus, Strommenger 2002: 13.

Changes in the fortification wall's building materials between the EB and MB

In terms of **walls building materials**, we can clearly say that the mudbricks were considered the main building materials, which have used to build the fortification walls during the EB and MB. We can deduce from the previous data that the average size of the mudbrick, which has been used during the EB was around (40×40 cm), while during the MB, the average size was around (35×35 cm). Moreover, it is clear that the colour of mudbricks reflects on the kind of materials have been used to make them, we can see that during the EB and MB the grey, reddish and brown colour of mudbricks were common.

In addition to the mudbricks, one can observe that the lime and basalt stones have been used to build the fortification walls during the EB. While during the MB we can notice that just the limestones have been used to build fortification walls.

We can say that both of the mudbricks and stones have been taken from areas near to the settlements, by another word the regional peculiarities of the environmental areas, which surrounded the city, gave us the building materials resources such as different kinds of soils or stones.

Reddish or brown bricks are often of a colour comparable to local soils and, thus, they indicate that the source for these bricks was probably from outside of the settlement since no occupational debris. While the grey bricks made from occupational debris and ash, the presence of occupational debris, which contains a considerable amount of ash, in grey bricks may have also, contributed to the increased impermeability to moisture in grey bricks.[516]

As we have seen that the size of mudbricks in some cities was diversified such as in Tell Bi'a and Habouba Kabira during The EB; that is probably because the bricks have been made by many households.[517]

In regard to the **Foundations building materials**, it is possible to observe that during the EB, both lime and basalt stones have been used as foundations under the fortification walls. They have been formed as a block shape, a complex form, or they have not been formed and used as the rough unprocessed. Furthermore, in some cities, we can see that the pebbles and gravel have been used as the foundation.

While during the MB, one can notice that the limestones and loam layers have been used as foundations and it is possible to see that the limestone formed as a block shape, a complex form, or they have not been formed.

516 Burke 2004: 154.
517 Miglus, Strommenger 2002: 10.

We should mention that many fortified EB cities which were near to the basaltic area in southern Syria have been abandoned during the MB. Therefore, the basalt stones have not been used as a foundation or as a building material of the fortification walls during the MB.

G. CASEMATE WALL

Definition and Function

It is possible to recognise that the structure of this wall consists of two parallel walls (exterior and interior wall) and a gap between of them filled with different materials such as broken bricks, sherds from the bowls, rubble and debris. This wall was used to fortify a sector of the city or the entire city. We can say that the main function of the casemate wall is protecting segments in the city where are difficult to be protected by the wall or is reinforcing a part of the fortification wall. This technique (two walls and filled gap) relieve the pressure caused by the massive quantity of surrounding brickwork, producing overall a stable and enduring defensive system,[518] in this way, the city decreasing the mudbricks and workforce that required to build the fortification structure.

The structure of the casemate walls

We can divide the methods of using the casemate wall into:

1. Fortifying and reinforcing a sector of cities.
2. Fortifying the entire upper or lower cities.

Early Bronze Age

1. Fortifying and reinforcing a sector of cities.

That could be observed in **Jazirah** during the EB III, where the outer fortification wall of **Tell Chuera,** specifically in area Z, has been reinforced by a construction, (like a box) (casemate wall), it measured 6.5 m wide and 2.5 m high as illustrated in (Fig. 60). This structure is consisting of two rooms were separated by a mudbrick wall, which are completely filled with gravel.[519]

More evidence about the casemate walls could be seen in the **Euphrates region**, where the upper city of **Tell Jerablus Tahtani** was fortified by a casemate wall brick filled, these casemate-like square rooms; the largest one is measured 4×4 m. It has been excavated in area III (Fig. 10).[520] We can see in the north-western side of the lower city of **Tell es-Sweyhat**, that it was fortified by a casemate wall which its exterior wall measured 1.8 m wide and the interior wall ca. 90 cm wide. Both walls consisted of four to five courses of mudbricks, without straw temper, set on a stone

518 Orthmann 1989: 88. / Cooper 2006: 79.
519 Meyer 2010: 176.
520 Peltenburg et al. 1996: 7.

foundation, which was two courses high; they were constructed with broad, flat stones perpendicular to the run of the wall and smaller stones in the interior. [521]

2. Fortifying the entire upper or lower cities.

It is possible to see in the **Euphrates region**, that the upper city of **Tell Mumbaqa** during the EB IV, was fortified by a 5 m wide casemate wall, which has been excavated on the top of the mound specifically in Sq 30/30–31/30. It consists of an exterior wall measured less than 1 m wide, and an interior wall measured 2.8 wide.[522] They have been built of mudbricks which measured (50×30×9 cm),[523] the gap between them has been filled by broken bricks. Moreover, we can observe that the lower city of **Tell Halawa B** (Fig. 98) was fortified by a casemate wall looks like square chambers, which measured 1.5 × 1.5 m and have been found full of the settlement debris.[524] It has been built of yellow sandy mudbricks and grey mudbricks.[525] This wall was erected on a stone foundation, which has been excavated in Sq BM 2F, there we can see that the stone foundation has the same complex structure as the foundation of Tell Halawa A. It has consisted of two shells were built of limestone and the gap between of them was filled with stones mixed with the clay. [526]

Middle Bronze Age

1. Fortifying and reinforcing a sector of cities.

One can observe in the **Euphrates region**, that the south and the east ridges of the upper city of **Qala'at Halwanji**, were fortified by casemate walls, which have been excavated in three soundings (sondages); S 12/16/20, S 02-3/14 in the south ridge as indicated in (Fig. 99), and S 09/17-18 in the east ridge.[527] We can see in S 02-3/14 on the south ridge, that the casemate walls consist of two parallel mudbrick walls measured 1.6 m wide,[528] were built of grey mudbricks,[529] on a stone foundation consists of 4 brick courses on limestone.[530] Between of them, 3 m wide space was filled with the burnt debris, broken bricks and sherds from the bowls.[531] Another casemate wall similar to the wall in S 02-3/14 has been detected in S 09/17-18 on the east ridge of the Tell. The gap

521 Zettler 1997: 49.
522 Eichler et al. 1984: 73.
523 Eichler et al. 1984: 73.
524 Orthmann 1989: 88.
525 Orthmann 1989: 87.
526 Orthmann 1989: 146-147.
527 Eidem, 2013: 4.
528 Eidem 2013: 5.
529 Eidem 2013: 5.
530 Eidem 2013: 5.
531 Eidem 2013: 5.

between their walls was wider, measured 6 m wide, which was filled with mixed material; with unclear disturbed scatters of limestone and the largest group of EB IV sherds.[532]

In the **Upper Northern Levant**, we can notice that the outer fortification structure of **Tell Abou Danne** was reinforced in some places by a casemate wall, specifically during the first phase. This wall consists of two parallel walls have been built of mudbrick (36×36×8 cm) above small stones, and the gap between them has been filled by poorly packed bricks constituted a sort of blockage.[533]

Furthermore, it is possible to see that a part of the lower city of **Tell 'Atchana /Alalakh** in level VII, was fortified by a casemate wall, which has been detected in areas 3, Sq 45.72. This wall consists of two mudbrick walls one of them measured 0.75-1 m wide,[534] they have been built of large orange-brown mudbricks measured (40×40 cm),[535] their gap was filled with rubble, ashy loose soil and layers of ash lenses.[536]

Clear evidence of the casemate walls has been identified in the **Lower Northern Levant**, specifically in **Kamid el-Loz** where parts of the lower city were protected by casemate walls, which have been excavated in area ID15. Their structure consists of several walls interpreted as long rectangular chambers as illustrated in (Fig. 100 -101-102). These chambers have been filled with soil in the level 3d.[537] We can see that wall (2) measured 1.42 m wide,[538] while walls (4, 5 and 7) measured 1.5 m wide.[539] It is possible to notice that walls (8 and 12) measured 1.3 m wide.[540] These walls have been built of yellow mudbricks were varying on the size; some of them measured (36×36×10 cm) have been used to build walls (1, 2, 3 and 10). While another size of bricks measured (54×36 cm) have been used to build the bottom of wall (8),[541] we can see that the foundations of walls (1, 2, 3, 4 and 5) consist of fieldstones which were small and medium-size while the foundations of walls (7 and 9) consist of shells filled with stones mixture of medium-sized and smaller stones.[542]

2. Fortifying the entire upper or lower cities.

That could be observed in the **Upper Northern Levant**, where the lower city of **Tell Afis** (Fig. 40) was fortified by 8 m wide casemate walls during the MB IB-IIA.[543] This wall has been built of

532 Eidem 2013: 7.
533 Tefnin 1979a: 192.
534 Yener 2010: 25.
535 Yener 2010: 25.
536 Yener 2010: 25.
537 Bertemes 1986: 92.
538 Bertemes 1986: 80.
539 Bertemes 1986: 81.
540 Bertemes 1986: 82.
541 Bertemes 1986: 80-82.
542 Bertemes 1986: 80-82.
543 Affanni, Michele 2009: 42.

square mudbricks measured (40×40×9 cm). The gap was filled with mudbricks,[544] the outer side of the walls was protected by a line of pebbles and few larger stones laid in a sloping position.[545]

Moreover, we can see in **Lower Northern Levant**, that the upper city of **Tell Nebi Mend,** which has,[546] was fortified by a casemate wall during 17th century BC, this wall comprised of three parallel walls (1, 2 and 8) joined by cross walls (walls 7, 9 and Y) as indicated in (Fig. 103). Wall (1) is 2.50 m wide it has been built of mudbricks on rough stones, while the walls (2 and 8) are only 0.80 m wide.[547] More evidence about casemate walls could be identified in the lower city of **Tell 'Arqa,** specifically during the MB II in level 13, where a casemate structure has been excavated in areas (AK 21, AJ / AK 20),[548] it consists of fortification walls (13.18 and 13.19) measured 1.40 wide and fortification walls (13.01. 13.02 and 13.20) measured 1.90 m wide as illustrated in (Fig. 106). These walls have been built of mudbricks on a stone foundation, and we can say that the settlement was truly fortified as the first time[549] (Fig. 104).

Changes in the casemate wall between the EB and MB

In terms of the dimensions, we can observe that the casemate walls became wider during the MB, where their width reached 8 m during the MB as in **Tell Afis,** and 9.2 m in **Qala'at Halwanji,** while it reached 6.5 m during the EB as in **Tell Chuera**.

Besides, we can say that the casemate walls have been used to fortify the cities during the MB age more than during the EB.

Concerning to the building materials, it is so clear that no change has occurred in the building materials, which have been used to build the casemate walls and to fill their gaps, they were the same during the EB and MB.

544 Affanni, Michele 2009: 42.
545 Affanni, Michele 2009: 41. / Mazzoni 2013: 209.
546 Parr 1983: 101.
547 Parr 1991:83.
548 Thalmann 2006: 56.
549 Thalmann 2006: 51.

Besides all the previous defensive elements, some cities have used some uncommon defensive elements, to reinforce the fortification wall and to protect themselves, such as walls of the houses and the defensive corridor/walkway.

H. WALLS OF THE HOUSES

Early Bronze Age

It is possible to see in the Euphrates region, that the wall (III), in **Tell Selenkahiye**, was doubled in width (from 180 to 360 cm) on its inside. That was done by partly filling the rooms of the houses, which have been built against the wall's eastern facade with neatly laid mudbricks and by re-plastering the resulting new eastern face wall (IV),[550] as illustrated in (Fig. 157).

Furthermore, we can observe in the **Lower Northern Levant**, that the lower city of **Tell 'Arqa** during the EB IV, specifically in level 16, has been fortified by the outer walls of the rooms of zone A. One can thus restore a general plan organised according to a circular pattern with a peripheral street bordered by a crown of buildings of 6 to 7 m wide, which formed a continuous front towards the exterior.[551]

While during the MB, there is no sign of using the **walls of the houses** as a part of the defensive system, which may indicate, that the cities during the MB were better planned, so there was no need to use the wall of houses as a defensive system.

I. DEFENSIVE CORRIDOR / WALKWAY

Definition and Function

This kind of construction has been situated between the fortification wall and retaining wall, its main function is providing and creating a protected space for the soldiers during their movement, and in the same time make the distance between the attackers and the fortification wall longer.

550 Van Loon 2001: 53.
551 Thalmann 2006: 19.

Early Bronze Age

We can see in the **Euphrates region**, that the lower city of **Tell Halawa A** was fortified by a defensive corridor (Fig. 67), which is situated against the fortification wall. It measured 5 m wide in area P, [552] and 2 -3 m wide in Sq U and T.[553]

Middle Bronze Age

Furthermore, it is possible to observe in the **Upper Northern Levant**, that **Tell Abou Danne** was fortified by a defensive corridor, which is situated between the fortification wall and the retaining wall (Fig. 90). Its floor was made of packed bricks,[554] and during the second phase of construction was no trace of it.

552 Orthmann 1989: 16.
553 Orthmann 1989: 13.
554 Tefnin 1979a: 192.

J. TOWERS AND BASTIONS

Definition and Function

One can observe that some fortification structures have been reinforced by towers and bastions, which have used to provide the soldier more and unobstructed vision for observing the enemy's movement and is considered as security centre to protect the city wall or the city gate, moreover, some towers and bastions have been used to as smoke signalling centre.

The Structure of the towers and bastions

We can see that the bastions were either associated with the ramparts or fortification walls, while towers have been used in four varied ways to reinforce the defensive system, where their functional use could be divided into:

1. Associated and reinforced the fortification walls.
2. Associated and reinforced the fort's/ fortress walls.
3. Flanked and reinforced the gates.
4. Freestanding towers.

Furthermore, we can notice that the tower's shapes were varied between the square, rectangle and circular, while the bastions have a rectangular shape. It is possible to say the bastion is bigger than the tower, and sometimes it consists of rooms, which could be used as storage facilities for the weapons.

Early Bronze Age

1. Associated and reinforced the fortification walls (towers and bastions)

That could be observed in **Jazirah**, where two bastions have been excavated in area W in the lower city of **Tell Chuera** (Fig. 58). The first one has a rectangular shape, and it has been built of a mixture of orange and greyish mudbrick (Fig. 110). The second one is smaller than the first one and has a rectangular shape[555](Fig. 109), both have reinforced the fortification wall during the EB IVA. Furthermore, in the lower city of **Kharab Sayyar,** we can see a rectangular room consists of three walls (360, 361, 365) connected with the enclosure wall from outside as indicated in (Fig. 50-51 -111). It had no doors, that means access must be from the top, this room can be interpreted as a defence tower or as a storeroom. Therefore, it is possible a combination of both functions,

555 Helms, Meyer 2016: 153.

where the room served as both a silo and a defence tower, guarding and protecting the crops that stored in it.[556]

More evidence about the bastions and towers could be identified in the **Euphrates region**, where a mudbrick tower has been found in the north-east sector of **Tell Kannas**, this tower was associated with the inner fortification wall during the EB IVA-B, and its shape was an arc of a circle as illustrated in (Fig. 108).[557]

In the upper city of in **Tell es-Sweyhat,** we can see a bastion measured 7 m wide was associated with the fortification wall; it has been built of mudbricks on a stone foundation.[558] While it is possible to notice that the outer fortification wall of the city in **Tell Halawa A**, was reinforced by many towers, one of them protrudes slightly southwards of the corner of the city wall. It is preserved to 1.8 m high and measured 5 × 4.5 m, it was built of mudbrick on a stone foundation, which consists of outer shells of large limestone blocks, and the gap between of them was filled with relatively large limestone and fieldstones. The entire surface was covered with a thin layer of clay. Another tower is situated in the west in area PII. It measured 5.00 × 2.50 m and has been built of mudbricks on a 1.20 m wide stone foundation.[559]

Moreover, the outer fortification wall of the city in **Tell Selenkahiye** was reinforced by bastions during the EB IV, these bastions have different sizes and shapes, we can see one of them in Sq Z07, it measured 10 × 7 m, and it was built against the outer face of the fortification wall. Part of the bastion has been built on pebbles, which lay against this receding wall face. It indicates that the bastion was an addition built against the earlier city wall, the western corner of the bastion was based on stones.[560] While in Sq Q 21, a square bastion (B), measured some 5 ×5 m protruded from the city wall (A) and was based on large stones.[561] Furthermore, the outer fortification wall of the city of **Tell Bi'a** was reinforced by a tower which has been excavated in area M, it was protruding of about 1.75 to 1.80 m on the exterior of the fortification wall, and it has been preserved in one place up to a height of 2.0 m.[562]

One can observe in the **Upper Northern Levant**, that the lower city of **al-Rawda** during the EB IVA, was reinforced by many massive towers, which were associated with the first enclosure wall. One of them was protruded more than 4 m, while the second fortification structure has been reinforced by bastions.[563] We can notice that bastions of the same type appear to be placed regularly along the fortification structure (Fig. 112), according to remains, which are visible on the surface.[564]

556 Hempelmann 2013: 30.
557 Finet 1979: 84.
558 Holland 1977: 37.
559 Orthmann 1989: 16.
560 Van Loon 2001: 87.
561 Van Loon 2001: 89.
562 Miglus, Strommenger 2002: 17.
563 Castel 2008a: 303.
564 Castel 2008a: 303.

Moreover, in the **Lower Northern Levant**, the lower city of **Khirbet el-Umbashi** provides us more evidence about the towers and bastions, that could be seen in the Dams Sector, where a rectangular tower has been excavated to the east of the earthen embankment (VS1.02) (Fig. 23), it measured 10 m wide, while its length is preserved to 11 m is extended to the north-south, it was built of very large blocks measured (150×100×60 cm).[565] Furthermore, in the eastern sector, we can notice that a circular tower (VS1.04) was associated with the wall (VS1.03) to the north and the wall (VS1.05) to the south as illustrated in (Fig. 115). Its diameter 14.90 to 15.50 m and its wall are preserved to 3.10 m high and 3,20 m to 3,50 m wide. [566] The external side of it has been built of large blocks measured (82×64×54 cm), while the interior side was built of smaller blocks (60×45×30 cm).[567]

Also, the wall (VS1.05) has been reinforced by a large bastion (VS1.06), which has a trapezoidal shape, we can see to the north it has a total width around 7,70 to 7.80 m, and its southern side measured 6 m up to about 7,50 m, while its total length is 28 m,[568] this bastion was built by fairly regular blocks measured (100×70×40 cm).[569] It has two rooms, the smallest one measured about 3×1.50 m is situated at the northern part of it and the larger one measured 3.80 × over 4 m is occupied the southern part of it.[570] Moreover, two bastions have reinforced the north-west sector wall; both of them have been built of blocks of bullous basalt. The bastion (VS4.02) measured 22 m long and 7.50 m wide, and the bastion (VS4.05) measured 25 × 8.50 m. It was built on the edge of the basaltic cliff (Fig. 114).[571] While we can observe a square structure, (VS4.11) measured 10×10 m, which has been built on the slope and was associated with the north-east sector wall,[572] also, the wall in the north-east sector corner has been reinforced by a bastion measured 26×10 m. both of them have been built to dominate the wadi.[573]

One can recognise that the lower enclosure of the city in **Tell Labwe** has been reinforced by towers and bastions, where the corners of the enclosure have been reinforced by external towers and bastions during the EB II – III, additionally, the outer face of the southern wall has been reinforced by four protruding bastions, measured 2 to 3,50 m wide and 12 to 32 m long, while on the internal face of the wall, a series of 8 (or 9?) small massifs adjoined to the wall, these massifs could be bases of towers which measured 3 to 3.5 m wide.[574] In the middle of the front wall of the southern wall, there are two quadrangular constructions could be towers.[575] Furthermore, there are two tower

565 Braemer et al. 2004: 50.
566 Braemer et al. 2004: 51.
567 Braemer et al. 2004: 51.
568 Braemer et al. 2004: 56.
569 Braemer et al. 2004: 56.
570 Braemer et al. 2004: 56.
571 Braemer et al. 2004: 41.
572 Braemer et al. 2004: 44.
573 Braemer et al. 2004: 45.
574 Al-Maqdissi, Braemer 2006: 116.
575 Al-Maqdissi, Braemer 2006: 117.

bases mark the wall to the east,[576] and several tower bases were erected in the middle of the western wall and to the north of the eastern wall.[577]

2. Associated and reinforced the fort's walls (towers)

One evidence about this type of the towers could be identified in the **Euphrates region**, specifically in **Jerablus Tahtani,** where two towers have been detected in area I. One of them measured 1.6 × 1.4 m and has been preserved to 0.4 m in height and has been built up against the eastern face mudbrick platform. The second is located in the south of the postern entrance of the fort annexe, abutting the fort wall, is measured 3 × 1.7 m; both of them have a rectangular shape and were built of grey-brown and yellow-brown mudbricks. They have faced the river.[578] Moreover, we can see in the second tower that their interior walls lining of white lime plaster.[579] Furthermore, another structure looks like a tower has been excavated in the northern side of the Tell, specifically, in area IV. It was associated with the exterior wall of the fort.[580] These towers were part of the fort, which was protected the city.

3. Flanked and reinforced the gates (towers)

That could be recognised in **Jazirah** where a square tower has reinforced the western side of the southern outer gate in **Tell Bderi**, is measured 1.80 ×1.80 m and it has been built of brick debris,[581] and in **Tell Mozan** we can see that the south-east outer gate has been flanked by two towers (Fig. 42-43).

Moreover, it is possible to notice in the **Euphrates region**, that the passage (2700) in **Jerablus Tahtani** has been flanked by two towers, which have been excavated in area II (Fig. 10). They measured 2 × 3.1 m.[582] Also, the gate of the lower city in **Tell Selenkahiye** has been flanked by two square towers during the EB IV, they were built of mudbricks and have been excavated in Sq Q3.[583]

More evidence about this type of towers could be observed in the **Upper Northern Levant**, where two towers (E238 and E247) have flanked the eastern outer gate in **Tell al-Rawda**,[584] besides two

576 Al-Maqdissi, Braemer 2006: 118.
577 Al-Maqdissi, Braemer 2006: 118.
578 Peltenburg et al. 2000: 56.
579 Peltenburg et al. 2000: 56.
580 Peltenburg et al. 1996: 8.
581 Pfälzner 1987b: 294.
582 Peltenburg et al. 2000: 71.
583 Van Loon 2001: 89.
584 Castel 2008: 29.

other towers, were reinforced the passage of the northern gate, both of them symmetrical and they have a rectangular shape, which measured 4.2 m wide and 6.3 m long.[585]

Furthermore, one can see in the **Lower Northern Levant** that the passage of the eastern outer gate in **Tell Labwe** during the EB II-III was passing to the right through a tower, which measured 13 × 8 m.[586] Moreover, we can observe that the south-western outer gate, has been reinforced by a massive tower measured 15 m long and protruding 2 to 5 m.[587] While two protruding towers of 2.50 m,[588] were flanked the outer city gate in the south-east sector in **Khirbet el-Umbashi**.

4. Freestanding (towers)

That could be seen in the **Upper Northern Levant**, where two towers (RW241 and RW 5482) have been detected out of **Tell al-Rawda**. It is possible to notice that the tower (RW 241) is located on the western edge of the site of Tell al-Rawda, on a flat limestone plateau that overlooks the Early Bronze city. The floor area of the tower is 80 m,^{2} (Fig. 113).[589] Its stone foundation is erected on a slope, is composed of two seats, are preserved to a maximum height (40 to 50 cm). While the tower (RW 5482) is located to the south-west of Tell al-Rawda on a height overlooking the Wadi Qastal valley, the visible remains on the surface are an almost square building of about 7.5 × 6.4 m, which was built of large blocks.[590] We should mention that both of them dated to the EB IV.

Moreover, we can observe in **Tilbeshar** (Fig. 44), an architectural remains had a defensive function, which seems to be confirmed by the presence of an angle tower with an interior area of 4 m^2, this remains have been detected in area L, which is located in the south-western of the lower city and dated to the EB IV (ca. 2500-2300), level IIIC.[591]

Middle Bronze Age

1. Associated and reinforced the fortification walls (towers and bastions)

It is possible to see in the **Euphrates region**, that the inner fortification wall of **Tell Hadidi** has been reinforced by a tower, just its stone foundation has been found, which measured around 7 m wide.[592] Furthermore, the arc of a circular tower, which was associated with the inner fortification wall in **Tell Kannas** in the north-west side, during the EB IVA-B, has been replaced during the

585 Castel 2004: 107.
586 Al-Maqdissi, Braemer 2006: 119.
587 Al-Maqdissi, Braemer 2006: 119.
588 Braemer et al. 2004: 58.
589 Castel et al. 2014: 2.
590 Castel et al. 2014: 4.
591 Kepinski 2010: 306.
592 Dornemann 1979a: 141.

MB by a rectangular tower measured 7.50 × 4 m as indicated in (Fig. 108), it was built entirely of stones, similar to another tower which has been detected to the north of it.[593] Moreover, we can observe that the outer fortification wall in **Tell el-Qitar**, has been reinforced by many towers from (Fig. 80) we can see, the tower (8), which is located in the northern part of area X and the tower (4), which is located in the southern side of the Tell,[594] both have a square shape. While the tower (5), which is located in the northern side of the Tell, has a rectangle shape, it is strategically situated in the saddle between the rocky northern spur and area Y to the south. Unfortunately, there is no data about the tower (9), it was half preserved.[595]

More evidence about these towers could be recognised in the **Upper Northern Levant**, where the inner fortification wall in **Tell Touqan** has been reinforced by rectangle towers (Fig. 116-117). One of this tower measured 7.50 × 5.85 m,[596] inside the tower there was a staircase, and a corridor of 0.90 / 1.00 m wide,[597] away of this towers about 17 m to the east, another tower has been erected.[598] These towers were a result of additions to the original plan of the city, and they were built without any foundations. Moreover, the outer fortification wall of the city has been reinforced by three circular towers, which were built directly on the ground without stone foundations raised in the northern sector,[599] (Fig. 118 -119-120). They have been built of mudbricks measured (40×40 cm), they are away from each other around 14.5 -16 m.[600] We can see that their diameters are 9.4 m, while the width of their walls measured 2.80 m,[601] their function providing lookout points over the surrounding area. Furthermore, it is possible to observe that the outer fortification wall of **Tell Abou Danne** has been reinforced by large quadrangular towers, which have been added to the wall during the second phase of construction, specifically in the level VI.[602] We can, therefore, conclude that the construction of the outer wall and walkway in the first phase were ignored during the second phase, maybe because they have formed a weakness in the defensive system. Therefore, they have been replaced by towers, to increase the defensive capacity of the wall, which has made a stronger defensive system.

In the **Lower Northern Levant**, the outer fortification wall in **Kamid el-Loz** has been reinforced by towers,[603] Furthermore, in the south-eastern corner of the outer fortification wall in **Tell al-Ash'ari**, there are remains of a tower protruded along the fortification, and the traces of another tower can be detected to the north-eastern and the south-western side.[604]

593 Finet 1979: 84.
594 Culican, Mcclellan 1983/84: 35.
595 Culican, Mcclellan 1983/84: 35.
596 Matthiae 1982: 321.
597 Matthiae 1982: 321.
598 Baffi 1990: 67.
599 Baffi 2013: 167.
600 Baffi 1990: 66.
601 Baffi 1990: 66.
602 Tefnin 1979a: 193.
603 Marfoe 1995: 104.
604 Kropp, Mohammad 2006: 131.

2. Associated and reinforced fort's walls (towers)

One evidence about these towers could be identified in the **Lower Northern Levant**, specifically in **Tell el-Burak**, where the corners (rooms 3, 6, 11, and 16) of the rectangular defensive building, protrude beyond the outer walls and thus seem to be towers,[605] from the (Fig. 156) we can see that their shapes are quadrangular.

3. Flanked and reinforced the gates (towers)

That could be observed in the **Euphrates region**, where the towers (6 and 7) in **Tell el-Qitar** have flanked the river gate, from (Fig. 80), we can see they have a square shape.[606]

Furthermore, one can see in the **Upper Northern Levant**, that the narrow inner gate, which is located in the northern side of the acropolis in **Tell Umm el-Marra**, has been flanked by two towers, which measured 3.8 m wide, and were faced with stone blocks, they have been excavated in-unit 1270/3936.[607] While we can notice that the north-east outer gate in **Tell 'Atchana**, has been reinforced by a tower, which is situated in the middle of the gate. It was built of mudbricks on stone rubble foundations. [608] Moreover, **Tell Mardikh** provides us more evidence about these types of towers, where it is possible to observe that Damascus gate, has been reinforced on the east side by a massive tower, it has a square shape and it is relevant (area A) along the entire of the east side of the inner gate.[609] The huge inner tower, which obviously spoiled at the top, had an imposing masonry of stone blocks, is preserved to the highest point of the rampart. While the Aleppo gate (area DD) has been reinforced on the east side by a tower, is consisted of three different superimposed structural features: at the bottom, a series of long buttresses supporting the middle feature, namely a huge terrace including three parallel structures, placed north west-south east, on the part of which at least two rooms had been built, strangely on the outer the of the fortification.[610] The upper part of the tower, including a massive arched containing wall, is preserved for a maximum height of 1.80 m, it is probable that this huge almost semi-circular tower, which probably joined the back part of the city gate with three pairs of buttresses.[611]

Damascus gate tower and Aleppo gate tower were quite different:

605 Kamlah, Sader 2003: 163.
606 Culican, Mcclellan 1983/84: 35.
607 Schwartz et al. 2003: 341.
608 Woolley 1955: 147.
609 Matthiae 2002: 35.
610 Matthiae 2002: 35-36.
611 Matthiae 2002: 37.

The first one had the square and massive tower, and the second one the three superimposed features lower buttresses, middle terrace, upper semi-circular tower, in fact, both towers were probably built along the whole length of the long city gate with three buttresses and two rooms.

The tower of Damascus gate is vertical, and that of Aleppo gate is a fortified slope surrounded by a semi-circular tower, only the fortification of the outer slope of the rampart stretched along the whole length of the Aleppo gate, therefore, the tower was located quite backward, as compared with the head of the entrance to the city.[612]

Changes in the towers and bastions between the EB and MB

We can study the changes in the towers and bastions during the EB and MB in five axes; the dimensions, the building materials, the shapes, the functional use and the dead zones.

In regard to the dimensions, we have seen that many varied towers and bastions have been used to reinforce the cities during the EB more than the MB. Moreover, these towers have different sizes, but in general, we can say that during the EB, they were bigger than the towers and the bastions during the MB.

In terms of the building materials, it is possible to see, that the towers and bastions during the EB, have been built whether of the mudbricks or the large blocks of stone, while during the MB most of the towers and bastions have been built of the mudbricks,

Regarding the shape of towers and bastions, we can observe that most towers and bastions have a square and a rectangle shape during the EB and MB. Besides, some of them have a circular and semi-circular shape.

We can say the difference between the rectangular tower and round tower lies in two points: that the square and rectangle towers are much easy to construct and give a good amount of usable internal space than the circular tower.[613] While the circular towers are more resistant to siege technology, and harder to break by ballistae[614] / sling[615] because it makes shell slip on the wall instead of breaking it. The circular front -as every round structure- is more resistant than the straight side of the square tower. Therefore, the circular towers are less likely to crumble if someone tries to attack the foundations of the towers.

612 Matthiae 2002: 39-40.
613 Burke 2004: 129-130.
614 Burke 2008: 66.
615 it is a long-range weapon, where the sun-dried, clay sling bullets could be effectively used within 100 m of the target compared to 200 m for sling stones. Slingers employed an array of different sized projectiles, including large stones, against enemy soldiers, (Burke 2008: 32-33).

In terms of the functional use, as we have seen in both periods that the towers have been used in four different ways to protect the cities;

- Associated and reinforced the fortification walls.
- Associated and reinforced the fort's/ fortress walls.
- Flanked and reinforced the gates.
- Freestanding towers.

Moreover, the cities during the EB were depended on the towers and bastions in their defensive system more than the MB cities, that could be observed in ten cities during the EB which were fortified by towers and bastions, while just seven cities have fortified by the towers and bastions during the MB.

Furthermore, in both the EB and MB, we have found that some forts have been reinforced by towers, also, the same thing applies on the gates, where they have been flanked by towers, it is possible to see, that during the EB, seven cities used the towers to protect their gates, while just four cities did that during the MB. Moreover, we should mention that the towers, which have flanked the gates during the EB and MB, were smaller than the towers, which have associated with the fortification walls.

As we have noticed that during the EB, some towers had been built as freestanding towers, where some of them have been built inside the city, and others have been built out of the city. While during the MB, we didn't find these kinds of towers.

Dead zones and field of fire

We can, therefore, conclude that the towers and bastions have been used to reinforce and support the weak points in the defensive system. They provide to archers unobstructed vision for observing the enemy movements, and attack them, especially if the archers were armed by a composite bow,[616] their effective range extended at least 160 to 175 m, bowmen were quite accurate up to 50 to 60 m, although ranges of 450 m or more were achievable from an elevated position or with favourable winds, shots at such a distance were of minimal effect and wildly inaccurate, we should mention that the tactical advantage of the composite bow lay not only in its greater range but in its increased power, which permitted the firing of projectile points of different weights. [617]

Moreover, the fortification walls or the cities, which have been built without towers or bastions, they have many dead zones, which unobservable from the wall or the rampart. Furthermore, the towers and bastions need a few defenders to protect the city, on the contrary of the fortification

616 It was achieved by adding horn to the other side of the double convex (sinew-reinforced) bow, because of the tensile capacity of the composite bow, when unstrung the arms of the bow bent backward, a state known as reflex. (Burke 2008: 33).
617 Burke 2008: 34.

wall and rampart without towers, which need a large number of defenders to protect the city. In (Fig.121-122) we can see a sample of the fortification wall (Khirbet el-Umbashi during the EB) with and without towers.

We can say clearly, that the towers and bastions played an important role to reduce the dead zone of the fortification wall and to increase the field of fire of the archers, which contributed protecting the city from the advance attackers.

K. BUTTRESSES

Definition and Function

We can say from the data we have, that the buttress is an architectural structure, built protruding from the wall, which serves to support or reinforce it, and their main function is providing the stabilising for the fortification structure.

It is possible to observe that the buttresses are not used just to reinforce fortification walls. Moreover, it has used to reinforce ramparts and gates.

The structure of the buttresses

We can divide their functional use into three ways:

1. Associated and reinforced the fortification walls.
2. Associated and reinforced the ramparts.
3. Flanked and reinforced the gates.

Early Bronze Age

1. Associated and reinforced the fortification walls

That could be observed in the **Euphrates region**, where the inner sides of the outer fortification walls of **Tell Titriş Höyük** and **Tell Bi'a** have been reinforced by buttresses, and we can see that the distance between these buttresses in **Tell Bi'a**, was 0.75-1.05 m, specifically in the southern side of the city in area M.[618] While in the south-east side of the city it is possible to notice that, three buttresses measured 1.40-1.50 m wide have reinforced the inner face of the fortification wall and the distances between of them was 2.80 m to 3.0-3.10 m.[619] Furthermore, we can observe in **Tell Halawa B**[620] that the outer side of the casemate wall has been reinforced by buttresses the distance between of them is 1 m,[621] while the outer fortification wall of **Tell Habouba Kabira** specifically in layer 10, was featured by interior buttresses, which are 1.45 m deep and 1.25 m to 1.30 m wide.[622] Moreover, it is possible to recognise that the inner fortification wall of **Tell es-Sweyhat** has been constructed with buttresses.[623]

618 Miglus, Strommenger 2002: 10.
619 Miglus, Strommenger 2002: 17.
620 Orthmann 1989: 87.
621 Orthmann 1982: 146 -147.
622 Heinrich et al. 1970: 38.
623 Zettler 1997: 4.

More evidence about the buttresses could be identified in the **Lower Northern Levant**, where the wall (A) in **Byblos** during the EB II has been reinforced by a rectangular stone buttress (redan), which measured 1.75 m wide and protruded 1.40 m. Moreover, wall (B) during the EB III has been reinforced by 13 stone buttresses (redans) were protruded of 2,70 m, their width varies between 3.00 m and 3.50 m and the distance between of them from the axis to the axis is close to 10.00 m.[624]

2. Associated and reinforced the ramparts

One can notice in the **Lower Northern Levant**, that the second rampart of **Tell Sh'airat** has been reinforced by 47 buttresses (redans) were distributed regularly (Fig. 11), the distance between them is about 30 m.[625]

3. Flanked and reinforced the gates

It is possible to observe in **Jazirah** that the eastern face of the upper city of **Tell Beydar** has been reinforced by a series of irregular buttresses, during the EB II.[626] While we can see in the **Euphrates region,** that the entrance of the northern outer gate in **Tell Halawa A**[627]and the entrance of the western outer gate in **Tell Bi'a,** have been flanked by two buttresses, [628] also, the southern outer gate in **Tell Habouba Kabira** in layer 10, has been flanked by double buttresses.[629]

Moreover, we could observe in the **Upper Northern Levant** that the inner side of the northern outer gate in **Tell al-Rawda** has been reinforced by buttresses.[630] More evidence about the buttresses could be noticed in the **Lower Northern Levant**, specifically in **Tell Sh'airat**, where two buttresses have flanked the outer gates, they have a rectangular shape and measured 7 to 8 m long and 2.50 m wide.[631]

624 Lauffray 2008: 291-293.
625 Mouamar 2016: 75.
626 Lebeau, Suleiman 2005: 8.
627 Finkbeiner et al. 2015: 59.
628 Miglus, Strommenger 2002: 13.
629 Heinrich et al. 1969: 44.
630 Castel 2008a: 303.
631 Mouamar 2016: 75.

Middle Bronze Age

1. Associated and reinforced the fortification walls

That could be seen in the **Upper Northern Levant**, where the inner fortification wall of **Tell Umm el-Marra,** specifically in the east side of the acropolis has been reinforced by two square buttresses.[632]

Furthermore, in the **Lower Northern Levant**, we can observe that the wall (W329-398) in **Beirut** has been reinforced by three buttresses appeared at regular intervals of 5 m, they measured 0.80 m wide at the top, increasing to one meter towards the base of the wall. [633]

2. Flanked and reinforced the gates

One can notice in the **Lower Northern Levant**, that the entrance of the gate in **Beirut,** which has been excavated in area Bey 003, has been flanked by a pair of buttresses measured 1.97×0.35 m.[634]

Changes in the buttresses between the EB and MB

We can say that the buttresses have been used to reinforce the fortification walls during the EB more than the MB, where six fortification walls during EB have been reinforced by buttresses, while just two fortification walls during the MB have been reinforced by buttresses.

Moreover, we can observe that the ramparts during the EB have been reinforced by buttresses as in **Tell Sh'airat** on the contrary during the MB where the ramparts were reinforced by fortresses.

In terms of the dimensions, we can see that the buttresses during the EB were bigger than the MB, that means the buttresses were considered an important defensive element during the EB, that because the cities during the MB were fortified by massive earthen ramparts, which were reinforced by fortresses.

632 Schwartz et al. 2003: 342.
633 Badre 1997: 28.
634 Badre 1997: 28.

L. GATES

Definition and Function

The gates are considered the major element of the defensive system during the Early and Middle Bronze Age. Their main function is giving access to the city, by another word regulate the ingress and egress process from the city to it.

One can observe that their types, shapes and dimensions were varying from period to another and from city to another. We can see during the Early Bronze Age, there was not one type of the gates, but more, such as; the complex gate type, the direct access gate type, the indirect access gate type. Unlike during the Middle Bronze Age, where two types of gates have been prevalent, the six-pier type and the four-pier type, besides the direct and the indirect access gate.

Some gates have been protected and reinforced by one tower or flanked by two towers. Moreover, some gates might communicate with the street grid of cities: a gate can either be placed on the axis of the main street to facilitate traffic or may deliberately not be aligned with a major street axis, in order to complicate the advance of enemies, who penetrated the gate, into the city.[635]

The structure of the gates

Early Bronze Age

We can divide the gates depends on their types into:

1. Complex gates.
2. Direct access gates.
3. Indirect access gates.

1. Complex gates

It is possible to see that besides to regulate the ingress and egress process from the city, it was functioned as a public area, where policing and juridical activities took place. Their structures were huge and consisted of many rooms. That could be observed in **Jazirah**, where the north-east complex gate in the upper city of **Tell Beydar**, has a huge massive structure, consists of many rooms and was reinforced by series of irregular buttresses in the eastern façade, while in the northern side by a system of glacis-like superimposed sloping layers of compacted clay and debris, retained by a series of smaller mudbrick walls.[636]

635 Müth 2016: 187.
636 Lebeau, Suleiman 2005: 8.

The gate extended for 15 m in the north-south direction, along the street, and for at least 7 m from the west to the east.[637] Dated to the EB II and the beginning of the EB III period,[638] it was built of mixed technique, which alternated sections of proper mudbrick walls with sections filled with pisé and miscellaneous debris filling layers. In the lower part of the wall, large, very fine, sandy bricks of greyish-yellowish colour were used.[639]

Moreover, we can see that the lower city complex gate of **Tell Leilan,** which dated to the EB III,[640] has four major changes in the division of space during phases 1-6. All of which probably reflect changes in the administration of the city and its hinterland as a whole. The administrative artefacts retrieved from the office space between the northern and southern fortifications suggest that the city gate was used as a toll point that controlled ingress and egress on a daily basis for the inhabitants of the city, visitors, and their goods. That is led to the primary function of gates is control. Gates emphasise the political and economic sovereignty of a city; the city gate was not simply an expression of the power of the city, whether to defend itself or to levy tolls. Two-second millennium letters from Leilan indicate that the city gate functioned as a public area, where policing and juridical activities took place. [641]

We can notice in the **Upper Northern Levant**, that the outer fortification wall of **Tell al-Rawda** has been pierced by four or five gaps which could be the locations of the gates, just two gates have been detected (the northern gate and the eastern gate).

We can observe that the northern gate, which has been excavated in the sectors 2b (Fig. 123), measured about 7 m wide, it has complex installations that develop about 30 m from the east to the west, and was built of stone blocks, which measured 1.8 m wide. Moreover, it has been reinforced on the inner side by buttresses, beneath the mudbrick rampart rests on a base of large blocks,[642]and it has been flanked by two towers, which defend a passage that measured about 3 m wide.[643] It gives access to the city in the north, a door socket which is still in place on the west side of the passage shows that a wooden door in one piece closed the passage.[644]

While the eastern gate (C22) has been excavated in sector 2C 4, it is organised an almost symmetrically way on both sides of the east-west circulation axis which, extending the radial route R1. It leads from the inside to the outside of the city. Furthermore, it has been flanked by two towers, and the lower part of the gate was built of stone blocks and rubble, while the upper part was built of mudbricks, which have disappeared.[645] Two main phases have been distinguished, the

637 Lebeau, Suleiman 2005: 8.
638 Lebeau, Suleiman 2005: 8.
639 Lebeau, Suleiman 2005: 8.
640 Ristvet 2007: 191.
641 Ristvet 2007: 203.
642 Castel 2008a: 303.
643 Castel 2004: 107.
644 Castel 2008a: 303.
645 Castel 2008: 29.

oldest dated to the early period of the city, while the most recent includes phases immediately before the abandonment of the city.

2. Direct access gates

We can say, these gates have one role, which is regulating the ingress and egress process from the city, that could be observed in **Jazirah**, where the passage of the southern outer city gate of **Tell Bderi** leads through the wall and glacis to the city. It measured 3 m wide (Fig. 126), is lined on both sides by orthostats,[646] furthermore, it has been reinforced on its western side by a tower.[647] Moreover, we can see that the outer city gate of **Tell Mozan,** which is located in the south-east corner of the city, was flanked by the two towers and it has been detected by the magnetic survey; it leads through the wall to the city.[648]

More evidence about these kinds of these gates could be identified in the **Euphrates region**, where two passages have been detected in area II in **Jerablus Tahtani**. The first passage (990) measured 20 m long, and it leads towards the upper mound.[649] The second passage (2700) measured 3 m wide, and it has been flanked by two towers.[650]Furthermore, in area I, it is possible to notice that, the annexe entrance (2746) has a passage (2622) measured 2.6 by 1.8 oriented to the south-east.[651]

Moreover, the northern gate in the lower city of **Tell el-'Abd,** which has been excavated in Sq 18/27 and 19/27, it was a large opening on its north-east corner and gave direct access to the city, where it leads to a public space (Fig. 124).[652] Furthermore, we can notice that the southern entrance in the lower city of **Habouba Kabira,** which has been detected in layer 6, measured 1 m wide,[653] while in layer 10, the eastern entrance measured 1.6 m wide, and it has been flanked by double buttresses.[654] It was built of mudbricks measured (24–27 × 45–50 × 9–10 cm.)[655] and in layer 11, in the eastern side of the city we can see, that a door measured (1.6 to 2.3 m wide) has been created, after closing the gate, to allow the temporary access to the city.[656] Later in layer 14, in the southern side of the city, one can notice, that a new main entrance has been created on the corner, measured nearly 3.6 m wide, with a small door approximately 1 m wide opened for people, was 7 m away from the gate.[657] Also, it is possible to recognise that the passage of the outer city gate in **Tell**

646 They are roughly dressed, unsmoothed stone slabs, about 20 cm wide, the orthostat at the eastern side is still standing upright. Its height is 1.25 m high and 95 cm wide, (Pfälzner 1987b: 294).
647 Pfälzner 1987b: 294.
648 Pfälzner et al. 2004: 47.
649 Peltenburg et al. 1996: 14.
650 Peltenburg et al. 2000: 71.
651 Peltenburg et al. 2000: 57.
652 Finkbeiner 1995: 58.
653 Heusch 1979: 166.
654 Heinrich et al. 1969: 44.
655 Heinrich et al. 1969: 44.
656 Heusch 1979: 172-74.
657 Heusch 1979: 174-176.

Selenkahiye, measured 3 m wide and 10 m long and was flanked by two squarish towers, during the EB IV, and it has been excavated in Sq Q3,[658] as illustrated in (Fig. 125).

Moreover, we can observe in the **Lower Northern Levant**, specifically in the south-east sector of the lower city in **Khirbet el-Umbashi**, where the city gate (Fig. 127), measured 2 m wide and was closed by slabs measured 1.50 × 1.10 × 0.20 m, furthermore, it has been flanked by two towers.[659] While in the northern side of the lower city of **Byblos** during the EB II, we can see that the north gate gives access to the city through the wall (A).[660] in the north-eastern side of the city, it is possible to notice that the Land gate during the EB III-IVA, measured 4.80 m wide and extended a distance of 30 m.[661] It consists of five parts; the porch (19-a) measured 4.80 m wide, and 4.00 m deep, the first door (19-b), the passage (19-c) measured 4.80 m wide extends it over 18.00 m long,[662] the second door (19 d), as indicated in (Fig. 129).[663]

3. Indirect access gates

It is possible to notice that the gates are the weak points in the defensive system; they are considered as the easiest place to attack the city, and an easy point to penetrate it by the enemy. Therefore, indirect access gates have been built to solve this problem, which forced the attackers to turn left or right and pass through a tower or a room until they can reach the city. They were hard to penetrate them perpendicularly; this process of access gave the defenders more time and more chances to protect the gate and the city. Moreover, this kind of gate reduces the attacking space. That could be noticed in the **Euphrates region**, where the northern outer city gate of **Tell Halawa A**, has been excavated in Sq Q.7e, it consists of entrance, which has been flanked by two buttresses, a passage and one chamber, furthermore, two doorways lead through the chamber one towards outside and other towards inside of the settled area.[664] The gate's room measured 6 m long and 8 m wide, the passage was 4.5 m long, and the entrance was 2.5 m wide, as illustrated in (Fig. 128). [665]

Moreover, one can see three gates have pierced the outer fortification city wall of **Tell Bi'a**, which are situated in the west, the north and the south side of the city. Unfortunately, only the western gate was preserved, is considered the largest gate has been detected in the Euphrates region during the EB. Which measured 20× 20 m[666] and it consists of a gateway passage, a square room and a corridor, the entrance was obviously flanked by two buttresses. Furthermore, the opening side on the street might have been flanked by two buttresses; its width should have originally been about

658 Van Loon 2001: 89.
659 Braemer et al. 2004: 58.
660 Lauffray 2008: 295.
661 Lauffray 2008: 306.
662 Lauffray 2008: 306.
663 Lauffray 2008: 308.
664 Finkbeiner et al. 2015: 59.
665 Orthmann 1989: 37.
666 Miglus, Strommenger 2002: 13.

6.0 m.[667] The entire gateway passage lay in one axis, it was 3.0 m wide, 20 m long,[668] inside this gate, there is a square room measured about 5.0-5.50 m, and a corridor measured 10 m long by 2.90-3.10 m wide leads to the city. The gate's room was originally closed on both sides with two slabs from inside; each slab was about 1.60 m wide. The other two gates are probably had the same layout as the western gate, and they dated to the early dynastic phase. [669]

More evidence about these types of gates could be recognised in the **Lower Northern Levant**, specifically in the north-western side of the lower city in **Byblos**, which has been characterised during the EB III-IVA, by the indirect access gate called the Port gate (Fig. 130). The structure of this gate has gone through two construction phases. We can see in the first one, that the gate's passage measured 4.8 m wide and 18 m long; it was a cut carved in the rock and opens on an S-shaped path.[670] While during the second phase at the end of the S-path a new gate replaced the first one, it has two stairs one leads towards the valley and other towards the port.[671] Moreover, it is possible to observe that three gates dated to the EB II-III, have excavated in the lower city of **Tell Labwe**, they are situated in the northern, the south-western and the eastern side of the city. We can notice that the northern gate consists of an entrance measured 1.90 m wide leads to a room measured 3.60×2 m; then we have to turn left to reach the residential area, as indicated in (Fig. 132). [672] While the south-western gate, consists of an entrance measured 1.5 m wide, a passage leads through a zigzag way, where we have to turn left, then right and again left through a massive tower measured 15 m long to reach the residential area, as illustrated in (Fig. 131).[673] The eastern gate consists of a tower, two doors, a passage has 2.50 m wide, furthermore, a hall measured 7.50 m long by 3.50 m wide; that leads to an open space of 15 ×5 m, is situated opposite the rampart, this gate gives access to a monumental quarter, which is separated from the rest of the urban fabric,[674] as demonstrated in (Fig. 132).

There are some gates we don't have data about their types as the gates in **Tell Sh'airat**, where 8 gates have pierced the inner rampart, their width is 3 m,[675] while 10 gates have pierced the outer rampart (Fig. 11), the average distance between them is 180 m, they have been flanked by buttresses.[676]

667 Miglus, Strommenger 2002: 13.
668 Miglus, Strommenger 2002: 13.
669 Miglus, Strommenger 2002: 13.
670 Dunand 1961: 84.
671 Lauffray 2008: 296.
672 Al-Maqdissi, Braemer 2006: 119.
673 Al-Maqdissi, Braemer 2006: 119.
674 Al-Maqdissi, Braemer 2006: 119.
675 Mouamar 2016: 74.
676 Mouamar 2016: 75.

Middle Bronze Age

It is possible to divide the gates depends on their types into:

1. Six pier gates.
2. Four pier gates.
3. Direct access gates.
4. Indirect access gates.

1. Six pier gates

This type of gates consists of three pairs of piers (buttresses) that narrowed the passageway and formed two chambers. Usually, two of those sets of piers held great pairs of doors that would be closed and locked to help guard the city. The shallow chambers formed by the piers apparently made room so that the open doors would not impede the flow of traffic through the gateway,[677] some gates, their floor was covered with a fine pavement of basalt or limestone.

It is possible to observe that most of the gates in the Upper and Lower Northern Levant during the MB were six-pier gates. We can see that some of them have a classical typical six-pier type with direct axis to the city as the eastern gate in Tell Mishrifeh, as indicated in (Fig. 142). While others have indirect axis as the gate (A)[678] in Tell Mardikh, as illustrated in (Fig. 135 -136).

One can notice in the **Upper Northern Levant** that four gates have pierced the earthen rampart in **Tell Mardikh / Ebla**. They have been named from the main ancient cities as Aleppo gate the north-west one (area DD), the Euphrates gate the north-east one (area BB), the Steppe gate the south-east one (area L), and the Damascus gate the south-west one (area A).[679]

It is probable that gates of the old Tell Mardikh had the typical structure with three pairs of piers two intermediate chambers, and two entrances, as the **Euphrates gate (area BB),** which oriented to the east-northeast and the west-southwest,[680]. Its floor was covered with a fine pavement of basalt and limestone, under the floor passed a remarkable canal, very carefully executed, which carried the wastewater out of the city. Moreover, its passage measured (approximately 17 m long and 3.20 m wide between the piers), the width of the three piers is about 3.15 / 3.25 m, which are protruded about 0.8 m, while the two chambers, measured between 2.95 and 3.10 m by 4.5 m,[681] as demonstrated in (Fig. 137-138).

677 Seevers 2007: 3-4.
678 Because of advanced gate and an intermediate room/ courtyard have been added to the inner six pier gate which made the gate A unique gate in levant, (Matthiae 2002: 35).
679 Matthiae 2002: 34-35.
680 Matthiae 1998: 584.
681 Matthiae 1998: 584-586.

While one can notice, that the **Damascus gate (area A)**, consists of an advanced gate with a classical entrance, but reduced with only two piers, instead of three. As a consequence, it has one intermediate chamber, instead of two in the middle a trapezoidal court opened, which separated the advanced outer gate from the traditional inner gate: inside, the traditional gate stretched, with the three pairs of buttresses (six-pier gate) and two intermediate chambers. Damascus gate had an overall length slightly less than 50 m.[682] the inner gate measured more than 21 m long, the intermediate court has 16 m long, and the advanced gate has 10 m long. From the (Fig. 134) we can see, that the passage of the inner gate has 21 m long and 3 m wide between the piers, these piers are protruded about 1.25 m, two intermediate chambers in the inner gate measured 3.25 by 5.5 m.

Unfortunately, the two other gates; Steppe gate to the south-east (area L), and Aleppo gate the north-west (area DD), have not been preserved, so we don't have data about them.

More evidence about the six-pier gates could be identified in **Tell 'Atchana,** specifically, in the north-east side of the city, where the city gate is situated, it has a rectangle shape with an overall width of 23 m and a depth of 17 m,[683] as illustrated in (Fig. 139-140). This gate was built of mudbricks on stone rubble foundations. Furthermore, we can see that the large orthostats of white limestone have been used to enrich the gate.[684]

From (Fig. 139) we can notice that the width of piers is 2.75 m, which are protruded about 1.10 m, and the distance between of them is 2.75 m, which is the same the width of the passage. While its entire length measured 17 m. Furthermore, the intermediate chambers, which are located inside the passage, measured 3.5 by 5 m. Also, one can see in the north-eastern part of the gate, there is a proper building containing a guard-chamber have a 2.00 m wide doorway, two small chambers or cellars of uncertain use, a flight of stairs leading to the upper part of the tower, and, below the stairs is a small sentry-chamber with a door giving directly on the entrance passage between the outer and the central gate piers.[685]

Tell Mishrifeh/Qatna provides us more evidence about six-pier gates, where one can observe four main gaps in the rampart, which are located in the west, the east, the north and the south side of the Tell, these gaps are places for gates, which give access to the city. Furthermore, there are five small gaps in the rampart, which could be small five secondary entrances.[686]

682 Matthiae 2002: 35.
683 Woolley 1955: 147.
684 Woolley 1955: 147.
685 Woolley 1955: 148.
686 Du Mesnil du Buisson 1926: 293.

We can see that the **western gate**, consists of three pairs of piers,[687] with two intermediate chambers, the foundations of a large construction (limestone blocks)[688]have been found in the western gap. The gate is up to 70 m long (deep) in the rampart,[689] from the (Fig. 141), we can notice, that the length of the passage is 16 m, and its width is 4.18 m between the piers, which are protruded about 2.5 m. Furthermore, the distance between walls (III and XI) and between walls (V and IX) is 9 .25 m, while the distance between walls (II and IV) and between walls (I and X) is 4 .36 m[690] to 4.5 m. That means two intermediate chambers measured 9.25 m by 4.36-4.5 m. Moreover, we can see that the distance between walls (I and II) is the same as the walls (X and IV) and the walls (VI and VII) around 4.18 m.

Furthermore, we can observe, that the **Eastern gate** consists of three pairs of piers with two intermediate chambers, its foundations are constructed of roughly hewn limestone blocks, the few foundations of limestones have been found,[691] its interior passage measured approximately 22 m long by 3.5 m wide between the piers, as indicated in (Fig. 142).[692]

Unfortunately, the northern and southern gates have not been preserved, so we don't have data about them.

Moreover, it is possible to see, that three gaps have pierced the earthen rampart in **Tell Touqan**, which are located in (north-east) (south-east) (south-west) side of the Tell, these gaps are places for gates, which give access to the city.[693]

One can observe, that the **north-east gate (gate A)**, it is six-pier gate type, its passage measured 14 m long and was 2.6 m wide between the piers, moreover it has two intermediate chambers have closed by basalt slabs from inside. [694] It featured a mudbrick superstructure is preserved to a height of 4.5 m, which was built out of bricks measured (38×38×12 cm) and faced with limestone blocks.[695]The width of the internal and external piers is 3.25 m, while that of the central pier is 3.75 m,[696] as illustrated in (Fig. 143-145). We can see that the **south-east gate (gate F)** consists of three pairs of piers and two intermediate chambers. they have closed by basalt slabs from inside.[697] The passageway of the gate was 14.60 m long[698] and 2.7 m wide between the piers, the dimensions of

687 Assaf 1997: 35.
688 Du Mesnil du Buisson 1926: 296.
689 Du Mesnil du Buisson 1926: 294.
690 Du Mesnil du Buisson 1926: 299.
691 Du Mesnil du Buisson 1927: 281.
692 Du Mesnil du Buisson 1935: 42ff.
693 Baffi 1990: 64.
694 Baffi 1990: 65.
695 Matthiae 1979: 8.
696 Baffi 2013: 166.
697 Baffi 1990: 65.
698 Matthiae 1982: 323.

the inner chambers are 8 m by 1.9 m,[699] the width of the internal and external piers is 3.50 m, while that of the central pier is 3.90 m,[700] as indicated in (Fig. 145-146).

Furthermore, three discernible gates could be recognised in **Umm el-Marra,** they are situated in the north-west (it directed to the Aleppo), in the north-east (it directed to the Euphrates) and in the south (it directed to the Jabbul). We can see that the north-east gate's structure was preserved to about 2 m in height with a passageway about 3 m wide and 7 m long.[701]

One evidence about these gates has been found in the **Lower Northern Levant**, specifically in the southern side of the **Tell al-Ash'ari**, where a six-pier gate is situated, to give access to the city and it is possible to notice, that its entrance area is paved with large slabs.[702]

2. Four pier gates

This kind of gates consists of two pairs of piers that narrowed the passageway and formed one chamber, that could be observed in the **Euphrates region**, where the outer gate of the western complex gate in **Tell el-Qitar**, has been built after the inner gate went out of use in area Y. Its passageway measured 2.20 m wide;[703] this gate could be identified as the four-pier type, (Fig. 147).

Furthermore, we can notice in the **Upper Northern Levant**, that the structure of the north-west outer gate of **Tell Umm el-Marra**, is a chambered gate with two sets of piers (four-pier gate type) exposed thus far, separated by a passage measured 3 m wide,[704] (Fig. 150), this gate has been detected in area B.

3. Direct access type (passages through the fortification wall)

We can notice in the **Euphrates region,** that the passageway of the River gate in **Tell el-Qitar** in area X, measured 4.50 to 5.00 m wide, it has been flanked by two towers.[705] Furthermore, one can observe in the **Upper Northern Levant,** that the northern inner gate in **Tell Umm el-Marra**, was flanked by two large towers and its passageway measured 1.2-1.4 m wide and a threshold of stone slabs were situated between two towers,[706] (Fig. 149).

699 Baffi 1990: 65.
700 Matthiae 1982: 323.
701 Schwartz et al. 2000: 429.
702 Kropp, Mohammad 2006: 131.
703 Mcclellan 1984/85: 64.
704 Schwartz et al 2012: 179.
705 Culican, Mcclellan 1983/84: 35.
706 Schwartz et al. 2003: 341.

Moreover, we can see in the **Lower Northern Levant**, that the north-eastern gate (Land Gate) in **Byblos**,[707] has continued to provide access to the city during the MB, and the passage of north-east gate in **Tell Debbeh** was 4.20 m wide and 14 m long.[708]

4. Indirect access type

It is possible to observe in the **Euphrates region** that the passageway of the inner gate in **Tell el-Qitar**, measured between 5 and 5.5 m wide and 11,5 m long runs towards the east and another 11.5 m towards the south.[709] The entire length is 23 m, (Fig. 148) this gate is located in area Y, and it is a part of the western complex gate.

Furthermore, in the **Lower Northern Levant**, one can notice in **Beirut,** that the second fortification wall (W329-398), was pierced by a 2.10 m wide gateway during the MB II, which consists of a 2.90 m wide passage, two piers, a guard chamber have to exist on top of the western pier. At a later stage, an L-shaped wall (chicane) was added to the city wall to prevent a straight-through entrance by making access to the city indirect and therefore more difficult to reach the city.[710]While in **Byblos,** we can see that the north-western gate (Port gate)[711] has continued to provide access to the city during the MB.

Unfortunately, there are some gates we don't have data about their types during the MB, that could be observed in the **Euphrates region**, where a gate has been situated in the southern side of the upper city in **Carchemish**.[712] Furthermore, in the **Lower Northern Levant,** we can see that **the** city of **Tell Sefinat-Nouh** has been characterised by two gates, which are located on the north-east and the north-west side of the city,[713] as indicated in (Fig. 34). While several gates have pierced the rampart, could be noticed in **Tell al- Sür,** particularly the western gate, which is considered the largest one between of them,[714] moreover, we can recognise the location of the gates in **Deir Khabiye**, which are situated in the northern, eastern, western and southern side of the city.[715]

707 Lauffray 2008: 306.
708 Braemer 1984: 244.
709 Culican, Mcclellan 1983/84: 39.
710 Badre 1997: 30.
711 Lauffray 2008: 296.
712 Sconzo, Falsone 2007: 87.
713 Mousli 1986/87: 74.
714 Mouamar 2013: 99.
715 Von der Osten 1956: 14.

Changes in the gates between the EB and MB

We can study the changes in two axes;

1. The building materials
2. Types of the gates.

In terms of the **building materials,** which have been used to build the gates, we can see that no changes have occurred to them during the EB and MB. Nearly most of the gates have been built of mudbricks on the stone foundations, furthermore, in some gates, it is possible to observe, that the orthostats of white limestone have been used in the construction, such as the gate in Tell Bderi during the EB and the gate in Tell 'Atchana during the MB. While we can notice that significant changes have occurred regarding the **type of gates**, it is so clear that during the MB the gates had a specific type. Furthermore, the complex gates, which were existed during the EB, have been disappeared during the MB, while the direct access and indirect access gates were not common during the MB, instead of them we can observe, that the six-pier gates and the four-pier gates, were prevalent in the MB cities.

Maybe we could say, that disappearance of the complex gates; indicates that the role of the gate as a public area, where policing and juridical activities took place during the EB, has changed during the MB. Moreover, as we have mentioned previously, the gates generally represent the weak points in the defensive system. So, if we look at the complex gates, we can see, that the average width of their entrance measured around 7 m, that means we have 7 m wide without fortification wall and defensive elements, which facilitates for the attacker to go through these gates and reach the city. While it is possible to see, that the average width of the entrance of six-pier type gates during the MB measured around 3.2 m and the average width of the entrance of four-pier type gates measured around 2.6 m. We can notice that the width of the entrance has been narrowed, and the narrow entrances and the narrow passageways have helped to protect the gates. Besides the six-pier type gates are contained two shallow chambers or one chamber in the case four-pier type gates, these chambers would be closed and locked to protect the city in the case has been attacked. Moreover, some of the six-pier gates have an indirect axis, in order to increase the defensive effectiveness as the gate (A) in Tell Mardikh/ Ebla.

Although of spread six-pier and four-pier type gates during the MB, the direct and indirect access gates which were existed during the EB, have been continued in some cities during the MB. We can observe that the average width of the entrance of direct access gates measured around 3 m, while indirect access gates have an average width of 2.7 m during the EB. While during the MB the average width of the entrance of direct access gates is 3.3 m and the average width of the entrance the indirect access gates is 3.5 m. The persistence of these gates, despite their low prevalence during the MB, indicates that they were strong defensively, especially the indirect access gate, which was hard to penetrate it perpendicularly, that impedes the attackers to reach the city easily.

M. FORT AND FORTRESS

Definition and Function

It is possible to observe, that the forts and fortresses have been built either on the rampart; as the western fort in Tell Mardikh/ Ebla during the MB II,[716] or in the upper city; as the fort in Tell Jerablus Tahtani[717] during the EB, or in the lower city; as the fort in Tell al-Sür[718] during the MB.

According to the data that we have, we can say that the fort is a large structure that consists of many several independent wings or adjacent blocks with different shape, structure, and functions. Moreover, the fort contains the storage rooms, entrances and sometimes inner courtyard, and it has reinforced by towers or buttress. It is possible to see that the outer wall of the forts measured between 2-5 m wide, mostly it has military purposes and occupied by troops and some forts could contain fortress, as the northern and western forts in Tell Mardikh/Ebla, during the MB II.[719] Furthermore, we can notice, that the fortress is smaller than the fort and it has a rectangular layout, it consists of many small rooms 6-8 with an entrance as the fortress (V) in Tell Mardikh/Ebla.[720] The outer wall of the forts usually measured between 1.5-3 m wide. Moreover, it could be reinforced by the towers. The main function of the fortress is nearly like the function of the towers and bastions, where it has been built on the weak points of the rampart and used to observe the attackers. They control over the surrounding territory and provide to the defenders a fortified place to protect themselves, beside of that it used to be an arsenal, a guard quarter and to send smoke signals.

The structure of the forts and fortress

Early Bronze Age

One can notice, in the **Euphrates region**, that the upper city of **Tell Jerablus Tahtani**, consists of an imposing fort which consists of mudbrick platform, fort extension and fort annexe. Where it has been characterised by a white plastered external face, specifically in area I, where it faced the Euphrates.[721] This fort contains many storage rooms; moreover, it has been reinforced by towers. It is possible to see that its outer walls measured between 2 to 4.4 m wide.[722]

Furthermore, we can observe in the **Lower Northern Levant**, that a quadrangular construction (VS3.07), is located in the north of the south-west sector in the lower city of **Khirbet el-Umbashi**

716 Matthiae 1998: 575.
717 Peltenburg et al. 2000: 55.
718 Mouamar 2013: 99.
719 Peyronel 2000: 1354.
720 Peyronel 2000: 1355.
721 Peltenburg et al. 2000: 55.
722 Peltenburg et al. 1995: 6.

(Fig. 151). It is called “the citadel” by the expedition, and it measured 19 m long and 15 m wide, with walls of 2.40 m wide, which are preserved up to 4.50 m high.[723]

Middle Bronze Age

We can see in the **Euphrates region**, specifically in **Qala'at Halwanji**, that many rooms have been interpreted as the “barracks” for the garrison of the fort have been built out of mudbricks on stone foundations on the upper city.[724]

More evidence about the forts and fortress could be identified in the **Upper Northern Levant**, where a fort is situated in the north-west corner of the lower city in **Tell ‘Atchana** in level VII. It is erected on an artificial platform;[725] we can notice that it consists of many rooms, a courtyard and an entrance, and it was built of mudbricks. Moreover, the outer walls of the fort measured 2.10 m wide, and the exterior angle has been reinforced by a buttress with a double salient.[726]

Furthermore, one can observe, that the west rampart in **Tell Mardikh/Ebla** (Fig. 27-28), is the most powerful one because; it has been reinforced by at least two large forts (the western and northern fort**)**, they have been built on the top and the inner slopes of the rampart.

We can see, that the western fort, which is located at the northern border of the central sector is nearly 70 m long[727] with an overall area of more than 2,400 sqm.[728] The fort is included seven independent and adjacent blocks, irregularly placed along the sides of the larger upper, back, and inner court (arranged around an open upper courtyard).[729] The south-east wing, the south-west wing, the east wing, the west wing was one of the largest ones, the east-north-east wing was probably a small guard quarter, and the north-east wing with several rooms placed in two rows was probably a quarter for soldiers rather than a deposit quarters opened into the large inner court (L 6315). Where a fireplace in the open air was also located between the west and the north-west wings, the entrance to the complex was through the central part of the eastern perimetrical wall, in the north-western corner is occupied by the massive rectangular structure, named fortress (V) (Fig. 152).[730] It is possible to recognise that the **western fortress (area V)**, has been probably built around the end of the1850 BC, or at the beginning of the 1800 BC.[731] It has a rectangular layout; it is opening to the east into an irregular triangular court (L 6525). Moreover, we can notice that its length measured 26 m and its maximum preserved width is around 10 m, the entrance is located to

723 Braemer et al. 2004: 59.
724 Eidem, 2013: 4-5.
725 Woolley 1955: 151.
726 Woolley 1955: 153.
727 Matthiae 1998: 575.
728 Matthiae 2002: 44.
729 Peyronel 2000: 1354.
730 Peyronel 2000: 1355.
731 Peyronel 2000: 1354.

the south through the eastern wall (M.6503) is 1.5 m large with a monumental northern jamb 2 m large and led to a broad vestibule 5.5 by 3.3 m large.[732]

It had a southern block formed by vestibule and staircase and a northern one formed by six non-communicating rooms; five of them could be entered from an upper story through ladders, chambers were 3 by 4 m large.[733] The perimetric walls are massive structures more than 3 m wide, and the inner walls are nearly 2 m wide. [734] The western fortress was a multi-functional building, including residence an arsenal, a guard quarter, and a working place.[735]

The building technique is characterised by irregular unhewn stones partially worked only on the outer face arranged outside on two, and inside on three courses, and by small stones and pebbles which made a regular surface as a base for mudbricks.[736]

Furthermore, we can observe that the northern fort has oriented the south-west to the north-east because it is placed at the junction between the northern sector of the western rampart. Its length of nearly 70 m and nearly 25 m wide.[737] It consists of three wings, the south-west wing, the south-east wing and the north-west wing. In the north-western area of the upper terrace, there was the imposing fortress (AA) (Fig. 153). One can see, that the northern fortress (area AA), has a rectangular layout, including six rooms in pairs and an entrance staircase on the short side according to the typology of the fortress-arsenals: in the central part of this quarter there was the fireplace, probably used to make smoke signals (L6906).[738]

It had three functions: storerooms for weapons, burning place for smoke signals, and sight tower.[739] It results to be a building with much more homogeneous and limited functions than the western fort. [740]

We can observe that these two huge forts have some common characteristics:

- In the first place, they include several independent wings with different shape, structure, and functions
- In the second place, the circulation among these inner quarters is ensured by courts, furthermore, developed in length, with very irregular plans
- The third basic structural elements are the terracing walls, separating the upper sectors from the middle and the lower ones, on the inner slope of the rampart.

732 Peyronel 2000: 1355.
733 Peyronel 2000: 1355 -1356.
734 Peyronel 2000: 1356.
735 Matthiae 2002: 44-46.
736 Peyronel 2000: 1356.
737 Matthiae 2002: 46
738 Matthiae 2002: 46.
739 Matthiae 2002: 48.
740 Matthiae 2002: 48.

Of course, these characteristics, even if they are always present, have the different relevance in the two buildings: in the western fort, the independent wings with a different plan are more numerous, while in the northern fort the terracing walls are three at least, and are quite imposing structures.[741]

In addition to these forts and fortresses, two other fortresses have been found in **Tell Mardikh/Ebla**, (the fortress M and the eastern fortress). One can see that fortress M is oriented to the east-southeastern, is located on the inner slope of the eastern rampart and shows striking analogies with the fortress (V). It measured 27 by 13 m, with six non-communicating rooms as illustrated in (Fig. 154). The entrance device includes a staircase with a small square vestibule (L 1906) with a ramp at one end which led upstairs, the thickness of the walls and the building technique are the same as in the fortress (V).[742] Fortress (M) has only rooms entered from above, organized in three of different sizes progressively smaller from south to north but with the same width on the east-west axis.[743] While it is possible to notice that the eastern fortress, is located in the middle of the eastern rampart in area EE, it is not well preserved.

One can notice, that the fortresses of Tell Mardikh had a quite fixed typology and size, they were usually rectangular and had six rooms not communicating with each other. They have been built on pairs, sometimes of degrading size from centre to the periphery, and the seventh room in one of the short sides, which is occupied the whole width of the building and included the entrance and a four-ramp staircase.[744]

In general, we can say that these fortresses have at least two functions.

- The first one they were arsenals where they kept the weapons for the defence of the city in the six rooms, which could be entered only by using the ladders.
- The second one it is quite likely that the staircase tower was a place for sight and guard and that it played a role of special importance in the control over the surrounding territory.[745]

Moreover, we can see that fortress (AA) in the northern fort has a special function, where it was a place for smoke signals, also taking into consideration the fact that the northern fort is one of the highest places in the perimeter of the rampart and the most protruding one.[746]

Moreover, we can observe in the **Lower Northern Levant**, that a rectangular building with a defensive character (fort) has been detected in **Tell el-Burak,** specifically in area I (Fig. 155-156). It measured ca. 31.5 × 41.6 m,[747] consists of 18 rooms with a 16,0 × 19,5 m inner courtyard. Furthermore, we can see that all the rooms in the corners (3, 6, 11, and 16) protrude beyond the

741 Matthiae 2002: 43.
742 Peyronel 2000: 1357.
743 Peyronel 2000: 1357.
744 Matthiae 2002: 41.
745 Matthiae 2002: 42.
746 Matthiae 2002: 42-43.
747 Kamlah, Sader 2008: 21.

outer walls and thus seem to be towers.[748] It was built of mudbricks which measured (40×40×12 cm),[749] its walls measured 1.2 to 2 m wide.[750] Moreover, we can notice in **Tell al-Sür** that some remains of a fortified building, which has a rectangular shape measured 100 ×90 m, have been found in the northern part of the site (Fig. 33). The remains of several large walls of blocks are observable at the surface of the site.[751] In the south-east corner of the city another rectangular building measured 100 × 75 m, has been found, is characterised by its strategic position in the south-east corner, which allows of the perfect control of the entire plain; because of its elevation, the fortification had to serve not only as a defence or command centre but as an observatory.[752]

Changes in the forts and fortress between the EB and MB

We can study the changes in two axes; the first one is the building materials and the second is the functional use of the forts and fortress. In terms of the building materials, which have been used to build the forts and fortresses during the EB and MB, we can see they have not changed. Where it is possible to observe that the mudbricks have been used to build the walls and the towers of the forts, while the stones have used as the foundations.

Regarding the functional use, it is possible to say that the cities during the EB did not depend on the fort or fortress as the main element in their defensive system. Therefore, just two forts have been found during the EB, instead of that these cities were reinforced by towers and bastions as we have seen previously.

On the contrary during the MB the forts and fortresses were important defensive elements, which have been used to protect the MB cities; specifically, to reinforce the weak points on the cities and the fortification structure; as we have seen in Tell Mardikh/ Ebla. There are two weak points of the rampart; the first one is the lack of protection for the defenders placed on top of the rampart. The second one is the impossibility for them to observe what the besiegers were organising at its foot. So, the forts and fortresses have built along some sections of the crest of the rampart, at least to the south and west. Where their walls of some thickness were protecting the garrisons and, on the other hand, they have created interruptions and deviations, particularly in the long sides of the rampart. While at least a part of the forts was built on it, protruding outside, became possible from the protruding the south-west wing and the tower-arsenal in the north-west wing of the western fort, to easily check respectively nearly 200 m to the south and 250 m the north of the outer foot of the rampart.[753]

748 Kamlah, Sader 2003: 163.
749 Kamlah, Sader 2003: 163.
750 Kamlah, Sader 2003: 163.
751 Mouamar 2013: 99.
752 Mouamar 2013: 99.
753 Matthiae 2002: 48.

N. DITCH

Definition and Function

We can observe that some cities during the EB and MB were surrounded by ditches, which were varied in the width and the depth. They have been used to hinder the advanced attackers; they enhanced the ramparts' effectiveness by limiting the range within which the siege tower could be brought against the wall and the ease with which it could be withdrawn. Therefore, the ditch served first and foremost against the siege tower.[754] Some ditches have been made on purpose for the defence of the settlement, and others have made as a result of digging to bring the building materials such as soil. Some ditches have steep sides and some cities have a double ditch.

Most of the ditches are dry; there is no evidence they were filled with water; instead, the filling of these ditches with water was probably only an occasional result due to seasonal rains or gradual, local environmental changes,[755] it could keep water away from the foundations of city walls.[756]

The structure of the ditches

Early Bronze Age

We can see in **Jazirah**, specifically in the upper city of **Tell Beydar,** that was surrounded by a wide and deep ditch during the EB II.[757] Furthermore, the inner fortification wall in **Tell Mozan** has been reinforced by a ditch dated to the EB I,[758] which has been backfilled in such a way as to render it inoperative during the EB III.[759]

Moreover, it is possible to observe in the **Euphrates region**, that a part of a ditch has been detected in **Tell Selenkahiye** specifically in Sq N 25-26. Its depth measured at least 3 m, while its width, which has steep sides, was 9 m.[760] Furthermore, the outer fortification wall in **Titriș Höyük** has been reinforced by a ditch was at least 3.5 m deep.[761]

More evidence about the ditches could be identified in the **Upper Northern Levant**, where double ditches were fortified the outer fortification structure in **Tell al-Rawda** during the EB IVA, a first ditch (E224), has a steep escarpment (2280),[762] measured 8 m wide and approaching 1.50 m deep,

754 Burke 2008: 41.
755 Burke 2004: 150.
756 Burke 2004: 152.
757 Lebeau, Suleiman 2005: 11.
758 Buccellati 1998: 13.
759 Buccellati 1998: 13.
760 Van Loon 2001: 93.
761 Algaze et al. 2001: 33.
762 A Scarp and a counterscarp are the inner and outer sides of a ditch.

rests against the eastern face of the front wall.[763] While the second ditch was two times wider and deeper than the first, also, its escarpment is comparable with the first ditch.[764] Furthermore, one can notice that the lower city of **Tell Umm el-Marra** during the EB, was surrounded on three sides by a ditch which cut into bedrock, maybe it was resulted of digging to bring the materials as reddish, chalky soil or white limestone to construct the glacis and the rampart.[765]

Middle Bronze Age

We can see in the **Euphrates region**, that the inner rampart of **Carchemish** has been reinforced by a 5 m deep ditch,[766] could be the place where the soil has been taken to build the rampart. Moreover, it is possible to notice in **Tell el-Qitar** there is a sign for a deep ditch.[767]

In the **Upper Northern Levant**, one ditch has been detected, specifically in **Tell Mishrifeh**, where the rampart has been reinforced by a long and narrow ditch,[768] it measured 70 m to 100 m wide and 5 m deep. If the ditch was encircled the entire site, it would have approximately 4,560 m long.[769]

Furthermore, in the **Lower Northern Levant**, one can observe that the main and the lower mound in **Tell Nebi Mend** (Fig. 35) have been reinforced by ditches, which measured some 40 m wide.[770] Moreover, we can see, that **Tell Sefinat-Nouh** (Fig. 34) has been reinforced on all four sides by a ditch,[771] while the second city of **Tell al-Sür**, has been reinforced by several external ditches measured between 8 m to 35 m wide, during the MB.[772]

Changes in the ditches between the EB and MB

One changes could be observed, that the ditches during the MB were wider; because the ramparts during the MB were wider and as we have mentioned that some the ditches were a result of digging to bring the building materials as the soil to build the ramparts and fortification walls.

763 Castel 2008: 28.
764 Castel 2008: 29.
765 Schwartz et al. 2000: 427.
766 Woolley 1921: 44.
767 Mcclellan 1986: 90.
768 Du Mesnil du Buisson 1935: 41.
769 Burke 2004: 442.
770 Parr 2015: 353.
771 Mousli 1986/87: 74.
772 Mouamar 2013: 99.

O. NATURALLY PROTECTION

We can notice that some cities have benefited from their location, which was near to rivers, lakes or cliffs to create kind of natural protection to protect themselves.

Early Bronze Age

That could be observed in the **Euphrates region**, where **Tell Halawa A** was surrounded by fortification structure from all direction except for the south, where the river is created a natural border on this side.[773] Moreover, one can see that the city of **Tell Titriș Höyük** held a commanding and naturally defensible position because of the natural slope of the Pleistocene ridges.[774] Also, the abrupt cliff in **Byblos** constitutes a natural defence line, which is protected the southern side of the city.[775]

Middle Bronze Age

In the **Upper Northern Levant**, we can notice, that the southern side of the upper city of **Tell Touqan** during the MB II, was protected by shores of the ancient lake.[776] Moreover, it is possible to see, that the Orontes river has created a natural defence line to protect the western side of the lower city in **Tell 'Acharneh** (Fig. 32), therefore the enclosure's remains are less visible along the length of the bank of the Orontes to the west.[777]

Furthermore, we can observe, in the **Lower Northern Levant**, that the western and the northern sides of the lower city of **Tell al-Ash'ari** have not been fortified by fortification walls because their limits are defined by a very steep cliff, overlooking the gorge that creates a formidable natural fortification.[778]

773 Orthmann 1989: 50.
774 Algaze et al. 2001: 62.
775 Lauffray 2008: 319.
776 Matthiae 1982: 316.
777 Fortin 2006: 130-133.
778 Kropp, Mohammad 2006: 131.

CHAPTER TWO

STATISTICS AND TABLES

This chapter provides an accurate statistical study of defensive elements, which were illustrated by two types of diagrams; one of them indicates the number of defensive elements in each region and the other indicates the percentage of these elements. besides tables, which provides information about these elements such their dimensions, period, building materials and location. This study is done according to the chronological and geographical of the defensive elements.

A. SHAPE AND SIZE

We have studied the defensive elements in (**sixty-two) Tells/ Sites**, which have contained (**seventy-three) fortified cities**; (thirty-six) cities of them dated to the EB, while (thirty-seven) cities dated to the MB. We should mention that just eleven fortified cities had continued to be fortified from the EB to MB.

We can see that the cities were varied the shape, one can observe that from (thirty-six) EB fortified cities, there are just two cities have a rectangular shape, while eleven cities have a circular shape. Furthermore, nineteen cities have an elliptical shape and four cities we don't have data about their shapes.

Moreover, it is possible to see that from (thirty-seven) MB fortified cities, there are just three cities have a square shape and three cities have a rectangular shape, while five cities have a circular shape. Furthermore, twenty-three cities have an elliptical shape and three cities we don't have data about their shapes.

We can observe that eight settlements during the EB; (Tell Khirbet al-Qasr, Tell Sh'airat, Tell Beydar, Tell Chuera, Tell Tilbeshar, Tell Leilan, Tell Kazane Höyük and Tell es-Sweyhat), their upper and lower cities were fortified in the same time, while during the MB we have just six settlements (Tell Mardikh/ Ebla, Tell Touqan, Tell Nebi Mend, Tell Mohamad Diab, Tell Afis and Tell Umm el-Marra) their upper and lower cities were fortified in the same time. From those settlements, we have Six settlements have a circular shape; we could call them (Round Cities[779]-

779 although Tell Hariri/Mari is not inside our geographical framework, we should mention that Mari has long been considered as one of the most early known as a Round city in Mesopotamia. Excavations from 1933 to 2010 led to the identification of three main periods of occupation: Mari I (c. 2900–2650), Mari II of the Early Dynastic period (c. 2600–2300) and Mari III of the Šakkanakku and Lîm dynasties (c. 2300–1750). Today, the site, situated on the right bank of the Euphrates River, is a c. 100 ha complex of mounds: the main tell (upper mound) covers an area of c. 40 ha; the lower town is surrounded by a south-eastern concentric levee. it covers an area originally c. 150–200 ha double walled city, including two separate lines of defence, the inner perimeter made of heavy stone foundations with superstructures of mud-brick enclosing the upper town – i.e. the proper urban-type space of combined pre-planned political-religious nuclei and densely occupied plebeian-like areas – and a second, outer earthen embankment or dyke-like structure surrounding the lower town, and made of layers of clay, broken mud-bricks, and other types of earth and soils,

Kranzhügel) they are composed of a higher-lying (Upper city) and a (Lower city), which encircles the (Upper city) and is framed by massive rampart-like elevations.[780]

Four of them were fortified during EB; two of those cities are located in Syrian Jazirah; Tell Chuera, which was fortified in the upper city in the settlement's foundation phase around 3000BC, during EB I and later during EB II, then lower city was fortified during EBIII and EB IV the, also, the lower and upper city of Tell Beydar were fortified during the EB I-II.

While, in Upper Northern Levant, we can see the upper and lower city of Tell Khirbet al-Qasr were fortified during EB IV, as well as Tell Sh'airat, which is located in the Lower Northern Levant their upper and lower city were fortified during EB IV A-B.

While just two settlements were fortified during MB; which are located in Upper Northern Levant; where we can see the upper and lower city of Tell Afis were fortified during MB I-II and in Tell Umm el-Marra, they were fortified during MB II.

From the chronology, we can say that the first appear of these round fortified cities in Syrian Jazirah region, where have already been founded towards the end of the 4th millennium, that is, in the Early Bronze Age I.[781]

Furthermore, we can notice, that the smallest Tell, which contains defensive elements is (Tell Jerablus Tahtani), which covers an area 0.03 ha, and its fortification structure dated to the EB, while the biggest Tell is (Tell Mozan), which covers an area 135 ha and its fortification structure dated to the EB.

measuring 8 m in width, and featuring a 2 metre-wide stone core-wall – probably the foundation of a proper enceinte,(Butterlin & Rey 2016:28).

780 (Meyer 2014: 14).

781 Meyer 2014: 14.

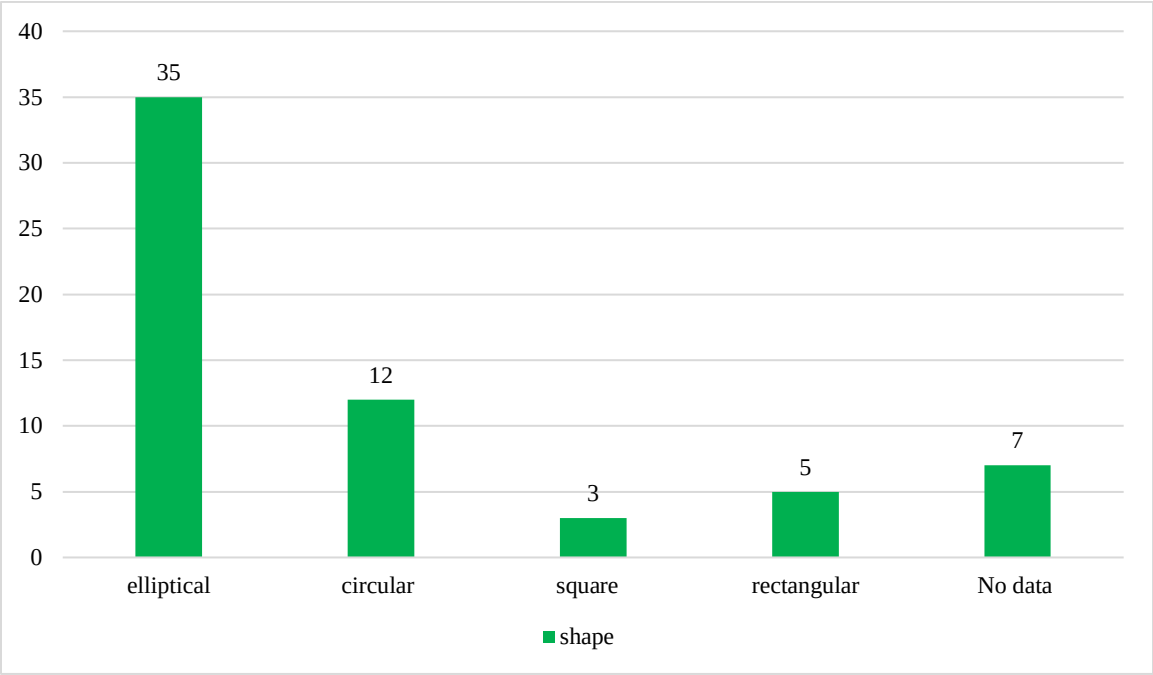

Diagram 1: Shape of the fortified Tells during the EB and MB.

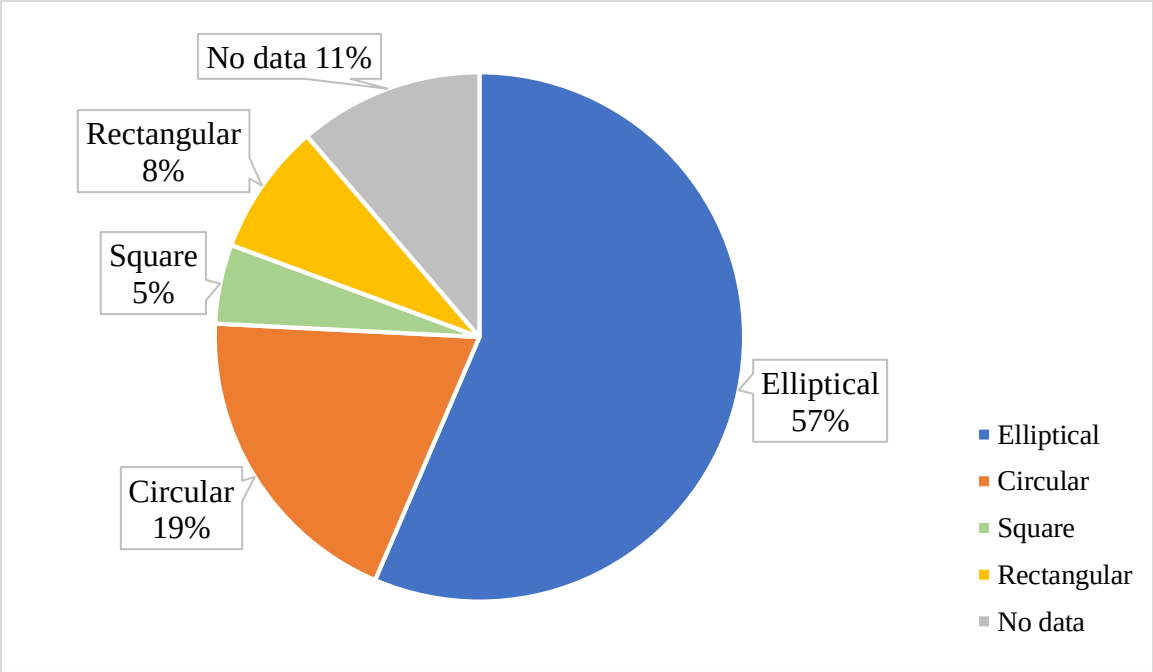

Diagram 2: Shape of the fortified Tells during the EB and MB (by percentage).

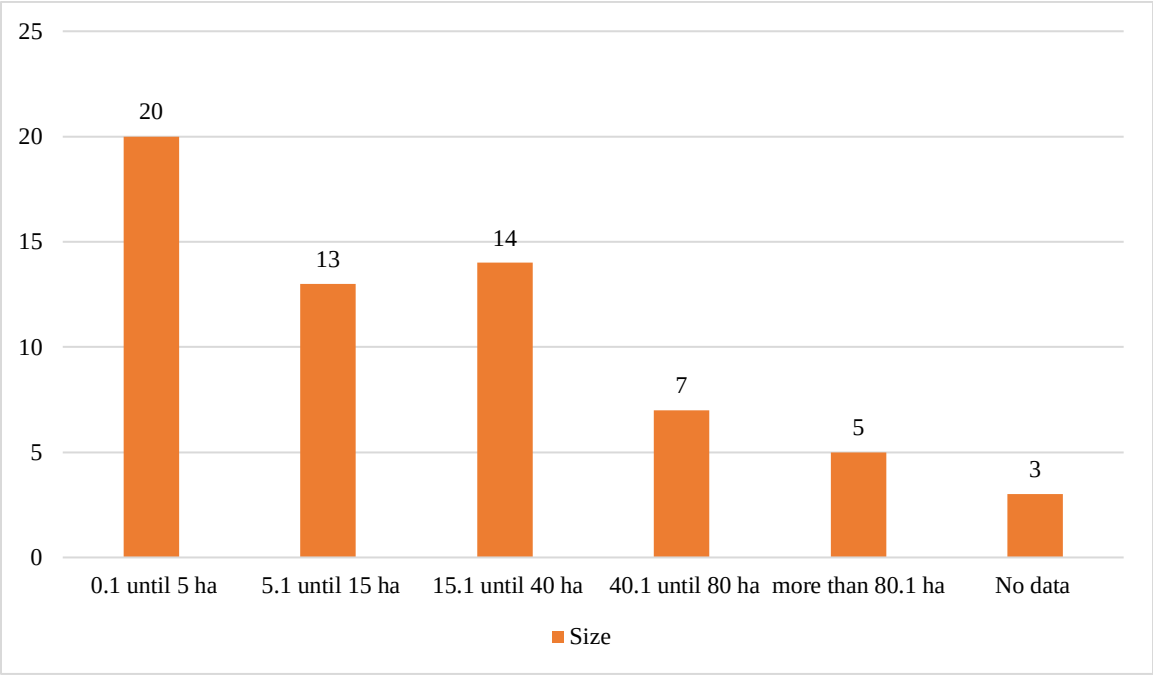

Diagram 3: Size of the fortified Tells during the EB and MB.

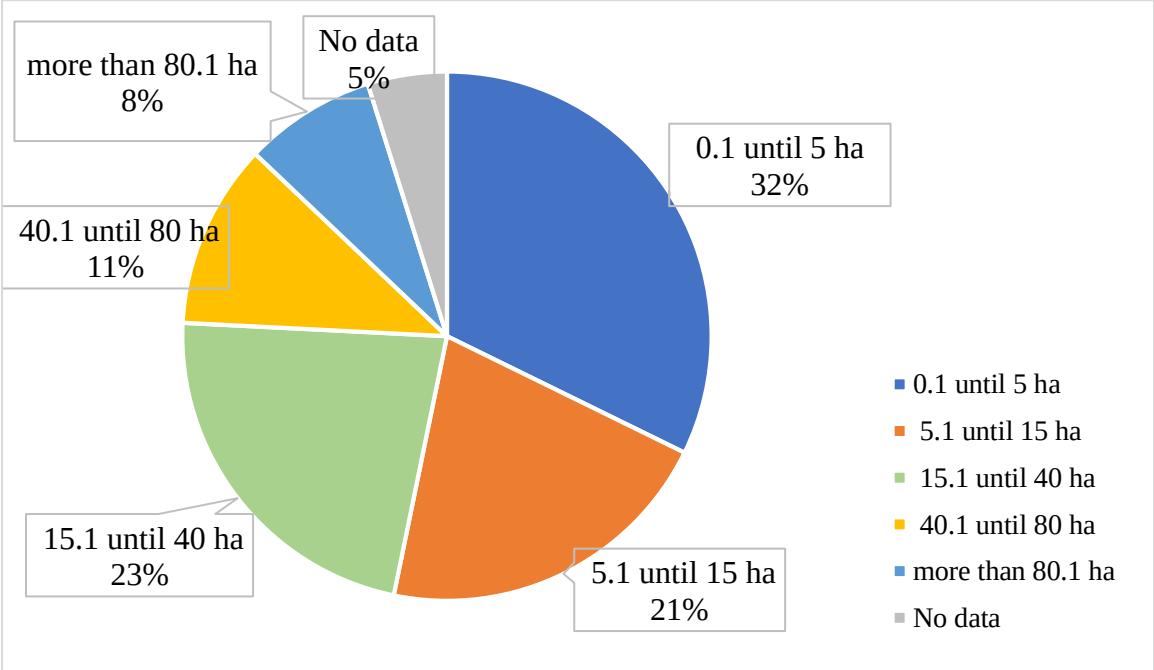

Diagram 4: Size of the fortified Tells during the EB and MB (by percentage).

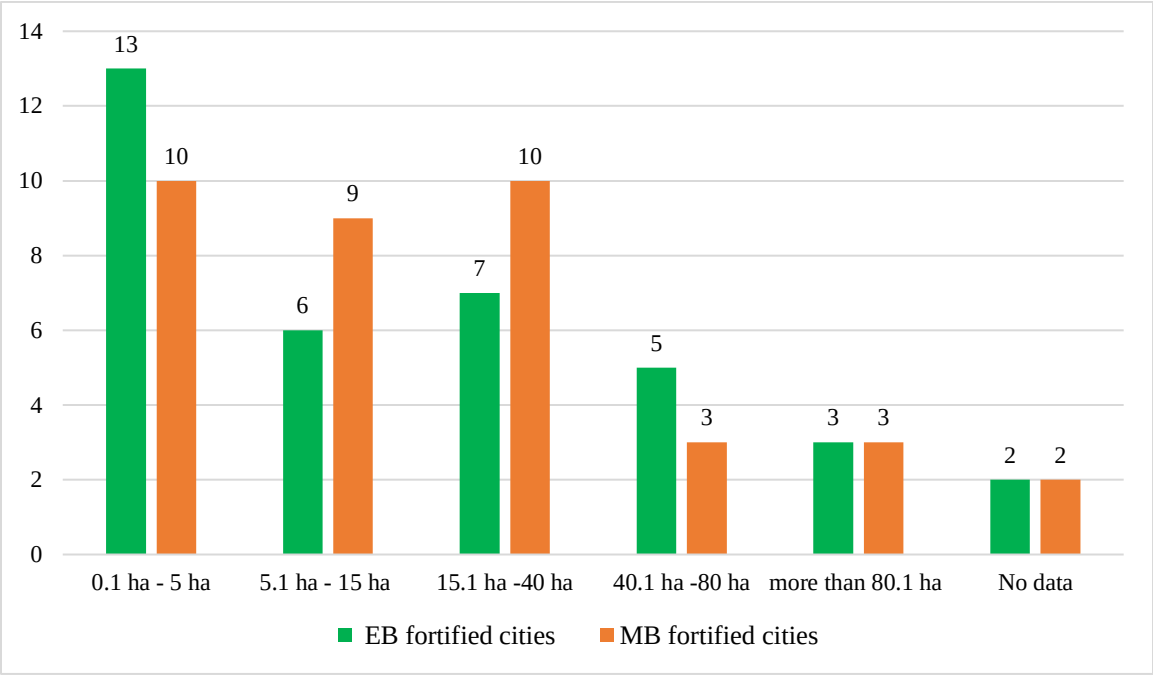

Diagram 5: Size of the fortified cities during the EB and MB.

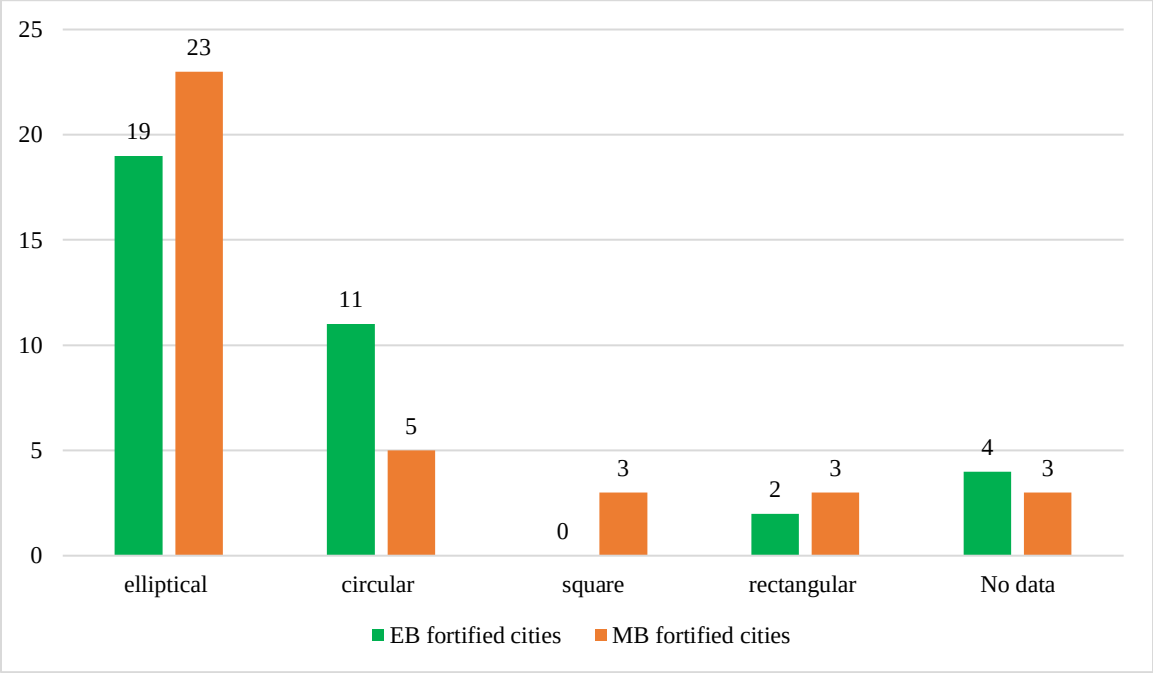

Diagram 6: Shape of the fortified cities during the EB and MB.

1. Syrian Jazirah

We have studied **twelve fortified Tells/ Sites** in Syrian Jazirah area, which have contained **thirteen fortified cities**; ten cities of them dated to the EB, while three cities dated to the MB, just one city (Tell Leilan) had continued to be fortified from the EB to MB, it has an elliptical shape.

It is possible to observe that from ten EB fortified cities; three cities of them have a circular shape, while six cities have an elliptical shape and one city, we don't have data about its shape. Furthermore, one can notice that all the MB fortified cities have an elliptical shape.

It is possible to see that three cities during the EB were fortified at the same time in the upper and lower cities, (Tell Beydar and Tell Chuera) have a circular shape and (Tell Leilan), have an elliptical shape. While during the MB we can notice that (Tell Mohamad Diab) was fortified at the same time in the upper and lower city and it has an elliptical shape.

Furthermore, we can recognise that the smallest fortified Tell in Syrian Jazirah is (Tell 'Atij), which covers an area 0.6 -0.8 ha and its fortification structure dated to the EB, while the biggest Tell is (Tell Mozan), which covers an area 135 ha and its fortification structure dated to the EB.

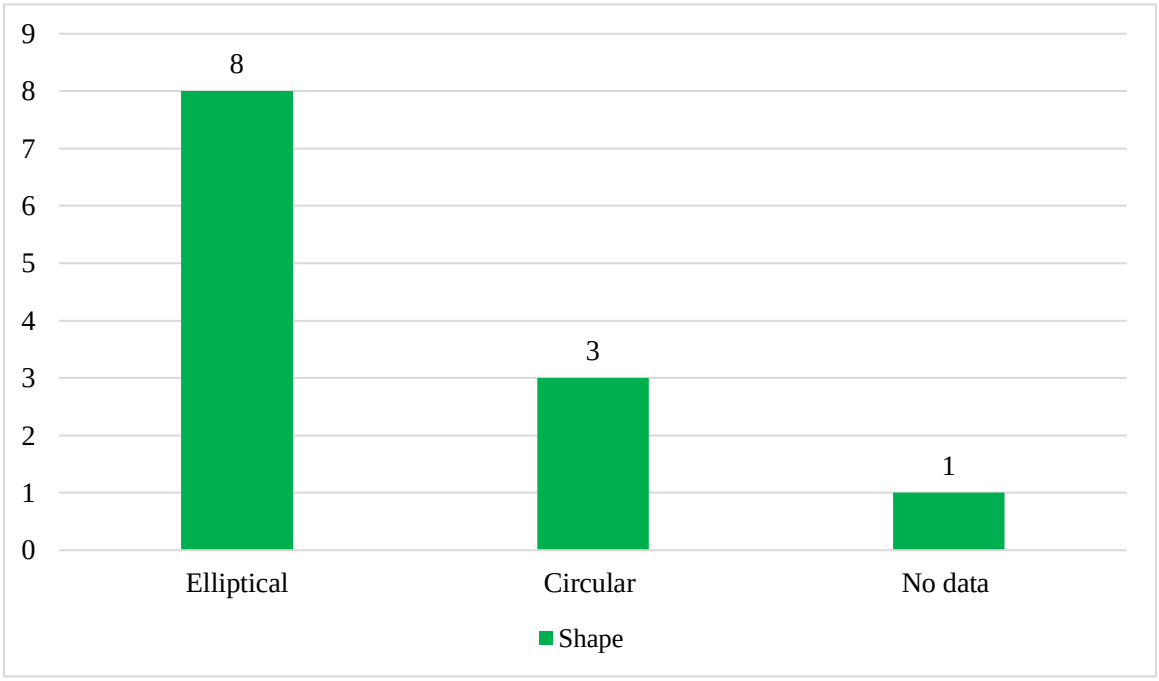

Diagram 7: Shape of the fortified Tells in Syrian Jazierh during the EB and MB.

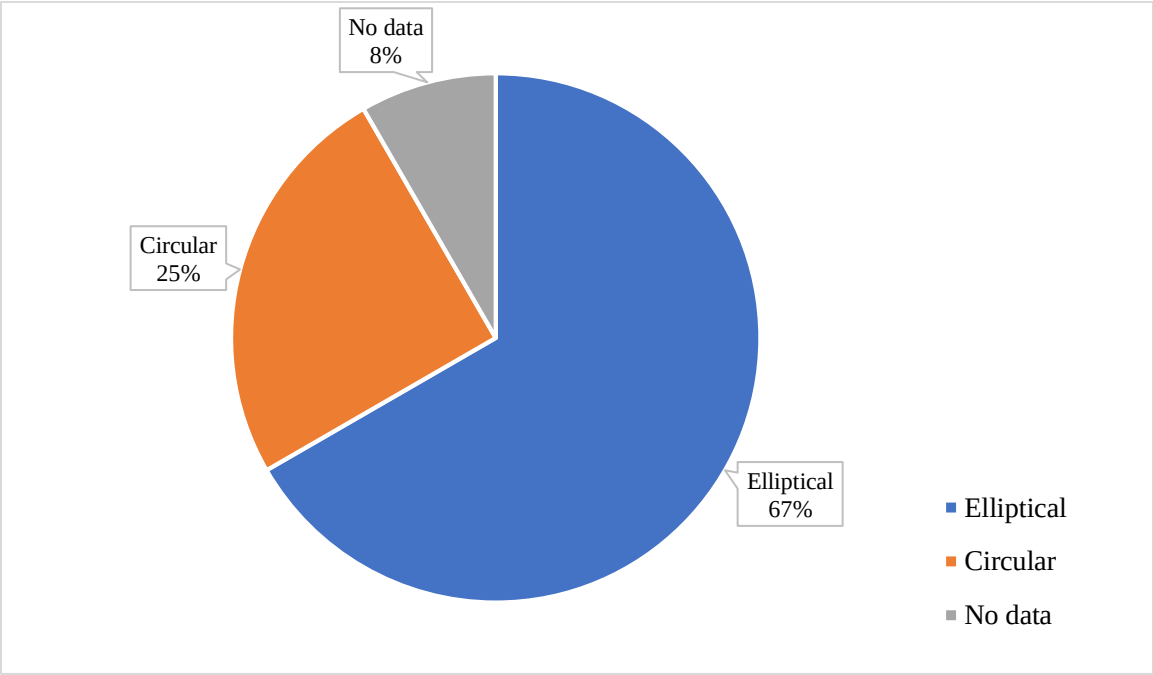

Diagram 8: Shape of the fortified Tells in Syrian Jazierh during the EB and MB (by percentage).

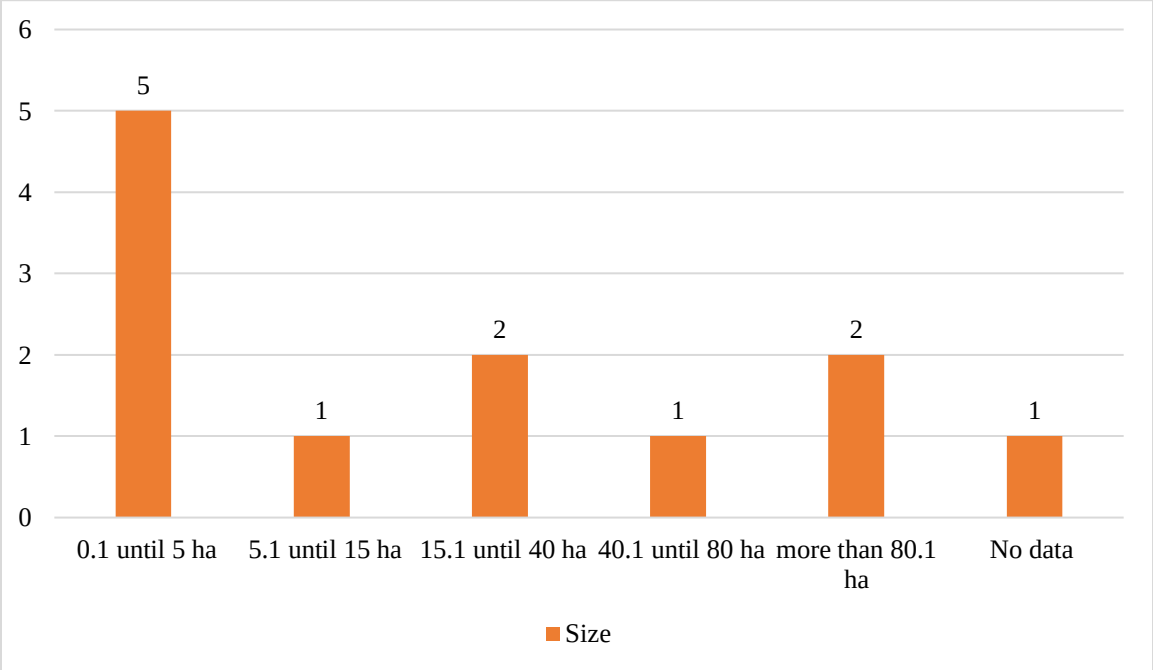

Diagram 9: Size of the fortified Tells in Syrian Jazierh during the EB and MB.

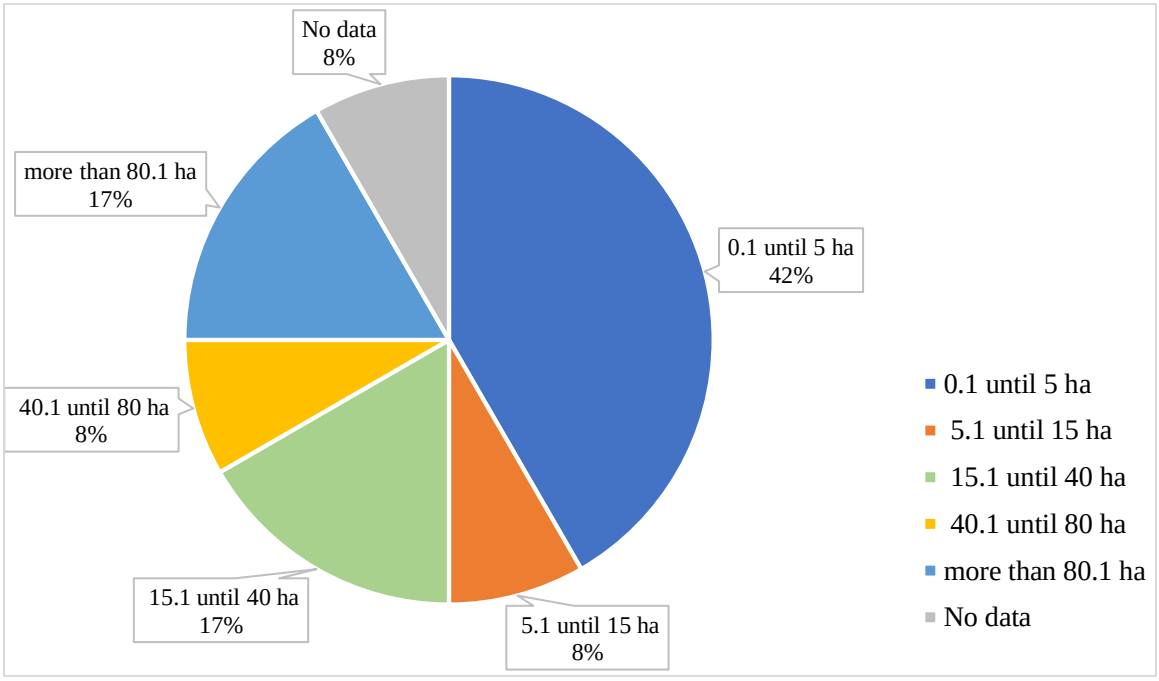

Diagram 10: Size of the fortified Tells in Syrian Jazierh during the EB and MB (by percentage).

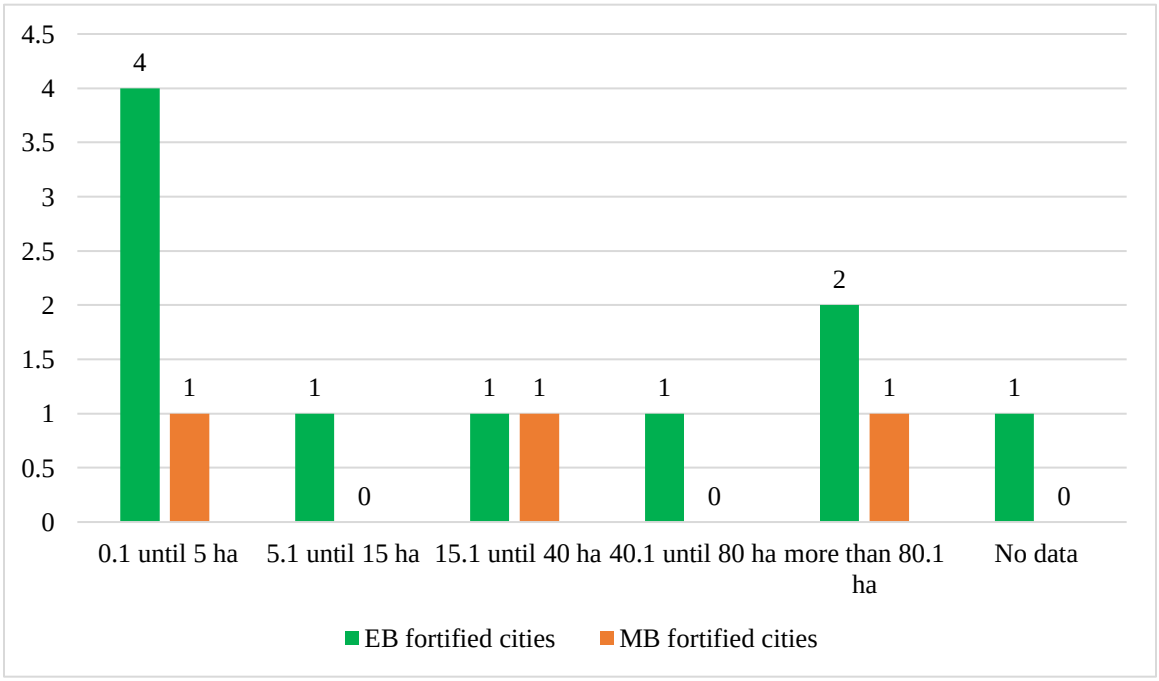

Diagram 11: Size of the fortified cities in Syrian Jazierh during the EB and MB.

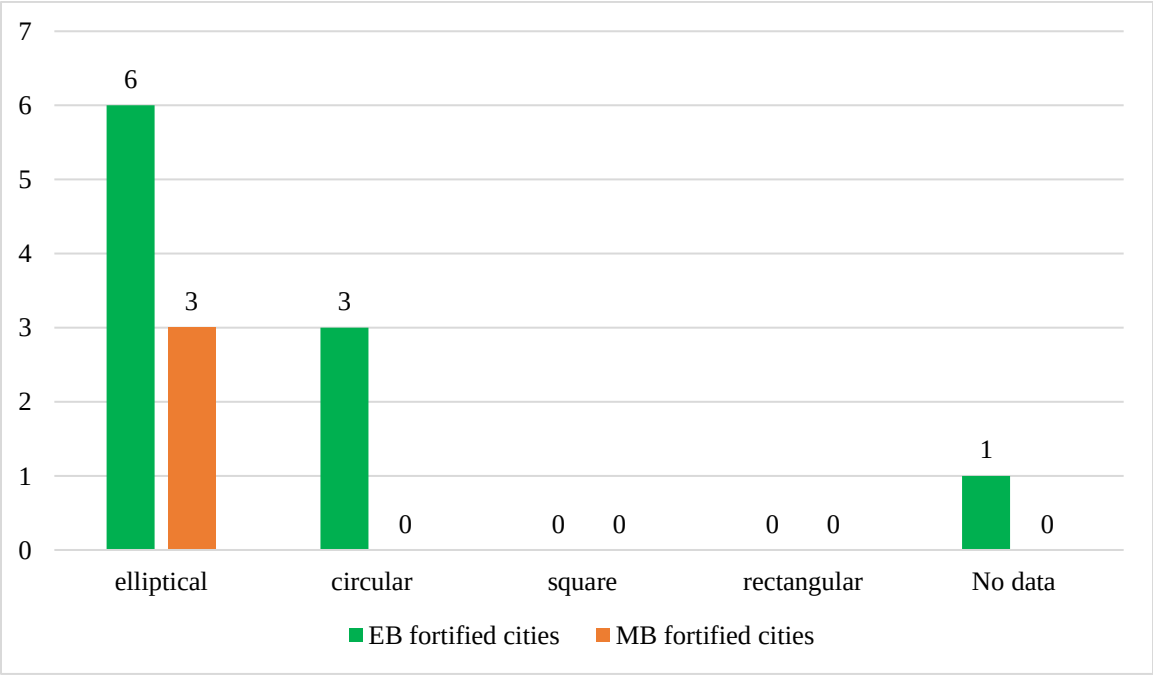

Diagram 12: Shape of the fortified cities in Syrian Jazierh during the EB and MB.

2. Euphrates region

We have studied **nineteen fortified Tells/ Sites** in the Euphrates region, which have contained **twenty-three fortified cities**; fourteen cities of them dated to the EB, while nine cities dated to the MB. Moreover, we have four cities had continued to be fortified from the EB to MB; two of them have an elliptical shape and two a circular shape.

It is possible to observe that from fourteen EB fortified cities; two cities of them have a rectangular shape, while six cities have an elliptical shape. Moreover, three cities have a circular shape and three cities we don't have data about their shape.

Furthermore, one can notice from nine MB fortified cities; four cities of them have an elliptical shape, while one city has a square shape. Moreover, two cities have a circular shape and two cities we don't have data about their shapes.

It is possible to see that just two cities (Kazane Höyük and es-Sweyhat), during the EB were fortified in the same time in the upper and lower cities, both of them have a roughly rectangular shape, while during the MB we don't.

Furthermore, we can recognise that the smallest Tell in the Euphrates region which contain the fortification structures is (Tell Kannas), it covers an area 1 ha and its fortification structure dated

to the end of the 3rd millennium (EB IVA-B / MB I). Also, (Tell Halawa B), which its fortification structure dated to the EB.

Moreover, we can see the biggest Tell is (Kazane Höyük), which covers an area 100 ha and its fortification structure dated to the EB.

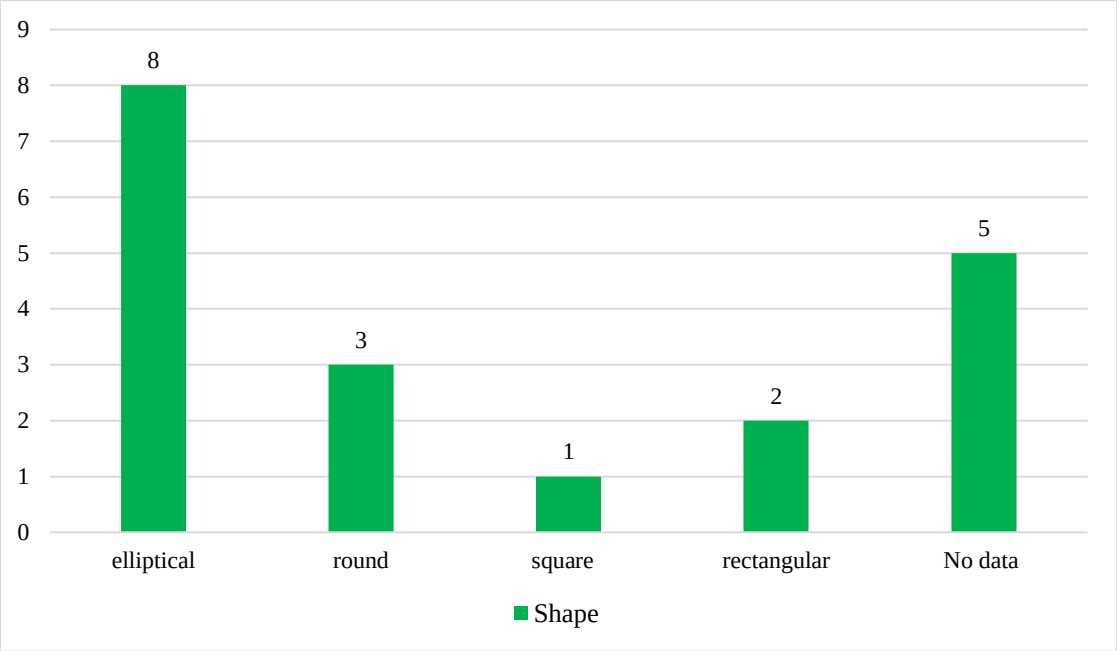

Diagram 13: Shape of the fortified Tells in the Euphrates region during the EB and MB.

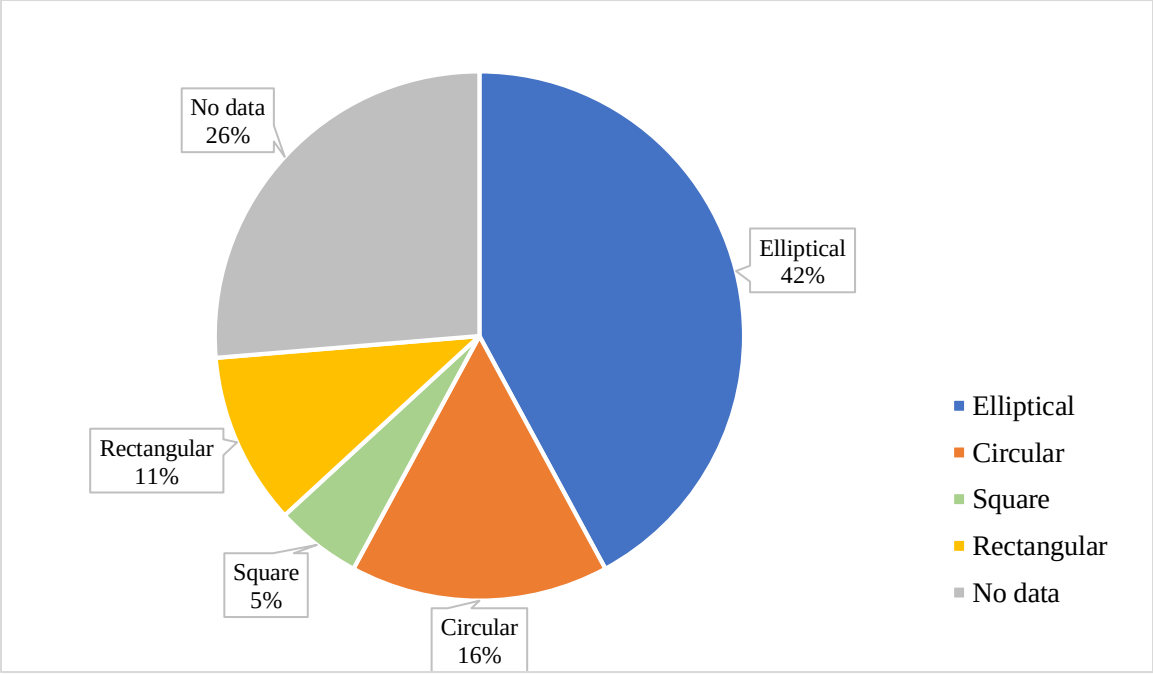

Diagram 14: Shape of the fortified Tells in the Euphrates region during the EB and MB (by percentage).

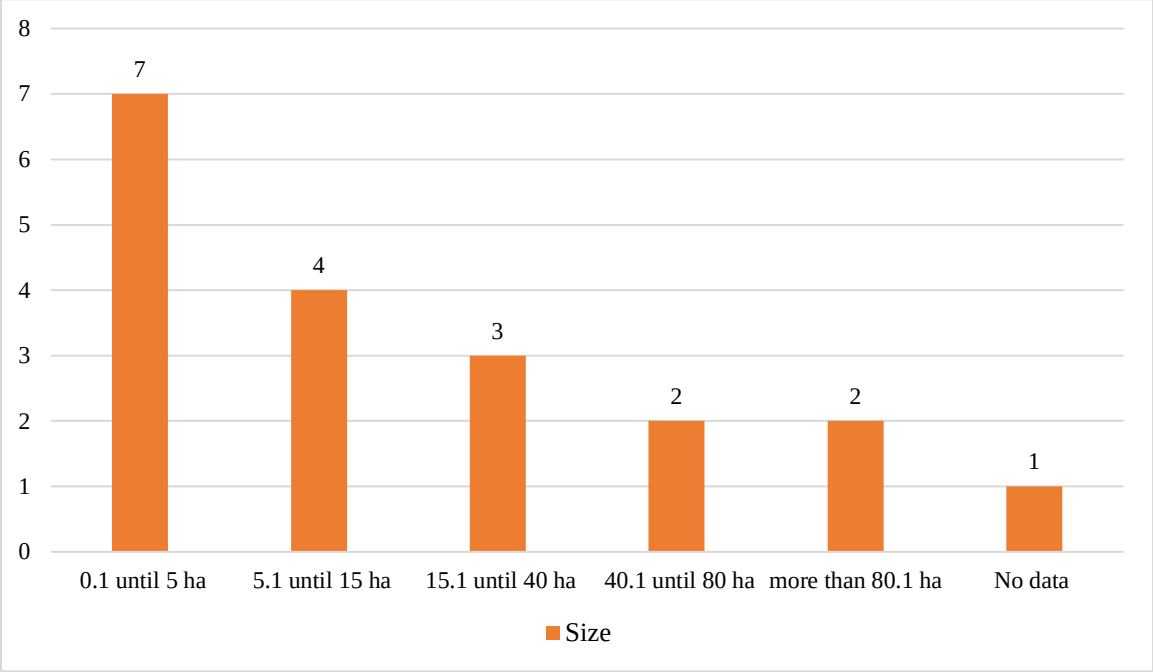

Diagram 15: Size of the fortified Tells in the Euphrates region during the EB and MB.

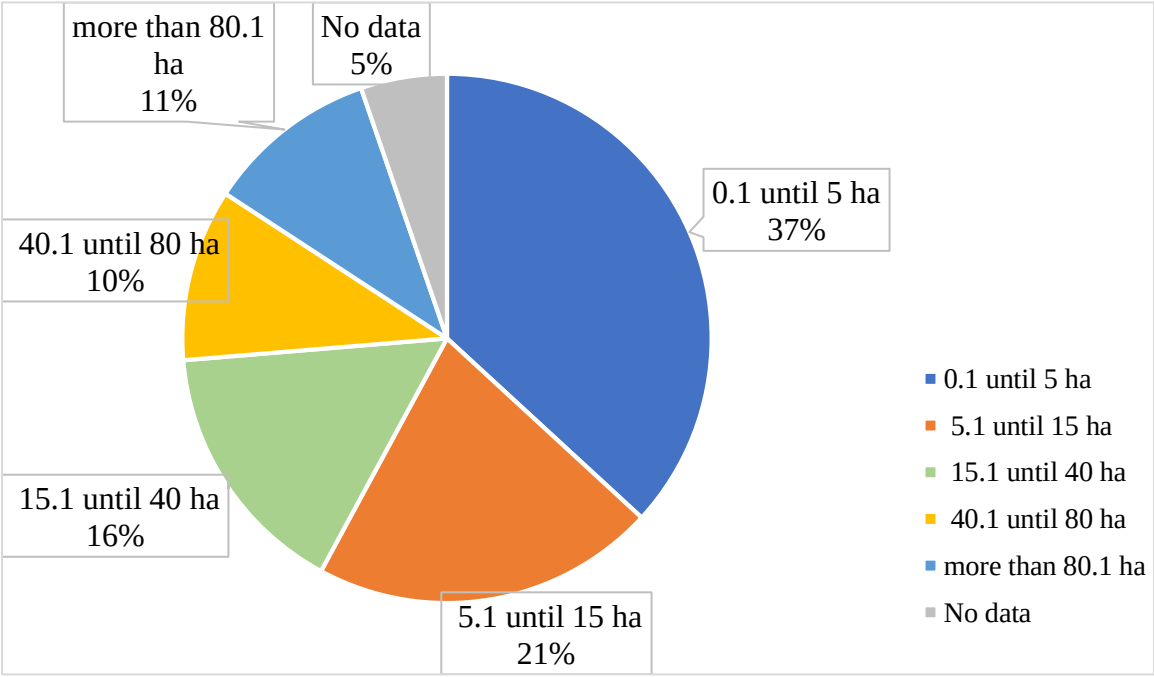

Diagram 16: Size of the fortified Tells in the Euphrates region during the EB and MB (by percentage).

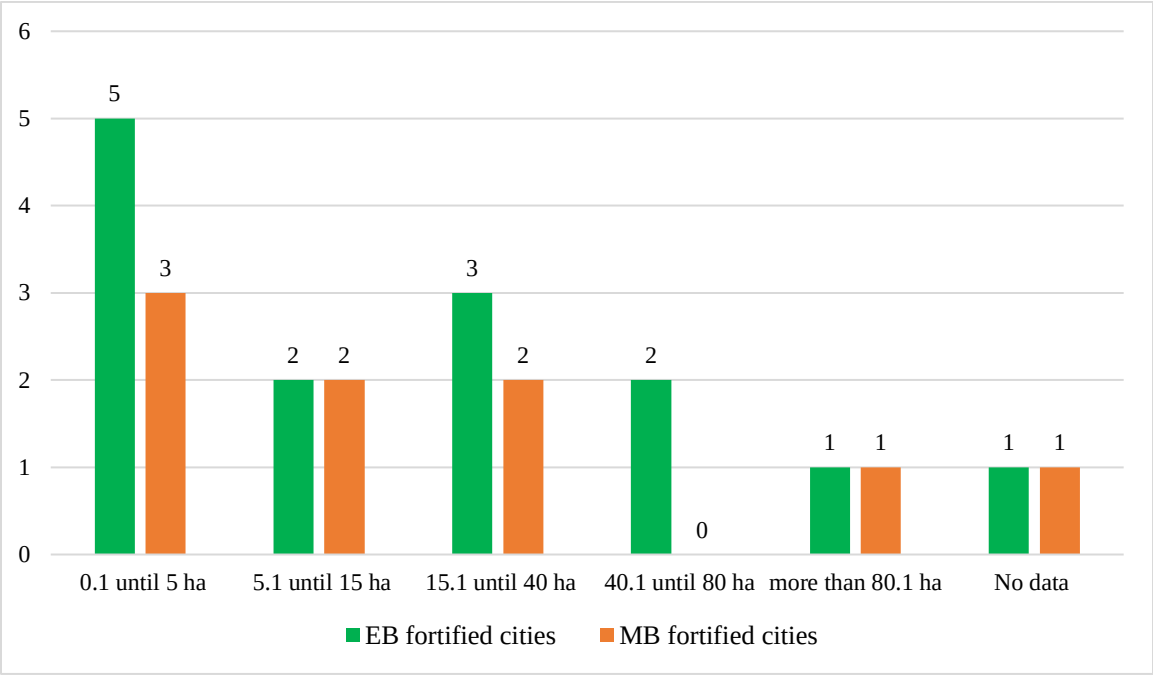

Diagram 17: Size of the fortified cities in the Euphrates region during the EB and MB.

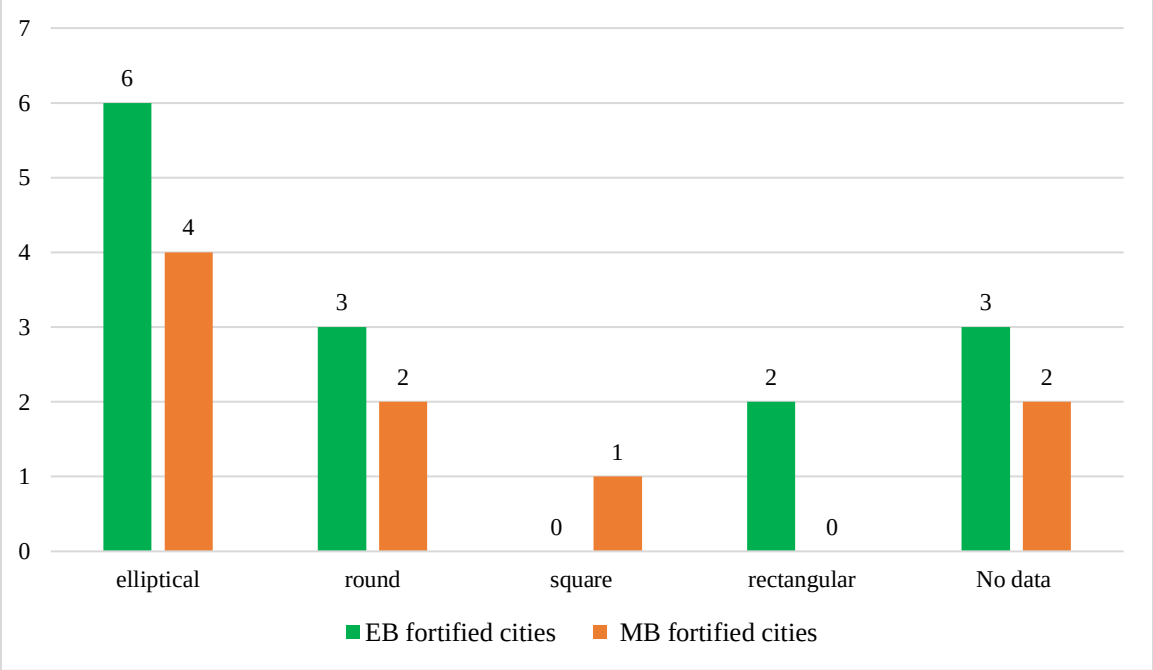

Diagram 18: Shape of the fortified cities in the Euphrates region during the EB and MB.

3. Upper Northern Levant

We have studied **fifteen fortified Tells/ Sites** in Upper Northern Levant, which have contained **eighteen fortified cities**; six cities of them dated to the EB, while twelve cities dated to the MB, moreover, we have three fortified cities had continued to be fortified from the EB to MB, two of them have circular shape, and one has an elliptical shape.

It is possible to observe that from six EB fortified cities; four cities of them have a circular shape while two cities have an elliptical shape.

Furthermore, one can notice from twelve MB fortified cities; seven cities of them have an elliptical shape, while one city has a square shape, moreover, one city has a rectangular shape and three cities have a circular shape.

It is possible to see that just one city (Khirbet al-Qasr) during the EB was fortified at the same time in the upper and lower city, which has a circular shape.

Furthermore, we can recognise that four cities during the MB were fortified in the same time in the upper and lower cities, (Tell Afis and Tell Umm el-Marra), which have a circular shape, (Tell Mardikh and Tell Touqan), they have an elliptical shape.

One can observe that the smallest fortified Tell in the Upper Northern Levant is (Tell Massin) covers an area 2 ha from the east to the west 185 m and from the north to the south 140 m, and its fortification structure dated to the MB.

The biggest Tell is (Tell Mishrifeh/ Qatna), which covers an area 100 ha and its fortification structure dated to the MB.

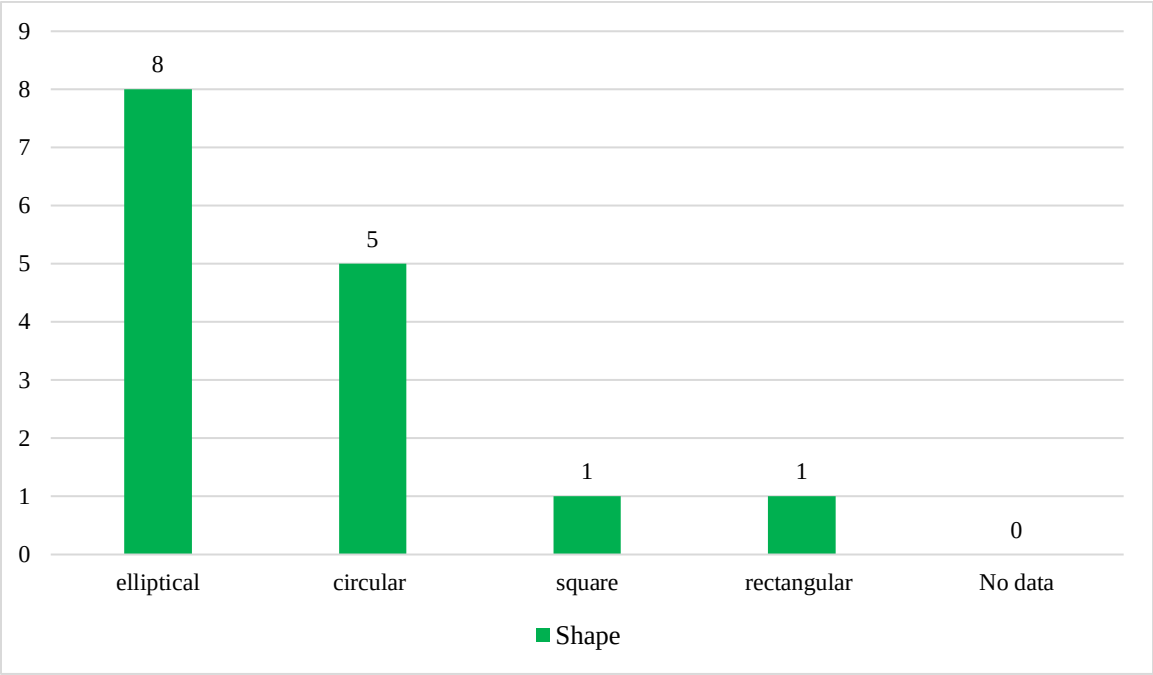

Diagram 19: Shape of the fortified Tells in the Upper Northern Levant during the EB and MB.

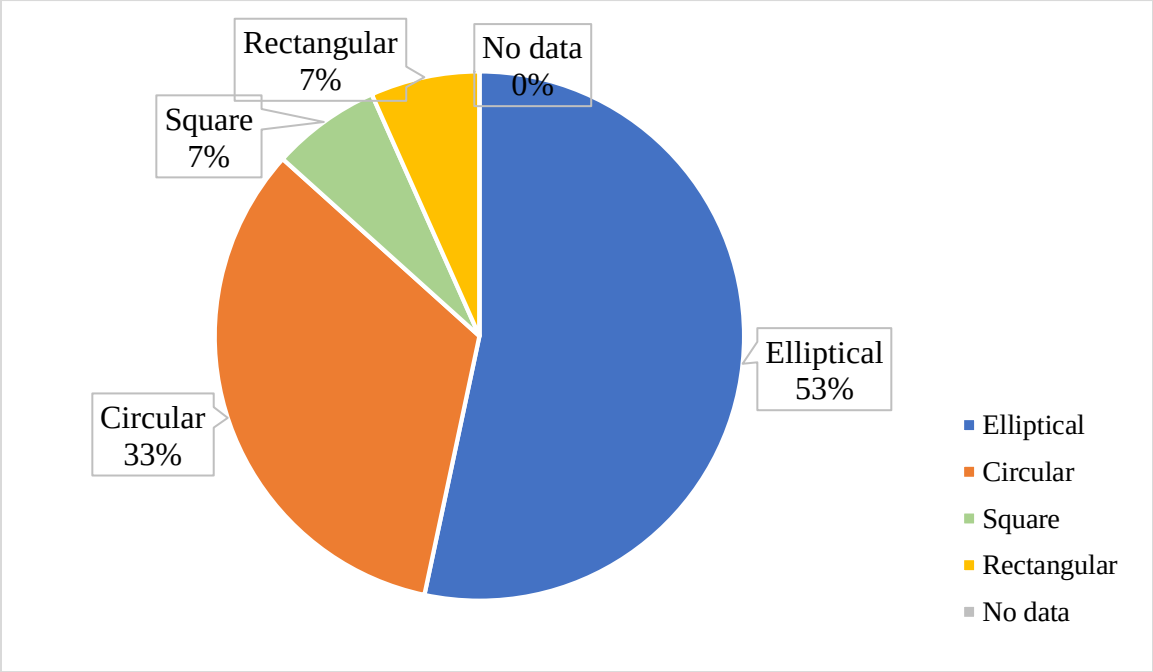

Diagram 20: Shape of the fortified Tells in the Upper Northern Levant during the EB and MB (by percentage).

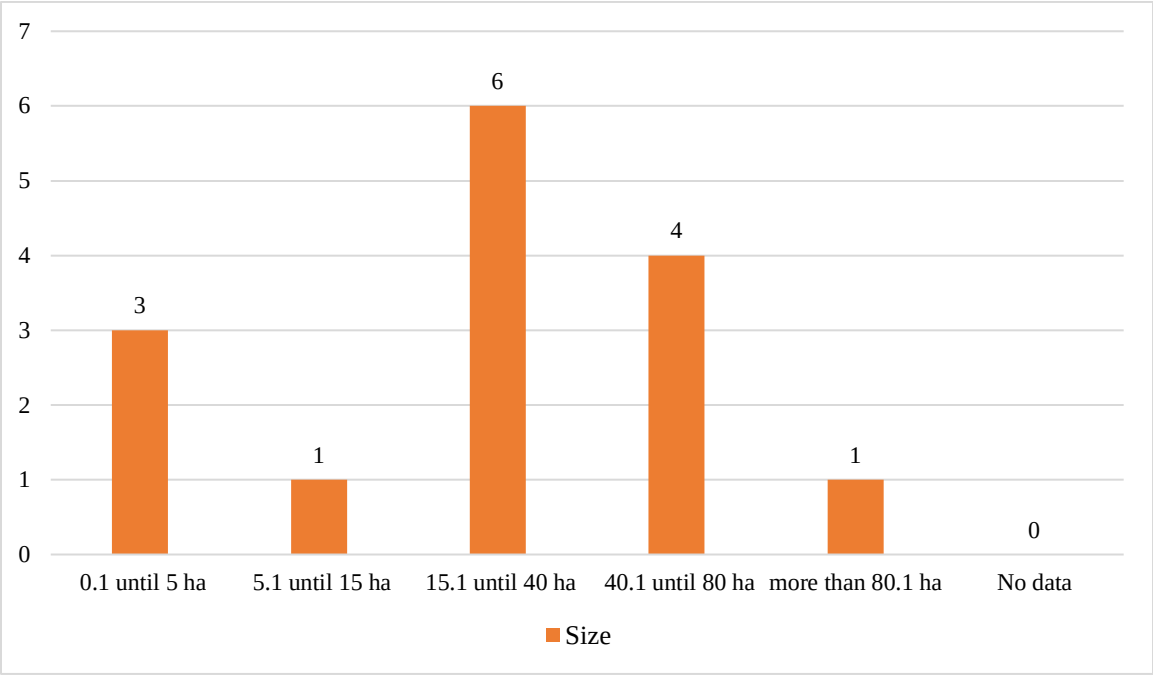

Diagram 21: Size of the fortified Tells in the Upper Northern Levant during the EB and MB.

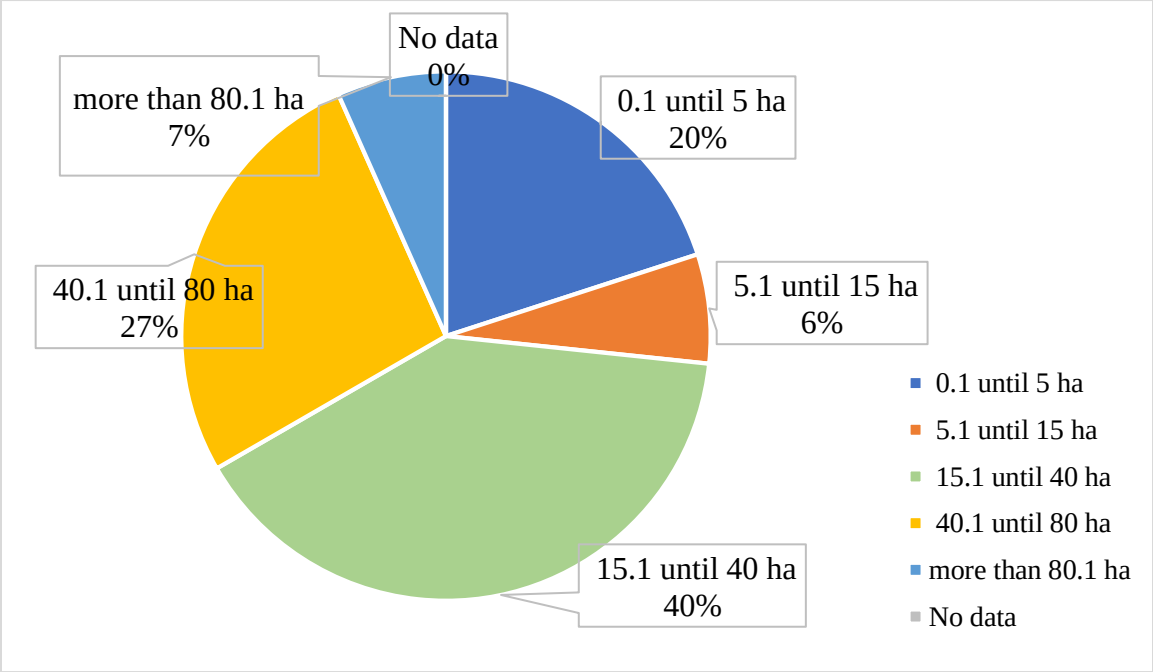

Diagram 22: Size of the fortified Tells in the Upper Northern Levant during the EB and MB (by percentage).

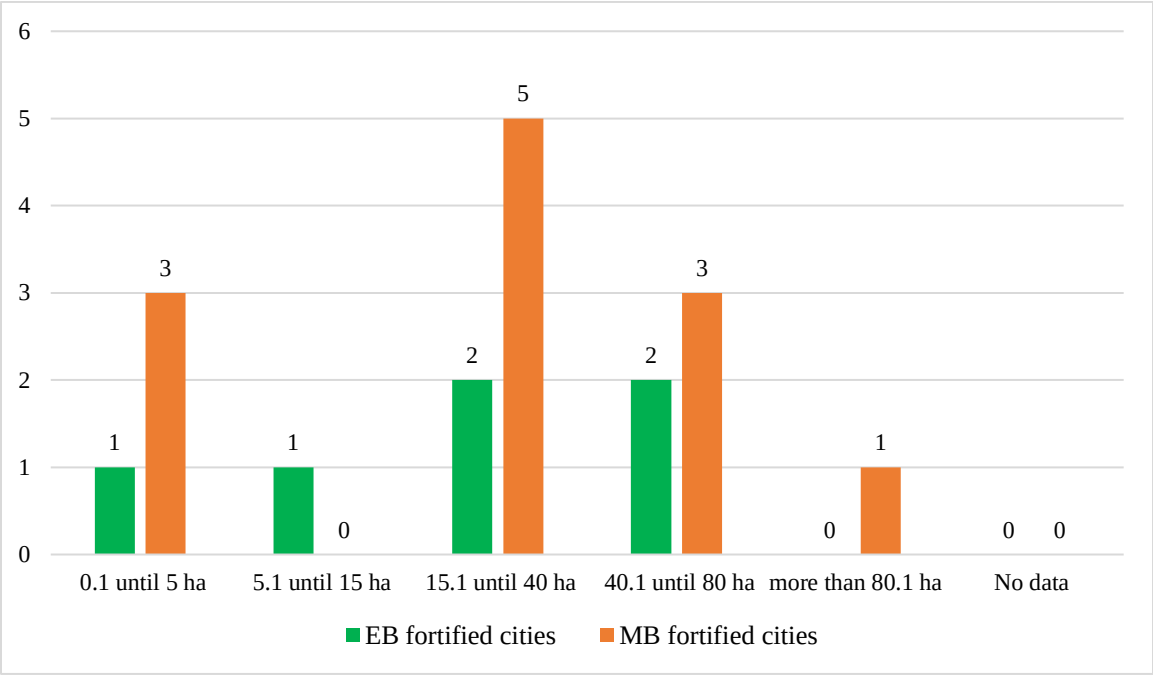

Diagram 23: Size of the fortified cities in the Upper Northern Levant during the EB and MB.

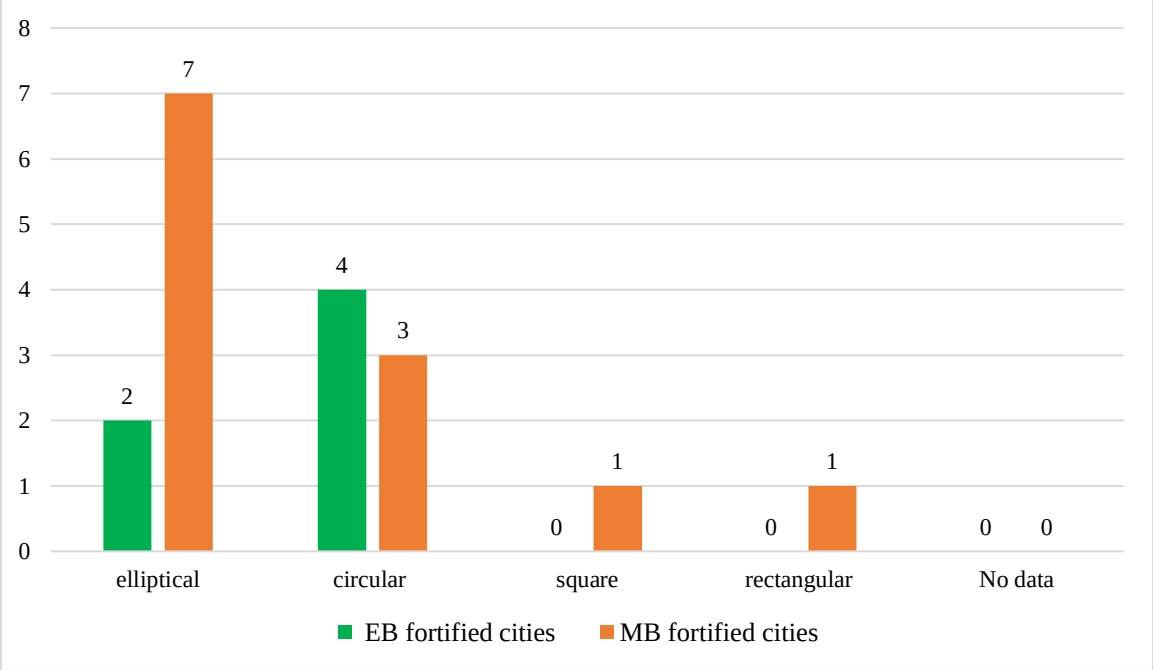

Diagram 24: Shape of the fortified cities in the Upper Northern Levant during the EB and MB.

4. Lower Northern Levant

We have studied **sixteen fortified Tells/ Sites** in southern Syria, which have contained **nineteen fortified cities**; six cities of them dated to the EB, while thirteen cities dated to the MB. Moreover, we have three fortified cities had continued to be fortified from the EB to MB, two of them (Tell 'Arqa and Byblos) have an elliptical shape and one (Tell al-Sür), its shape has been changed from an elliptical during the EB to a rectangular shape during the MB.

One can notice that from six EB fortified cities; one city of them has a circular shape, while the others have an elliptical shape.

Furthermore, it is possible to observe that from thirteen MB fortified cities, nine cities of them have an elliptical shape, while just one city has a square shape. Moreover, two cities have a rectangular shape and one city we don't have data about their shape.

It is possible to see that just one city (Tell Sh'airat) during the EB was fortified in the same time in the upper and lower city, it has a circular shape, and during the MB we can notice that Tell Nebi Mend was fortified at the same time in the upper and lower city and it has an elliptical shape.

Furthermore, we can recognise that the smallest fortified Tell, is (Tell el-Burak), which covers an area 1.3 ha, its fortification structure dated to the MB, and the biggest Tell, is (Tell Sh'airat) its fortification structure dated to the EB IV, where the upper and lower city cover around 25 ha during the EB IV and with the second extension, the Tell covers an area 96 ha and with the third one, it reaches to 130 ha during the EB IVB.

Furthermore, one can observe that (Khirbet el-Umbashi), covers an area 1000 ha and it is not one Tell but is three adjacent sectors and its fortification structure dated to the EB I / II, and the walled city covers an area 4 ha.

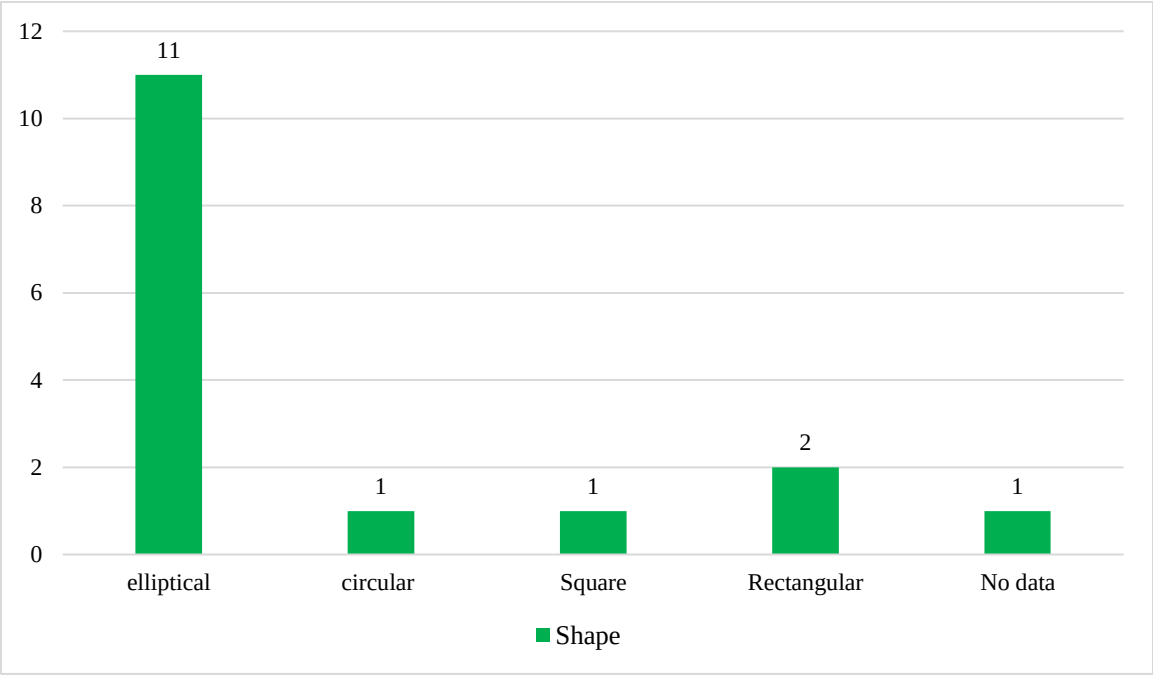

Diagram 25: Shape of the fortified Tells in the Lower Northern Levant during the EB and MB.

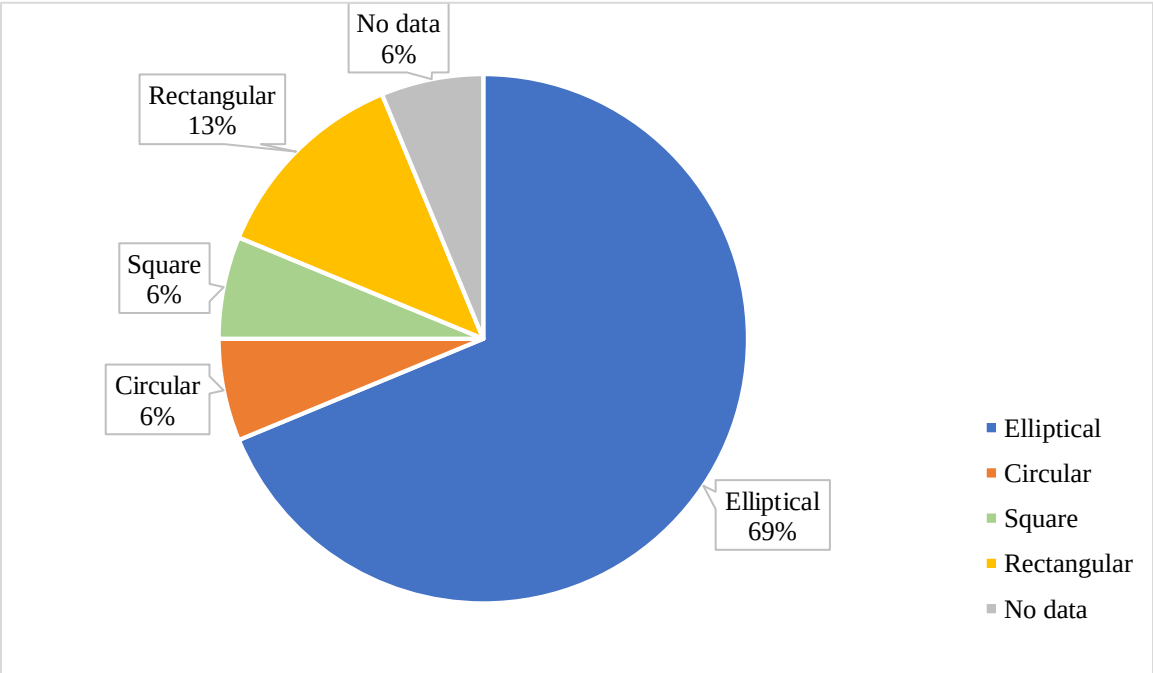

Diagram 26: Shape of the fortified Tells in the Lower Northern Levant during the EB and MB (by percentage).

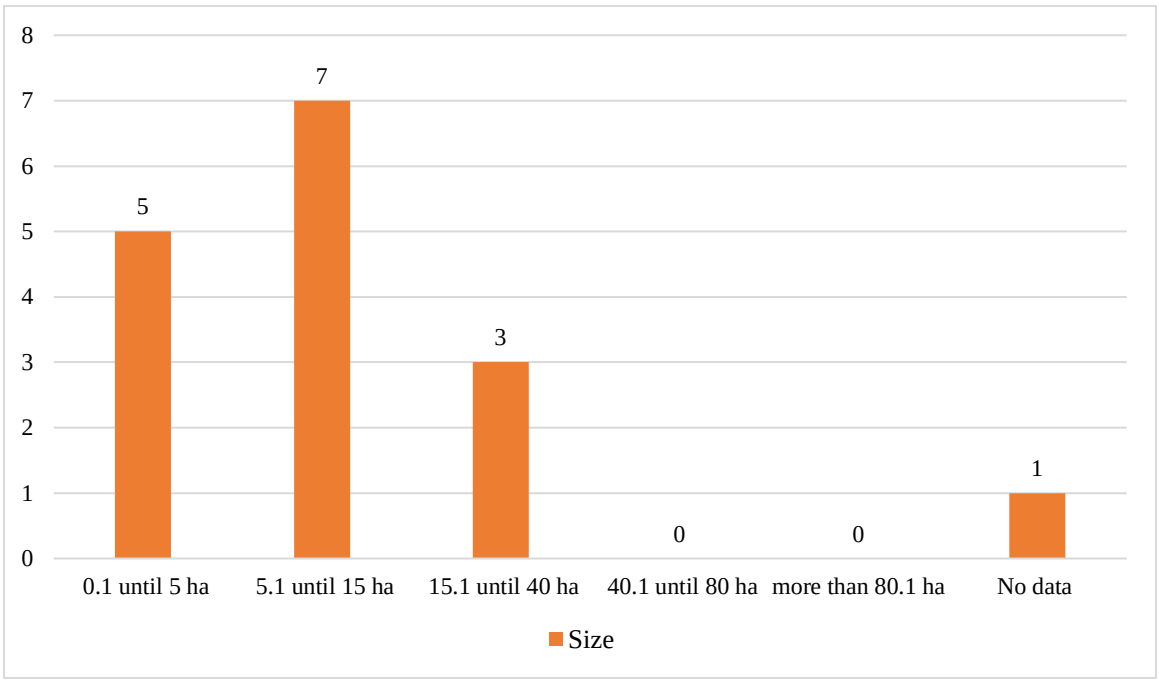

Diagram 27: Size of the fortified Tells in the Lower Northern Levant during the EB and MB.

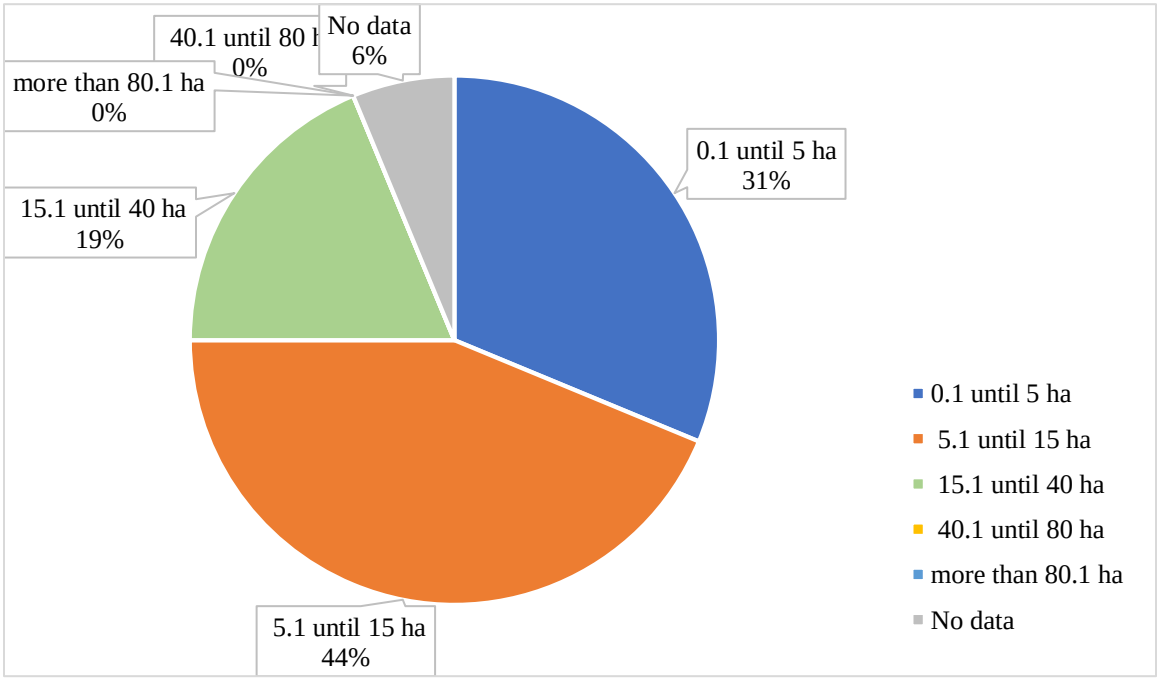

Diagram 28: Size of the fortified Tells in the Lower Northern Levant during the EB and MB (by percentage).

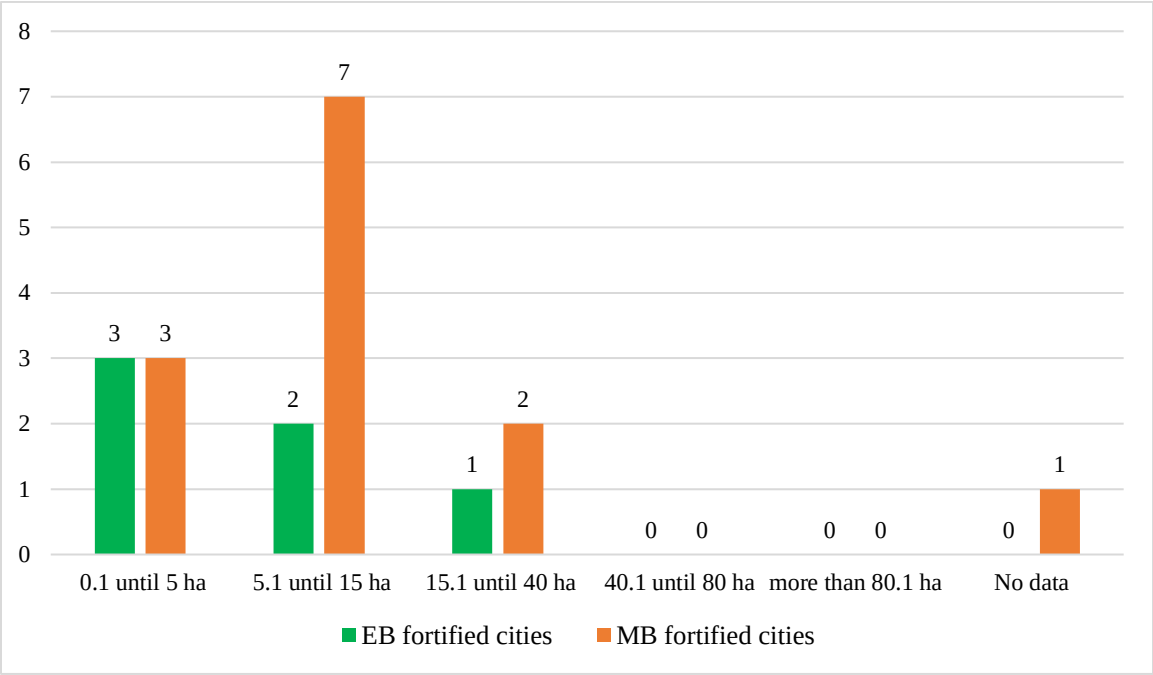

Diagram 29:Size of the fortified cities in the Lower Northern Levant during the EB and MB.

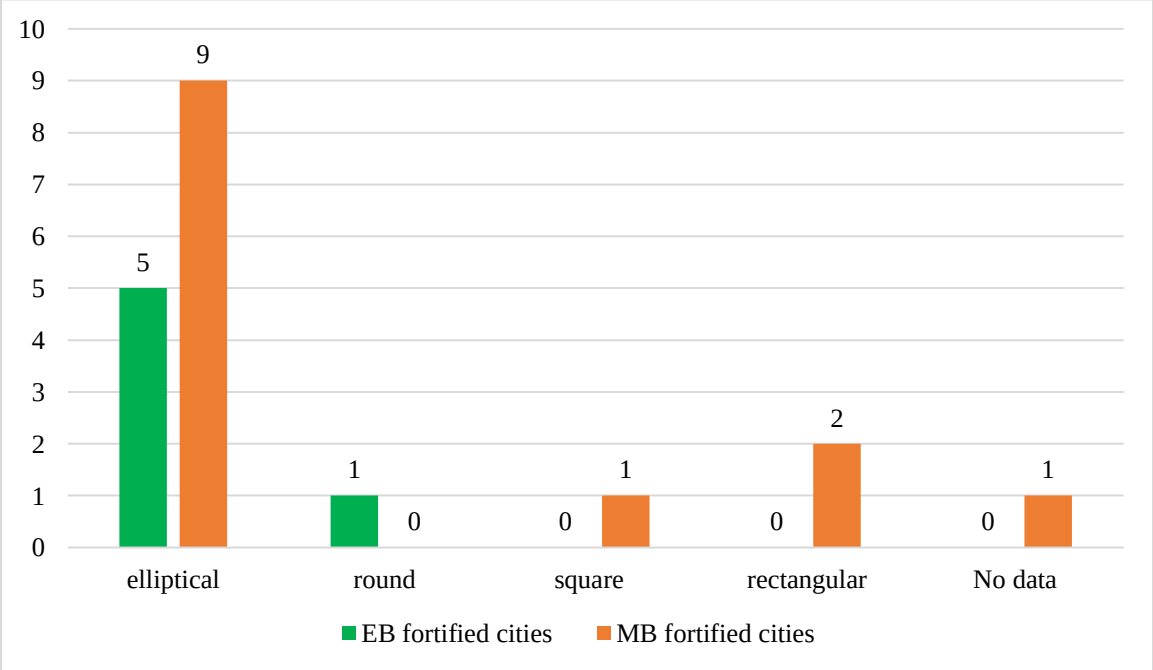

Diagram 30: Shape of the fortified cities in the Lower Northern Levant during the EB and MB.

Table 1: Size and shape of the fortified Tells in Syrian Jazirah.

Name	Shape	Size	Period of fortifications
'Atij	Elliptical	The main Tell covers an area 0.6 ha, 150 m long by 40 m wide. The secondary Tell 0.8 ha, 200 m long by 40 m wide, 2 m high.	EB I-II
Bderi	Elliptical	4.6 to 6 ha - 310 m from north to south and 245 m from east to west, 12 m high.	EB I
Beydar / Nabada	Circular	It covers an area 28 ha -concentric circles. Starting from outside, diameter 600 m, perimeter 1885m. The upper city measured (diameter of 400 m that culminates at 20 m). The acropolis measured (diameter 60 m, height 7.50 m).	EB I until EB III
Chuera	Circular	It covers an area 70-80 ha- diameter at least 1 km, up to 18 m high. The upper city with a diameter of approx. 800 m.	EB II until EB IVA -B
Kerma	/	/	EB
Kharab Sayyar	Circular	It covers an area 2.5 ha - diameter around 170 m.	EB
Knedig	Elliptical	It covers an area 3 ha.	EB
Mohamad Diab	Elliptical	The main Tell covers an area 12 ha, 400 by 300 m. (hill A) covers an area of 2.28 ha, 190 × 120 m. 20 m high. (hill B) covers an area of 0.9 ha, 15 m and dimensions of 90 × 100 m. (hill C) 130 × 130 m 13 m high.	MB
Brak / Nagar	Elliptical	It covers an area 40 ha -The main mound is 800 × 600 m, and 40 m high.	MB
Rad Shaqrah	Elliptical	It covers an area 1.3 ha - 140 × 120 × 8 m high.	EB II until EB III
Leilan / Šekhna/ Šubat-Enlil	Elliptical	It covers an area 90 ha; the lower city covers an area 75 ha.	EB III – IVA-B / MB I -II

Mozan / Urkesh -	Elliptical	The upper mound covers an area 18 ha, around 25m high. The lower city much lower than the upper mound, and it extends for 400 m, for a total surface of 135 ha.	EB I-II

Table 2: Size and shape of the fortified Tells in the Euphrates region.

Name	Shape	size	Period of fortifications
el-'Abd	Circular	It covers an area 2-4 ha, 150 -210 m diameter.	EB III – EB IVA
Banat	/	It covers an area 25 ha, 10 m high.	EB
Jerablus/ Carchemish	Elliptical	It covers an area 90 ha.	MB
Meskene / Emar	/	It covers an area 10 to 12 ha.	MB II
Habouba Kabira	Elliptical	It covers an area 36000^2- 3.6 ha. 14 m above the river -303 m above sea level.	EB
Hadidi	/	It covers an area 4 ha to 1.8 ha.	MB I- MB II
Halawa A	/	It covers an area 9.5 - 12 ha, 300 ×400 m.	EB
Halawa B	/	It covers an area around 1 ha, 100 ×100 m.	EB
Jerablus Tahtani	Elliptical	It covers an area around 3 ha, 180 ×220 m × 16 m high.	EB
Kannas	Roughly circular	It covers an area 1 ha.	EB IVA-B to MB I
Kazane Höyük	Roughly rectangular	It covers an area 100 ha, 1250 ×800 m.	EB

Qala'at Halwanji	Roughly square	It covers an area 5 ha, 200 × 200 m.	MB
el-Qitar	Elliptical	It covers an area 6 ha.	MB
Selenkahiye	Elliptical	It covers an area around 14 ha, 600 × 250 m ×5 m high.	EB IV
es-Sweyhat	Roughly rectangular	Composed of three distinct morphological zones, cover an area 45 ha. The central upper mound measured 5-6 ha; (300 m. north-south by 250 m. east-west) and 15m high. The lower city ca. 30 ha, 700× 600 m. The south of the lower city ca. 10 ha.	EB IV
Titriş Höyük	Elliptical	It covers an area 43 ha, area 1: High Mound. a central high mound ca. 3.3 ha in extent. and 22 m in height. Area 2: Lower City, west lobe. An elongated area about 8 ha in extent (ca 400 × 200 m). Area 3: Lower City, east lobe an elongated area about 5.4 ha in extent (ca. 300 × m 180). Area 4: Outer City An oblong-shaped sector, 16 ha, (ca 800 m long and 200 m wide).	Late EB - Mid EB
Bi'a /Tuttul	Elliptical	It covers an area 33 ha, 600 m north-south, and 700m east-west, 12 m the highest point.	EB / MB
Mumbaqa / Ekalte, Yakaltum	Elliptical	/	EB IV / MB
Hammam et-Turkman / Zalpah	Circular	It covers an area 19.5 ha, diameter of some 500 m and is 45 m high.	EB IV / MB

Table 3: Size and shape of the fortified Tells in the Upper Northern Levant.

Name	Shape	Size	Period of fortifications
Abou Danne	Roughly circular	It covers an area 4.9 ha, 25 m high; the circumference is 800 m, 250 m diameter.	EB I-II / MB
Afis	Roughly circular	It covers an area 28 ha, 570 × 500 m.	MB I-II
'Acharneh / Tunip	Elliptical	It covers an area 70 ha, extending roughly 1.2 km north to south and 500 – 650 m east to west. The north-eastern hill is roughly 200 × 200 m. The north-western hill, it is 300 × 200 m, at its summit and its height rises more than 40 m.	MB?
'Atchana / Alalakh	Irregularly elliptical	It covers an area 22 ha, 750 × 325 × 9 m.	MB
Mardikh/ Ebla	Irregularly elliptical -ring-shaped	It covers an area 56 ha, 900 m south-north and 700 m east-west / The highest point is 13 m.	EB / MB I-II
Gindaris	Elliptical	It covers an area 20 ha, 400 ×500 m × 20 m high.	MB
Khan Sheikhoun	Elliptical	It covers at the top an area 2.40 ha, 150 × 200 m, at the base 3.6 ha, 200 and 230 m /perimeter of about 550 m at the top / 18 to 25 m high.	MB
Khirbet al-Qasr	Circular	It covers an area 11.27 ha.	EB IV
Massin	Elliptical	It covers an area 2 ha, 185 m east-west and 140 m north-south, 12 m high.	MB
Mishrifeh / Qatna	Rectangular	It covers an area 1 square km (100) ha, 1050 ×950 m.	MB
al-Nasriyah	Square	It covers an area 70 ha, 800 m each side.	MB

al-Rawda	Circular	It covers an area 12 - 16 ha, with the fortification structure of the city.	EB IV
Tilbeshar	Elliptical	It covers an area 56 ha, the upper city is about 6 ha, 40 m high and the lower city is 2-7 m high.	EB I -II-III
Touqan	Elliptical	It covers an area 26 ha.	MB I – MB II
Umm el-Marra	Circular	It covers an area 25 ha, 8-9 m high – 500 m and the perimeter around 1570 m.	EB - EB IV / MB II

Table 4: Size and shape of the fortified Tells in the Lower Northern Levant.

Name	**Shape**	**size**	**Period of fortifications**
'Arqa	Elliptical	It covers an area 4.5 ha, at the top 250 ×150 m while 7 ha at the base 300×400 m.	EB IV / MB II
al-Ash'Ari	Elliptical	It covers an area 8 ha, at its base 400 m ×250 m × 30 m high.	MB
Beirut / Biruta	/	No data about the Bronze city -a Bey 003 - covers an area 0.77 ha, 110×70 m.	MB I -II
el-Burak	Roughly square	It covers an area 1.3 ha, 115×115 m and 19 m above sea level.	MB
Byblos/ Gubla	Roughly elliptical	It covers an area 600ha, 4 km from north to south and about 1500 m on average in width / the walled city covers an area 8 ha, 300 m × 350 m.	EB II-III – IV / MB I-II
Debbeh	Elliptical	It covers an area 4 ha, 320 × 150 m.	MB
es-Salihiyeh, Firzat	Elliptical	It covers an area 6 ha, 250 × 300 m ×20 m high.	MB I-II
Nebi Mend / Kadesh	Elliptical	It covers an area 10 ha; the main mound is 450 × 200 m ×30 m high / lower mound 450 ×300 m ×7 m high.	MB

Kamid el-Loz	Roughly elliptical	It covers an area 5.5 ha, maximal length of about 300 m and about 240 m from east to west and 26 m high.	MB
Kazel	Elliptical	It covers an area 8.7 ha, 350 × 325 m at its base and 200 × 200 m at its top/ 5 m high.	MB
Deir Khabiye	Elliptical	It covers an area 5.5 ha, 310 × 220 m, 14 and 12 m high.	MB
Labwe	Roughly elliptical	It covers an area of 3.5 ha.	EB II-III
Sefinat-Nouh	Rectangular	It covers an area 18 ha, 470 m × 390 m; it rises up in the south-east 7 m.	MB
Sh'airat	Circular	It covers an area 25 ha, with first and second extensions 96 ha – third extension 130 ha.	EB IV
al-Sür	The first city had an elliptical shape	It covers an area 9.5 ha, 380 m east to west and 280 m north to south.	EB
	The second city has a rectangular shape	It covers an area 29 ha, 617 m in length and 525 m in width.	MB
Khirbet el-Umbashi	The walled city has an elliptical shape	It covers an area 10 km^2 -1000 ha, But the walled city covers an area 4 ha.	EB I-II

B. FORTIFICATION WALLS, RAMPART, GLACIS, REVETMENT, RETAINING AND CASEMATE WALLS

1. Syrian Jazirah

Early Bronze Age

In terms of the **inner** defensive elements, we can see that eight fortification walls have been detected; the thinner one has been detected in Tell Beydar and Tell Chuera, which dated to the EB I, it measured 1.85 m wide, while the widest one has been detected in Tell Mozan, and it measured 8 m wide. Moreover, we can notice that four glacis have been detected.

In regard to the **outer** defensive elements, one can observe that twelve fortification walls have been detected; the thinner one has been detected in Tell Leilan, which dated to the EB IVB, it measured 1.05 m wide, while the widest one has been detected in Tell Chuera, which dated to the EB III, it measured 5.5-8 m wide.

Furthermore, we can see that four ramparts, five glacis, two revetment walls and one casemate wall have been detected. The widest rampart has been detected in Tell Leilan, which dated to the EB III, its width reaches 10 m.

Middle Bronze Age

Regarding the **inner** defensive elements, we can notice that one fortification wall and one glacis have been detected, while in regard to the **outer** defensive elements, one can observe that four fortification walls have been detected; the thinner one has been detected in Tell Mohamad Diab, which dated to the MB, it measured 1 m wide, while the widest one has been detected in Tell Leilan, which dated to the MB I -II, it measured 5 m wide. Moreover, we can see that one glacis has been detected.

2. Euphrates region

Early Bronze Age

Concerning the **inner** defensive elements, we can see, that four fortification walls have been detected; the thinner one has been detected in Tell Kannas, which dated to the EB IVA-B, it measured 1-2 m wide, while the widest one has been excavated in Tell es-Sweyhat, which measured 2.5 m wide. Furthermore, we can observe that one rampart with one glacis and two casemate walls have been detected.

In terms of the **outer** defensive elements, one can observe, that twenty -three fortification walls have been detected; the thinner one has been detected in Tell Halawa A, which dated to the EB -

phase 3B, it measured 1.5 m wide, while the widest one has been detected in Tell el-'Abd, which dated to the EB IVA, and it measured 10-12 m wide.

Furthermore, we can notice that four ramparts, five glacis, one sloping stone revetment slope of 38°, three retaining walls, two casemate walls and one defensive corridor/walkway have been detected besides the outer walls of the rooms which have been used for the defensive purpose in Tell Selenkahiye.

Middle Bronze Age

In terms of the **inner** defensive elements, one can observe that one fortification wall, and two ramparts and three casemate walls have been detected.

Regarding the **outer** defensive elements, we can see, that eight fortification walls have been detected; the thinner one has been detected in Hammam et-Turkman, it measured 1.5 m wide, while the widest one been detected in Hammam et-Turkman, which measured 7 m wide. Furthermore, it is possible to see that one rampart, one glacis, one revetment wall, have been detected.

3. Upper Northern Levant

Early Bronze Age

In terms of the **inner** defensive elements, we can see that two fortification walls have been detected. While concerning the **outer** defensive elements, one can observe that three fortification walls have been detected, besides a very long wall (TLM) (Très Long Mur), which has been detected 10 km to the east out of al-Rawda, its length around 220 km.

We can notice that the thinner the outer fortification wall has been detected in Tell Abou Danne, which dated to the EB I -II, it measured 3 m wide. While the widest one has been detected in Tell Mardikh, it measured 6 m wide. Furthermore, we can notice that two ramparts, three glacis, two revetment walls have been detected.

Middle Bronze Age

In terms of the **inner** defensive elements, we can recognise that seven fortification walls have been detected; the thinner one has been detected in Tell Afis, which dated to the MB IB-IIA, it measured 0.8 to 1.2 m wide, this wall has been added to the first phase wall, which measured 3 m wide, the widest one has been detected in Tell Touqan, it measured 4.5 m wide. Furthermore, we can notice that two ramparts, three glacis and one revetment wall have been detected.

In regard to the **outer** defensive elements, one can observe that nine fortification walls have been detected; the thinner one has been detected in Abou Danne, which dated to the MB, it measured 0.7 m wide, while the widest one has been detected in Tell Gindaris, it measured 8 m wide.

Moreover, it is possible to see that seven ramparts, six glacis, two revetment walls, two retaining walls, two core walls, three casemate walls and one defensive corridor/walkway have been detected; the thinner rampart has been detected in Tell ‘Atchana/Alalakh, which dated to the MB, it measured 16 to 20 m wide, while the widest outer rampart has been detected in Tell Mishrifeh/ Qatna and it measured 70 m wide.

4. Lower Northern Levant

Early Bronze Age

Concerning the **inner** defensive elements, we can recognise that one rampart has been found, while regarding the **outer** defensive elements, one can observe that eleven fortification walls have been detected; the thinner one has been detected in Tell Labwe, which dated to the EB II-III, it measured 1.4 to 2.7 m wide, and the wall (VS1.01) in Khirbet el-Umbashi, which is protected the north-eastern corner of the site, it measured 1 to 1.50 m wide, and is dated to the EB I- II, while the widest one has been detected in Byblos, it measured 4.75 m wide and dated to the EB II-III.

Furthermore, we can notice that nine ramparts, four glacis, and one front-wall have been detected, besides the outer walls of the rooms, which have been used for the defensive purpose in Tell 'Arqa.

Middle Bronze Age

In terms of the **inner** defensive elements, we can notice that one casemate wall has been found, while in regard to the **outer** defensive elements, one can see that eleven fortification walls have been detected; the thinner one has been detected in Tell Kazel, which dated to the MB, it measured 0.8m wide, while the widest one has been detected in Tell Deir Khabiye, it measured 3-3.5m wide, is dated to the MB.

Moreover, we can observe that five ramparts, seven glacis, are sloping away at an angle of about 20°, 40°, 60° and 45°, one revetment wall, three retaining walls and two casemate walls have been detected.

Table 5: The inner, outer fortification walls, glacis and ramparts in Syrian Jazirah.

Site	Type of defensive elements	Dimensions	Period	Type of building materials	Dimensions	Type of foundations	Dimensions	Location
'Atij	Fortification wall	2.50 m wide, 4 m high.	EB I-II	Mudbricks.	/	On virgin soil	/	On the Summit of the main Tell (B-C 13) and to the north on the main Tell (Sq E 5).
Bderi	Fortification wall	2.8 m wide.	EB I	Mudbricks.	20 ×20 cm	/	/	The Lower City, level 25.
	Glacis	1.70 to 2 m wide.	EB I	*Pise* or mashed clay.	/	/	/	The Lower City, against the Fortification wall - level 25.
Beydar / Nabada	Fortification wall (7917)	1.85 m wide.	EB I/ EJ I	Mudbricks.	/	/	/	The Upper City, area G.
	Glacis	/	EB I/ EJ I	Grey bricks coated with a 5 cm wide layer of red clay.	/	/	/	The Upper City, area G. Against the wall (7917).
	Fortification wall (7904)	1.5 m wide, 2.28 m high.	EB II/EJ II	Mudbricks.	/	/	/	The Upper City, area G.
	Glacis	/	EB II/ EJ II	Grey bricks coated with hard layers of clay, of a different quality from that used for its bricks.	/	/	/	The Upper City, area G. Against the wall (7904).

	Fortification wall (7662)	4.5 m wide, 7.50 m high.	EB III /EJ IIIA	Mudbricks.	/	/	/	The Upper City, area G. Against the wall (7662).
	Glacis	/	EB III /EJ IIIA	Hard, whitish soil.	/	/	/	The Upper City, area G.
	Fortification wall	4.50 m wide, 4 -7 m high diameter 600 m, perimeter 1885 m.	End of EB I /EJ I	Successive layers of clay blocks, (Mudbricks).	/	/	/	The Lower City, area H.
	Glacis	/	End of EB I /EJ I	Hard clay.	/	/	/	The Lower City, area H. Against the outer wall.
Chuera	Fortification wall	1.85 m wide.	EB I	Mudbricks.	/	/	/	The Upper City, area H
	Fortification wall	4-5 m wide 6 m high circumference of 2,5 km.	EB II	Mudbricks, (10-15 million).	/	/	/	The Upper City.
	Fortification wall	5.5-8 m wide circumference of 3.1 km 7 high.	EB III	Mudbricks, (18 million).	/	/	stone.	The Lower City, areas (P, U, Z and W).

	Fortification wall	(3.5-4m add part in some places the entire wall reaches 9-12 m wide. circumference of 3.1 km 7-10 high.	EB IVB	Mudbricks, (7 million).	/	/	/	The Lower City, areas (P, U, Z and W).
	Revetment wall	1.2 m wide.	EB III	Mudbrick.	/	/	/	The Lower City, area P -6 m against the outer wall.
	Revetment wall	1.2 m wide.	EB IVA	Mudbrick.	/	Relatively large, unprocessed limestones.	/	The Lower City, area P -6 m against the outer wall.
	ramp	6 m wide.	EB III - IVA	Complete and fragmented mudbricks.	/	/	/	The Lower City, area P. Between the lower city wall and the revetment wall.
	Glacis	/	EB III - IVA	Black fine ash layer.	/	/	/	The Lower City, area P covers the ramp.
	rampart	/	EB IVB	Gravel, mudbrick and loam.	/	/	/	The Lower City, area W-4, banked up against the old phase (3) city wall.

	casemate wall	6.5-m wide, 2.5 m high.	EB IVA	Wall; mudbricks gaps; gravel.	/	/	/	The Lower City, area Z against the lower city wall.
Kerma	Fortification wall	/	EB	/	/	/	/	The Lower City, encircling the whole site
Kharab Sayyar	Fortification wall In phase 27 it consisted of two segments (677 and 678)	3.25 m wide. 677: 1.4 m wide. 678: 1.8 m wide.	EB	Mudbricks. 677: grey mudbricks. 678: reddish-brown mudbricks.	/	Directly built on the ground.	/	The Lower City, surrounded the EB site and detected in trench A phases 17 to 27.
Knedig	Fortification wall	2.4 m wide.	EB II	Mudbricks.	/	/	/	The Lower City, Sq 97.7.
	Glacis	/	EB II	Sloping mudbricks.	/	/	/	The Lower City, Sq 97.7. Against the outer wall.
Mohamad Diab	Fortification wall (3635)	1,20-1,50 m wide 50 m long?	MB /OJ II	Mudbricks.	/	/	/	Top of the hill A, level 5b.5.

	Glacis (3960)	/	MB / OJ II	Earth compacted.	/	/	/	Top of the hill A, level 5b.5. Against the fortification wall.
	Fortification wall (4341)	1.20 wide, 1.30 high.	MB /OJ II	Mudbricks.	/	/	/	The Lower part of the southern slope of the hill A, level 2-4.
	Fortification wall (4344)	1 m wide and preserved to a height of 0.40 m.	MB / OJ II	Mudbricks.	/	/	/	The Lower part of the southern slope of the hill A, level 2-4 1.85 m south of wall (4341).
	Glacis	/	MB / OJ II	Accumulation of horizontal layers of ash and light land.	/	/	/	The Lower part of the southern slope of the hill A, level 2-4 between wall (4341 and 4344).
Brak / Nagar	Fortification wall	/	MB	Mudbricks with an extremely wide layer of mud mortar between them.	46×25×8cm	/	/	The Lower City, area TW and FS.
Rad Shaqrah	Fortification wall	2 m wide.	EB II-III / ED II- III	Mudbricks.	/	/	/	The Lower City, trench A and A2.
	Fortification wall	3.90 m wide preserved to a height of about 3.8 m.	EB III / ED III	Mudbricks.	/	Basalt boulders.	/	The Lower City, trench A.
	Fortification wall	4.80 m wide; mudbrick part was 2.80 m wide, the	EB III / ED III	Mudbricks combined with stone.	/	/	/	The Lower City, trench (B3).

		stone part was about 2 m.						
	Rampart	4.40 m wide, 5 m high.	EB III / ED III	Clay, broken mudbricks and basalt boulders.	/	/	/	The Lower City, trench (B3) and (A).
	Glacis	/	EB III / ED III	A number of layers of tightly packed stone boulders. Later in the new phase, it covered with a new layer of clay and stones.	/	/	/	The Lower City, trench (B3) and (A).
	Revetment wall	/	EB III / ED III	Very large basalt boulders, some of them nearly 0.80 m in diameter.	//		/	The Lower City, trench (B3).
Leilan /Šekhna /Šubat-Enlil	Fortification wall	2.5 m wide, 1600 m long	EB III - IVA	Mudbricks.	/	/	/	The Upper City, around the acropolis.
	Fortification wall (A)	3 m wide, 2.5 m high, extending for 3.7 km.	EB III - IVA	Alternating red and black bricks made from the calcic horizon plain soil and the black mud of the wadi Jarrah respectively.	33×17×8 cm	/	/	The Lower City

	Rampart	10 m wide, 3 m high	EB III - IVA	Red virgin soil.	/	/	/	The Lower City, against the wall (A).
	Fortification wall (B)	1.04 wide, 1.75 high.	EB IVB	Mudbricks smaller than wall (A).	/	/	/	The Lower City.
	Fortification wall	5 m wide.	MB I -II	Clean dark reddish-brown mudbricks.	/	/	/	The Lower City, Op 4.
Mozan / Urkesh	Fortification wall.	8 m wide, 6 -7 m high.	EB I-II	Mudbricks.	/	/	/	The Upper City, around the acropolis.
	Glacis	10.5 m wide.	EB I-II	/	/	/	/	The Upper City, area K.
	Fortification wall.	/	EB III	Mudbricks.	/	/	/	The Lower City.

Table 6: The inner, outer fortification walls, glacis and ramparts in the Euphrates region.

Site	Type of defensive elements	Dimensions	Period	Type of building materials	Dimensions	Type of foundations	Dimensions	Location
el-'Abd	Fortification wall	2.5 m wide, 4 m high.	EB III, earlier phase.	Mudbricks.	/	Large blocks of Stone.	2.5m wide / 2 m high.	The Lower City, area I, Sq 18/28 - 19/28 - 19/27, 19/26, and 20/26.
	Fortification wall	10 -12 m wide, 4 m high.	EB IVA, later phase.	Mudbricks and mudbrick packing.	/	Large blocks of Stone.	2.5m wide / 2 m high.	The Lower City, area I, Sq 18/28 - 19/28 - 19/27, 19/26, and 20/26.

	Glacis	1.20 m wide.	EB III	Series of four superimposed floor levels.	/	/	/	The Lower City, area I.
Banat	Fortification wall	/	EB	/	/	/	/	The Lower City.
Jerablus/ Carchemish	Rampart	/	MB	Soil.	/	/	/	The Upper City.
Meskene / Emar	Fortification wall	3m wide, 2.5 high.	MB II	Mudbricks.	/	Stones.	/	The Lower City, Sq 082-085/048-049.
Habouba Kabira	Fortification wall	/	EB I	Mudbricks.	/	/	/	The Lower City, layers 2-3.
	Fortification wall renovated with a plaster	/	EB	Mudbricks.	/	/	/	The Lower City, layer 5 and 6.
	Fortification wall has been reinforced by addition wall	1 to 1.2 m wide.	EB	Mudbricks.	/	/	/	Lower City, layer 6.
	Fortification wall	/	EB	Mudbricks.	/	/	/	The Lower City, layer 7.
	Fortification wall	1.2 m wide, 1.5 m high.	EB	Grey mudbricks.	40 × 55 cm. 34-38×48-50×10-12 cm.	Coarse pebbles and limestones.	1.5 m wide.	The Lower City, layer 10.

	Fortification wall	1.2 -2 m to 3 m wide.	EB	Mudbricks.		Large limestone stone.	1 m wide.	The Lower City, layer 11.
	Fortification wall	2,8 m wide, 5 to 6 m high.	EB	Square mudbricks.	38 to 42 cm-10 to 12 cm.	/	/	The Lower City, layer 14.
Hadidi	Fortification wall	2-4 m wide. 1300-1400 m long.	MB	Mudbricks.	36×74×14cm.	/	/	The Upper City, areas A, B, G and B.
Halawa A	Fortification wall	2 m wide in the older phase (3C) In recent phase (3B); 3 to 4 bricks wide, around 1.5 m.	EB	Unburnt mudbricks	50×30×12cm. 40×30×12cm. 40×40×12cm.	Outer and inner shell (shell wall) of coarse-cut limestones and the gap between them was filled with small stones and field stones, based on the grown soil. The surface of the foundation was covered with a layer of clay mixed with small stones.	2.0 to 2.5 m wide.	The Lower City, Sq U, T and P. Surrounded the entire city, except for the southern side.
	Retaining wall	80 cm wide.	EB	Mudbricks.	/	On ground.	/	The Lower City, Sq P.
	Defensive corridor / Walkway	2 - 5 m wide.	EB	/	/	/	/	The Lower City, against the fortification wall, Sq P, U and T.

	Glacis	/	EB	Hard clay.	/	/	/	The Lower City, Sq P. Covering the ramp.
	Ramp	/	EB	Natural slope.	/	/	/	The Lower City, Sq P, U and T.
Halawa B	Casemate wall	1.5 × 1.5 m.	EB	Sandy mudbrick bricks and grey mudbricks.	/	Stone foundation consists of two shells built of limestone and the gap between of them was filled with stone mixed with clay.	/	The Lower City, Sq BM.3b, BM 4F.
Jerablus Tahtani	Casemate wall	4 × 4 m.	EB	Mudbricks.	/	/	/	The Upper City, area III.
	Rampart	12 m wide.	EB	Comprised of deep homogeneous bricky deposits and charcoal flecked lenses.	/	/	/	The Upper City, area III and IV.
	Glacis	/	EB	Thick mantle of coarse white limestone fragments.	/	/	/	The Upper City, area III and IV, covering the rampart.

Kannas	Fortification wall	1m wide, 40m long.	EB IV	Mudbricks.	40×40×10cm.	Stone.	/	The Upper City, south-west to north-east.
	Fortification wall	2m wide. 35m long.	EB IV	Mudbricks.	40×40×10cm.	Stone.	/	The Upper City, north to south.
Kazane Höyük	Fortification wall	/	EB	Mudbricks.		Stone.		The Lower City.
	Fortification wall	50 m long.	EB	/	/	/	/	The Upper City.
Qala'at Halwanji	Ramparts	800 m long.	MB	/	/	/	/	The Upper City.
	Casemate wall consists of two parallel mudbrick walls	Walls; 1.6 m wide gap; 3 m space.	MB	Walls; grey mudbricks. Gap; burnt debris, broken bricks and sherds from the bowls.	/	Limestone.	/	The Upper City, S 12/16/20 and S 02-3/14, south ridge.
	Casemate wall consists of two parallel mudbrick walls	Walls; 1.6 m wide gap; 6 m.	MB	Walls; mudbricks. Gap; mixed material with unclear disturbed scatters of limestone.	/		/	The Upper City, S 09/17-18, east ridge.

el-Qitar	Fortification wall	2 m wide, stand no more than one course high.	MB	Large stone blocks.	/	Directly on bedrock.	/	The Lower City, west side of area Y.
	Glacis	/	MB	Chipped limestone, yellowish-white limestone chunks alternating with darker layers of stony fill and patches of fire dark grey ashy soil.	/	/	/	The Lower City, west side of area Y, reinforced the wall.
	Revetment wall (747)	/	MB	Limestone	/	/	/	The Lower City, along the bottom of the glacis.
Selenkahiye	Fortification wall I	2.5 wide.	EB IV	Mudbricks.	/	Stone.	2.50 wide/1.5 high.	The Lower City, area B - Sq O-Q 26.
	Fortification wall II	2.5 wide.	EB IV	Mudbricks.	/	On a course of pebbles laid on the ash.	/	The Lower City, area B - Sq O-Q 26.
	Fortification wall III	1.8-3.6 m.	EB IV	/	/	/	/	The Lower City, area B - Sq O-Q 26.
	Fortification wall IV	/	EB IV	/	/	/	/	The Lower City, area B - Sq O-Q 26.

	Fortification wall	2.25 wide.	EB IV	Red bricks.	/	Pebbles and gravel.	/	The Lower City, area D - Sq SSS07.
	Retaining wall (D)	/	EB IV	/	/	/	/	The Lower City, area D - Sq SSS07 to TTT 07.
	Glacis	/	EB IV	Pebble layer.	/	/	/	The Lower City, Sq Q 21, against the wall (A).
	Glacis	/	EB IV	Pebble layer.	/	/	/	The Lower City, area D, covering the ramp.
	Ramp	/	EB IV	Grey debris.	/	/	/	The Lower City, area D.
es-Sweyhat	Fortification wall	2.5 wide, 1.17 high, 100 m long.	EB IV	Sun-dried bricks.	40×50×10cm.	Rough stone foundations.	/	The Upper City, area IV.
	Rampart	18.50 m wide. Slope 38°.	EB IV	Soil.	/	/	/	The Lower City, Op 25, the eastern side of the Tell, against the fortification wall.
	Fortification wall	/	EB IV	/	/	/	/	The Lower City.
	Sloping stone revetment	Slope 38°.	EB IV	Stone.	/	/	/	The Lower City, Op 25, the eastern side of the Tell, against the rampart on the outside of the earthen rampart.
	Retaining wall	1.15 wide.	EB IV	Mudbricks.	/	Substantial stone footings three to	/	The Lower City, Op 25, the eastern side of the Tell,

						four courses high.		reinforced the inner side of the rampart.
	Casemate wall	exterior wall 1.8m wide. Interior wall 90 cm wide.	EB IV	Mudbricks.	/	Stone foundation.		The Lower City, operation 15, north-western side of the Tell.
Titriş Höyük	Fortification wall	2 m wide.	Mid-EB	Mudbricks.	/	Stone foundations.	2 m wide	The Lower City, Sq 82/88-111.
	Fortification wall	3-3.5 m wide.	Late EB	Mudbricks.	/	Stone.	1.5 m high	The Lower City, Sq 82/88-111.
Bi'a / Tuttul	Fortification wall	4.70-6,30 m and 8 m wide.	EB	Grey, brown, orange and reddish mudbricks.	(38×34/ 42× 36/ 43 × 30/ 47×32/ 48×38/ 49×31 cm) (50×36) square bricks (30, 36, 43, 46, or 48 cm on a side).	/	/	The Lower City, area M, Sq 10-11 / 34-35, area C Sq 37/18, 37/19, 43 /44, 23 / 24 area K Sq 30-31 / 16 and area A.
	fortification wall	1.8 m wide.	EB	Red square mudbricks.	42×42×10cm.	/	/	The Lower City, area M in Sq 8-9 / 34 Parallel of the main fortification wall and far away to the south 16m.

	Glacis	/	EB	Hard mudbrick with Smoothly surface, was covered with grey-brown, mud mixed with pebbles.	/	/	/	The Lower City, area M It added to the southern outer edge of the fortification wall.
	Ramp, interspace filled	1.50-2.0 m wide.	EB	Gravel and mudbricks.	/	/	/	The Lower City, area C. Against the fortification wall.
	Fortification wall	3.50 - 3.60 m and 4.70 m wide. preserved until 3.70 to 3.80 m high.	MB	Rectangular reddish-brown, and grey-brown mudbricks.	(38-40×31-34×8-9 cm).	Ash rubbles and thin red-brown loam layers of about 30 cm thickness in the on older settlements.	/	The Lower City, area K and C. The Western side of area C - in the squares 37. 38/16. 17.
Mumbaqa / Ekalte, Yakaltum	Casemate wall consist of exterior and inner walls	5m wide. exterior wall less than 1 m wide. inner wall 2.8 m wide.	EB IV	Walls; mudbricks. Gap; filled with broken mudbricks.	50×30×9 cm.	/	/	The Upper City, Sq 30/30–31/30.
	Fortification wall	preserved over 1.5 m high.	MB	Mudbricks.	/	/	/	The Lower City, Sq 26-27 / 41 and 30-31 / 39.

	Rampart	approximately 10 m high.	MB	Pebbles, 10 to 20 cm wide, alternately fine and coarse-pebbles.	/	/	/	The Lower City.
Hammam et-Turkman / Zalpah	Fortification wall	/	EB IV	Mudbricks.	/	/	/	The Lower City, level VI in western side of the Tell.
	Fortification wall	7 m wide 1 m high.	MB	Mudbricks.	/	/	/	The Lower City, level VII, Sq O16, 17, 18 northern side of the Tell.
	Second fortification wall	2 m wide.	MB	Mudbricks.	/	/	/	The Lower City, level VII, Sq O16, 17, 18 northern side of the Tell.
	Third fortification wall	1.5 m wide.	MB	Mudbricks.	/	/	/	The Lower City, level VII, Sq O16, 17, 18, the northern side of the Tell.
	Fortification wall (Wall V)	/	MB	Grey mudbricks.	35×35 cm.	/	/	The Lower city level VII, Sq O18 in the northern slope.

Table 7: The inner, outer fortification walls, glacis and ramparts in the Upper Northern Levant.

Site	Type of defensive elements	Dimensions	Period	Type of building materials	Dimensions	Type of foundations	Dimensions	Location
Abou Danne	Fortification wall	3 m wide / 7.5 m high.	EB I-II	Mudbricks.	18-20×6-7 cm.	On the ground.	/	The Lower City, level (VII).
	Fortification wall	2.10 m wide.	MB	Mudbricks.	33×33×7cm.	Small stones above the preserved remains of the EB I–II wall.	/	The Lower City, level (VI) phase I.
	Narrow exterior wall	0.85 m wide.	MB	Mudbricks.	28×28×7cm.	/	/	The Lower City, level (VI) phase I, parallel to the fortification wall.
	Defensive corridor / Walkway	/	MB	Mudbricks.	/	/	/	The Lower City, level (VI) phase I, between the fortification wall and retaining wall.
	Glacis	40° slope.	MB	Loose, limestone gravel, and compact earth.	/	/	/	The Lower City, level (VI) phase I.
	Fortification wall	/	MB	Mudbricks.	/	/	/	The Lower City, level (VI) phase II.
	Glacis	/	MB	/	/	/	/	The Lower City, level (VI) phase II, above the old glacis.

	Fortification wall	0.70 cm wide.	MB	Mudbricks.	35×35×8 cm.	layers of ash.	50 cm wide.	The Lower City, level (VI) phase III.
	Casemate wall Consist of two parallel walls	/	MB	Walls; mudbricks. Gap; filled by poorly packed bricks constituted a sort of blockage.	36×36×8 cm.	Small stones.	/	The Lower City, level (VI) phase I.
Afis	Fortification wall	3.5 to 4 m wide, 3 m in high, 25 m long.	MB II	Red mudbrick.	30×30×10cm.	The foundations consisted of one course of large blocks with an upper fill of small stones, pebbles, and sherds as a base for the mudbrick solid structure.	/	The Upper City, area E3
	Fortification wall Became later core wall for the fifth phase rampart	3 m wide, 4.50 m high.	MB I-II	Red, grey and yellow square mudbricks.	36×36×10cm. 38×38×12cm.	Large stones, on top of a rampart.	/	The Upper City, area N2, the first phase.
	Glacis	40% gradient.	MB I-II	Compact red clay.	/	/	/	The Upper City, area N2, the first phase, covering the first phase rampart.
	Fortification wall	0.80 -1.2 m wide,1 m high.	MB I-II	Red and yellow square mudbricks.	/	/	/	The Upper City, area N2, the second phase, reinforced first phase wall.

	Fortification wall	/	MB I-II	Red light mudbrick.	/	/	/	The Upper City, area N2, third phase.
	Glacis	40% gradient.	MB I-II	Hard layer of yellowish clay mixed with smashed limestone.	/	/	/	The Upper City, area N2, the fourth phase, laid down on the first phase glacis.
	Rampart	2.20 m high, with a 40% gradient.	MB I-II	Sandwich-technique; consist of layers of yellowish earth, and reddish clay layers were interspersed with an occasional layer of smashed limestone.	/	/	/	The Upper City, area N2, the fifth phase.
	Casemate wall Consists of two mudbrick walls	8 m wide, 3 m high, 30m long.	MB I-II	Walls; fine yellowish and reddish coarse mudbricks. Gap; filled with mudbricks.	40×40×9cm.	Stone foundation.	/	The Lower City, area B1.
'Acharneh / Tunip	Rampart	50 m, wide at its base, 10 m high.	MB	/	/	/	/	The Lower City

	Glacis	/	MB	/	/	/	/	The Lower City, covering the northern slopes of the rampart.
'Atchana / Alalakh	Rampart	16 m wide, 8 m high, slope of 35°.	MB	Mass of earth and rubbish piled.	/	/	/	The Lower City, Level VII.
	Glacis	Slope of 35°.	MB	A mud-plastered.	/	/	/	The Lower City, Level VII. Covering the rampart.
	Fortification wall	2.50 m wide.	MB	Mudbricks.	/	A single course of stone rubble foundations.	/	The Lower City, Level VII, area H.
	Casemate wall Consists of two mudbrick walls	2 m wide. Walls 0.75-1 m wide.	MB	Walls; large orange-brown mudbricks gap; rubble, ashy loose soil and layers of ash lenses.	40×40 cm.	/	/	The Lower City, areas 3, Square 45.72.
Mardikh/ Ebla	Fortification wall Became later core wall for the MB rampart	6 m wide. 2800 m long?	EB IVA	Mudbricks.	60×40 cm.	/	/	The Lower City.

	Rampart	45 and 60 m wide at the base, average height of 18-20 m, 2,800 m long. with two long sides, to the east and west, and two short ones, to the south and north.	MB I	Greyish and brownish soil with a large amount of ash, frequently rich with pottery fragments, most of them dating to EB IVB.	/	/	/	The Lower City.
	Escarp	preserve only for a height of 1.50 m	MB	Limestones.	/	/	/	The Lower City, protect the outer and inner bases of the rampart.
	Fortification wall	/	MB	Mudbricks.	/	/	/	The Upper City.
	Revetment wall	/	MB	Stones.	/	/	/	The Upper City, protected the bottom of the hill.

	Outer Eastern Rampart	40-60 m wide at the base ca. 10-12 m high, 527 long, the slope of ca. 20-25°.	MB I-IIA	Thick accumulation of packed limestone crumble, covered by a red clayish earth layer, ca. 40-50 cm wide.	/	/	/	Out of the lower city, to the east.
	Outer Southern Rampart	run east-west for ca. 600 m long.	MB I-IIA	/	/	/	/	Out of the lower city, to the south.
Gindaris	Fortification wall	8 wide/ 325m long in the northern, and 100 m long in eastern direction.	MB	/	/	Stone.	/	The Lower City, along the steep western slope of the mound and its north-western summit.
Khan Sheikhoun	Retaining wall	/	MB	Mudbricks.	/	Stone.	1,50 m wide.	The Lower City, zone C.
	Fortification wall	/	MB	/	/	/	/	The Lower City, zone A-B.
Khirbet al-Qasr	Fortification wall	/	EB IV	/	/	/	/	The Lower City.
	Fortification wall	/	EB IV	/	/	/	/	The Upper City.
Massin	Fortification wall	3 m wide preserved a 1.90 m high.	MB	Mudbricks.	38-40 ×38-40 ×12-14 cm.	Stone foundation.	3 m wide.	The Lower City, trench 3.

al-Nasriyah	Glacis	/	MB	Successive layers of massive earth.	40 cm wide and 10-15 cm high.	/	/	The Upper City, covering the slope of the upper city.
	Retaining wall	14m long.	MB	Several types of cut blocks.	/	/	/	The Lower City, area B.
Mishrifeh / Qatna	Rampart	70 m wide at the base, 13 to 15 m high, 950 -1000 m. (east - west.) over 1,050 m. (north - south), 4100 m long. slope about 60° towards the exterior.	MB	Chipped limestone and earth extracted in front of the present rampart and a huge accumulation of gravel.	/	/	/	The Lower City.
al-Rawda	Double fortification structure consists of the freestanding rampart and a front-wall	2 m to 2.7 wide. 1200m long.	EB IV	The rampart built of mudbricks.	/	Large unworked blocks.	/	The Lower City, sector 2a, 2b and 2C2.
	Glacis	/	EB IV	/	/	/		The Lower City, sector 2C2 covering the rampart.

	The Long Wall (TLM)	0.8 to 1.1m wide, more than 220 km long.	EB IV	Dry stones.	/	/	/	Out of the lower city, 10 km to the east.
Tilbeshar	Fortification wall	4m wide, 3.5m high.	EB I	Rectangular mudbricks.	50×30×10cm.	/	/	The Upper City.
Touqan	Rampart	/	MB I	/	/	/	/	Lower City, area G.
	Fortification wall	4.50 m wide, 5.40 m high.	MB II	Mudbricks.	/	Medium-sized limestones foundations.	/	Upper City, area E. Surrounded the entire city except for the southern side.
	Rampart	19,50 m wide 4.90 m high.	MB II	Compacted clay.	/	/	/	The Upper City, area E. Against the fortification wall.
Umm el-Marra	Rampart	Slope of 45°.	EB	Brown soil with pebbles and regularly spaced lenses of ash.	/	/	/	The Lower City, west area A.
	Red glacis	Slope of 45°.	EB IV	Reddish-brown soil.	/	/	/	The Lower City, west area A covering the rampart.
	Revetment wall	1.6 m wide, 1.4 m high.	EB IV	Stones.	/	/	/	The Lower City, west area A. Against the red glacis.

	White glacis	Slope of 45°.	EB IV	Lenses of white limestone fragments and pebbles.	/	/	/	The Lower City, west area A against the red glacis.
	Revetment wall	5.3 m wide, 1.5-2.3 m high.	EB IV	Stones.	/	/	/	The Lower City, west area A. Against the white glacis.
	Fortification wall	four bricks wide (1.5-1.6 m) wide.	MB II	Mudbricks.	37 cm wide.	Foundation of cobbles.	/	The Upper City, unit 1302/ 3858.
	Glacis	/	MB II	Brown clay.	/	/	/	The Upper City, reinforced the inner fortification wall.
	Fortification wall	7 m wide.	MB II	Alternate courses of flat-lying grey bricks and vertically standing red bricks.	/	/	/	The Lower City, west area A.
	Fortification wall	4.5-6 bricks wide (1.5-2 m) wide.	Late MB II	Mudbricks.	/	Stones.	/	The Lower City, north-west side of the city.
	Glacis	/	Late MB II	Earth and pebble.	/	/	/	The Lower City, north-west area of the city.
	Revetment wall	/	Late MB II	Stones.	/	/	/	The Lower City, north-west area of the city faced the glacis.

Table 8: The inner, outer fortification walls, glacis and ramparts in the Lower Northern Levant.

Site	Type of defensive elements	Dimensions	Period	Type of building materials	Dimensions	Type of foundations	Dimensions	Location
'Arqa	Outer walls of the rooms	6-7 m wide.	EB IV	/	/	/	/	The Lower City, level 16, zone A.
	Casemate wall	Walls; 1.40 to 1.9 m wide.	MB II	Mudbricks.	/	stones	/	The Lower City, level 13, areas (AK 21, AJ / AK 20).
al-Ash'ari	Fortification wall	/	MB	/	/	/	/	The Lower City, north-eastern, eastern and southern side of the Tell.
Beirut / Biruta	Retaining wall, (W 353)	1m wide 15 m long 1.70 m high.	MB I	Sun-dried mudbricks.	/	stones.	/	Bey 003 3.50 m to the south of wall (351) and parallel to it.
	Glacis	elevation between 9.00 and 7.95m. sloping away at an angle of about 30 °.	MB I	Clay embankment.	/	/	/	Bey 003, against the retaining wall (W 353).
	Fortification wall, (W329-398)	3.75m wide 5 -7 m high.	MB II	Large limestone blocks.	length between 0.15m and	courses of large stones.	/	Bey 003 in Complex II, Bey 20 and bey 013.

					2.85m /width around 0.20m			
	Glacis **(**120/230)	slope of 20°.	MB II	Pebble stones and large rubble limestone 30cm Long.	/	/	/	Bey 003, against the chicane wall (W 320).
el-Burak	Retaining wall	/	MB	/	/	/	/	Area 2.
	Glacis	/	MB	Stone.	/	/	/	Area 2.
Byblos/ Gubla	Fortification wall: wall (A)	2 m wide, 33 m long.	EB II	/	/	stones.	/	The Lower City, northern side of the city.
	Fortification wall: wall (B)	4.75 m wide, 7.25 m high.	EB III	Limestone.	the average size of 35 cm.	Stones.	/	The Lower City, northern side of the city.
	Ramp	Slope of 40°.	EB III	Reddish mass of earth.	/	/	/	The Lower City, northern side of the city, against the Wall (B).
	Glacis (C)	13.00 m high slope of 40°.	EB III	Blocks of Calcareous and sandy stones.	/	/	/	The Lower City, northern side of the city, covering the ramp.
	Glacis (D)	40° slope.	MB I	Earthen fill, with a stone cap roughly constructed	/	/	/	The Lower City, northern side of the city, against the glacis (C).

				with limestone and sandstone cobbles and stones larger blocks were used in the lower part.				
	Glacis (E) (Hyksos)	60 ° slope 8 m high.	MB II	Earthen fill of intermingled dark brown earth and sand layers and covered with calcareous sandstone) blocks	/	/	/	The Lower City, northern side of the city, against the glacis (D).
	Eastern Rampart – (southern and northern part)	30 m wide.	EB III	Southern part; calcareous stones.	/	/	/	The Lower City, the eastern side of the city. Northern part; between the castle and the Persian podium. Southern part; between the Persian podium and the southern ravine.
	Glacis	/	EB III	Limestone and of	/	/	/	The Lower City, covering the

				homogeneous texture.				southern part of the eastern rampart.
	Southern Rampart	/	EB III	/	/	/	/	The Lower City, area 39 (22/23), Southern part of the city.
Debbeh	Rampart	5-15 m wide.	MB	/	/	/	/	The Lower City.
	Glacis	/	MB	/	/	/	/	The Lower City, covering the rampart.
	Retaining wall	/	MB	Uncut blocks.	0.60 m wide.	/	/	The Lower City, reinforced the rampart.
es-Salihiyeh, Firzat	Fortification wall (P2)	0.50 m high.	MB I-II	/	/	sits on a 0.25 to 0.35 m wide. gravel at 18.50 m depth.	/	The Lower City, level XII.
	Fortification wall (P 1)	0.40 to 0.70 high.	MB I-II	Mudbricks.	/	older wall (P 2) and pebble bed. (Pa) up to 0.15 m wide.	/	The Lower City, level XII.
	Rampart (XII b1)	3 m high.	MB I-II	Grey, clayey earth.	/	/	/	The Lower City, level XII, against the wall (P1).

	Enlargement (XIIB1A) of the rampart	2.80 m high.	MB I-II	Filling of rubble rubbed.	/	/	/	The Lower City, level XII, the eastern side from profile earthen.
	Fortification wall (XIIB2)	1.20 m wide.	MB I-II	/	/	on the terrace.	/	The Lower City, level XII, behind parallel to the rampart.
	Revetment wall (XIIA1)	1.90 m wide, 5 layers (rows) of mudbricks high.	MB I-II	Alternately yellowish and grey mudbricks.	43-44 × 10-11 cm.	/	/	The Lower City, level XII, reinforced the rampart.
	Fortification wall (XIIA2)	1.90 m wide, 0.90 m high.	MB I-II	Mudbricks.	36-39×10-12 cm.	/	/	The Lower City, level XII, 2.10 m away and parallel to the revetment wall.
	Fortification wall (XIIA3)	0.90 m high.	MB I-II	/	/	/	/	The Lower City, level XII, 1.7-1.8 m away and parallel to the wall (XIIa2).
	Fortification wall (XI 1)	2.5 m wide.	MB I-II	Mudbricks.	44-57×11-15 cm.	on the debris of the settlement of XII.	/	The Lower City, level XI.
Nebi Mend/ Kadesh	Casemate wall Wall 1 – (Mauer X)	Wall 1; 2.50 wide.	MB	Mudbricks.	/	Rough stones.	/	The Upper City, trench 1.

	Two inner walls (2 and 8) parallel to wall 1	walls (2 and 8); 0.80 m wide.						
	Rampart	18 m wide,4 m high, the inner side slope of 30°.	MB	Clay, gravel reddish soil missed with natural lacustrine marlstone.	/	/	/	The Lower City, trenches (IX and VI).
Kamid el-Loz	Fortification wall	2 m wide, 2 m high.	MB IIB	Mudbricks. compact mud.	/	stone?	2m high.	The Lower City, in ID14-15, IC15- 16, IC18, IIC1 and IID1 level 20-17.
	Casemate wall consists of many walls	/	MB IIB	Walls; mudbricks. Gap; soil.	/	/	/	The Lower City, the east section of ID15 level 15-14.
	Wall 1 Part of casemate as a part of a city fortification	/	MB	Yellow mudbricks.	36×36×10cm.	a fieldstone stone of fist-sized stones.	/	The Lower City, in area S1.
	Wall 2 Part of casemate as a part of a city fortification	1.42 m wide.	MB	Yellow mudbricks.	36×36×10cm.	layer of fieldstone.	25 cm wide.	The Lower City, in area S1.
	Wall 3 Part of casemate as a part of a city fortification	/	MB	Yellow mudbricks.	36×36×10cm.	stone foundations of head-sized stone.	/	The Lower City, in area S2.

	Wall 4 Part of casemate as a part of a city fortification	1.50 m wide.	MB	Mudbrick.	/	stone foundations.	/	The Lower City, in area S2.
	Wall 5 Part of casemate as a part of a city fortification	1.50 m wide.	MB	Mudbricks.	/	stone foundations.	/	The Lower City, in area S2, S3 and S4.
	Wall 7 Part of casemate as a part of a city fortification	1.50 m wide.	MB	Mudbricks.	/	stone foundations.	/	The Lower City, in area S4.
	Wall 8 Part of casemate as a part of a city fortification	1.30 m wide.	MB	Rectangular mudbricks. square bricks.	54×36 cm. 36×36 cm.	shell-like wall edges are filled with smaller stones, the filling inside is made of small-stone material.	/	The Lower City, in the areas S4, S5 and S6.
	Wall 12 Part of casemate as a part of a city fortification	1.30 m wide.	MB	Mudbricks.	/	/	/	The Lower City, in the areas S4, S5 and S6. The Lower City, in area S6.
Kazel	Fortification wall	0,80 m wide.	MB	Stone rubble.	/	/	/	The Lower City, area III.
	Glacis	Slope of 45°.	MB	Hard-yellow clay.	/	/	/	The Lower City, area III, reinforced the wall.

Deir Khabiye	Fortification wall	3-3.5 m wide, 5 m high.	MB	Mudbricks.	/	/	/	The Lower City, area A.
Labwe	Rampart	/	EB II-III	/	/	/	/	The Lower City, south-east side of the city.
	Fortification wall	1.4-2 wide.	EB II-III	Basaltic stones.	/	/	/	The Lower City.
	Glacis	/	EB II-III	Rock	/	/	/	The Lower City, reinforced the wall.
	Front wall	3 to 4 m high.	EB II-III	Basaltic stones.	/	/	/	The Lower City reinforced the southern part of the wall.
Sefinat-Nouh	Rampart	470 by 390 m long.	MB	Soil.	/	/	/	The Lower City.
Sh'airat	Rampart 1	3 m wide	EB IV	/	/	/	/	The Upper City.
	Rampart 2	4 m wide - 1784 m long.	EB IV	Large blocks.	1 ×5 m.			The Lower City.
	Rampart 3	4 m wide - 482 m long.	EB IVB	/	/	/	/	The Lower City, protect the first extension.
	Rampart 4	5 m wide.	EB IVB	/	/	/	/	The Lower City, protect the second extension.

al-Sür	Rampart	4 m wide, 2.60 m high.	EB IVA	Blocks of stone.	1 m long by 40 cm wide.	directly on virgin soil.	/	The Lower City, Sounding B southwestern part of the city.
	Ramparts	/	MB	Enormous earth-levees.	/	EB settlement.	/	The Lower City.
Khirbet el-Umbashi	Fortification structure consists of many fortification walls and Rampart.	1000 m long 1 m to 15 m wide.	EB I-II	Walls; blocks of bullous basalt. Rampart; clay.	70×60×40cm, 45 × 30 cm, 150×100×60cm, 60×40×50cm, 60×40×40cm.	/	/	The Lower City.
	Fortification wall (VS4.01 until VS 4.06)	3.50 to 4 m wide, 160 m long.	EB I-II	Blocks of bullous basalt.	70×60×40cm.	/	/	The Lower City, north-west sector.
	Fortification wall (VS4.07)	2.30 m wide.	EB I-II	Blocks of bullous basalt.	45 × 30 cm.	/	/	The Lower City, north-east sector.
	Fortification wall (VS4.09)	2.20 m wise on at the summit and more than 4 m at the base.	EB I-II	Blocks of bullous basalt.	150×100×60 cm.	/	/	The Lower City, Dams sector, north-eastern corner of the site.
	Fortification wall (VS1.01)	1 to 1.50 m wide.	EB I-II	/	/	/	/	The Lower City, Dams sector, north-eastern corner of the site.
	Rampart (VS1.02)	17 m, wide at the base and	EB I-II	Clay mixed with pebbles.	/	/	/	The Lower City, Dams sector, north-

		1.5 m at the top, 50 m long.						eastern corner of the site.
	Fortification wall (VS1.03)	1.90 m high.	EB I-II	Blocks of bullous basalt.	60×40×50cm.	/	/	The Lower City, the east sector.
	Glacis	5 m long, 1 m wide.	EB I-II	/	/	/	/	The Lower City, sector east reinforced the western side of the Wall (VS1.03).
	Fortification wall	2.40 m wide.	EB I-II	Blocks of bullous basalt.	60×40×40cm.	/	/	The Lower City, the south-east sector.
	Fortification wall (VS2.01)	5 to 12 m wide.	EB I-II	/	/	/	/	The Lower City, the south-east sector (to the west).
	Fortification wall	1 to 1.50 m wide.	EB I-II	/	/	/	/	The Lower City, the south-east sector (to the west).

C. TOWERS AND BASTIONS

Early and Middle Bronze Age.

We have studied **eighty-one** Towers and bastions have been detected in Jazirah, the Euphrates region, the Upper and Lower Northern Levant. It is possible to observe that **fifty-six** towers and bastions dated to the Early Bronze Age, while **twenty-five** towers and bastions dated to the Middle Bronze Age, (Fig. 160-161).

Regarding the shape of the towers and bastions, we can see, that their shapes were varying; where during the EB, thirty-four towers and bastions have a rectangular shape, while five of them have a square shape. Moreover, we can see just two towers have a circular shape, two of them have a quadrangular shape, one has a trapezoidal shape. Furthermore, there are twelve towers and bastions; we don't have data about their shapes. Also, one can observe, during the MB that five towers and bastions have a rectangular shape, while five of them have a square shape, four of them have a circular shape, five of them have a quadrangular shape, and there are six towers and bastions, we don't have data about their shapes.

In terms of functional used of the towers and bastions, we can notice, during the EB that thirty-five towers and bastions were associated with the inner and outer fortification walls, three towers were associated with the fort walls, while fifteen towers were flanked and reinforced gates and three were freestanding.

Moreover, it is possible to recognise, that fourteen towers and bastions during the MB were associated with the inner and outer fortification walls, while four towers were associated with the fort walls and seven towers were flanked and reinforced gates.

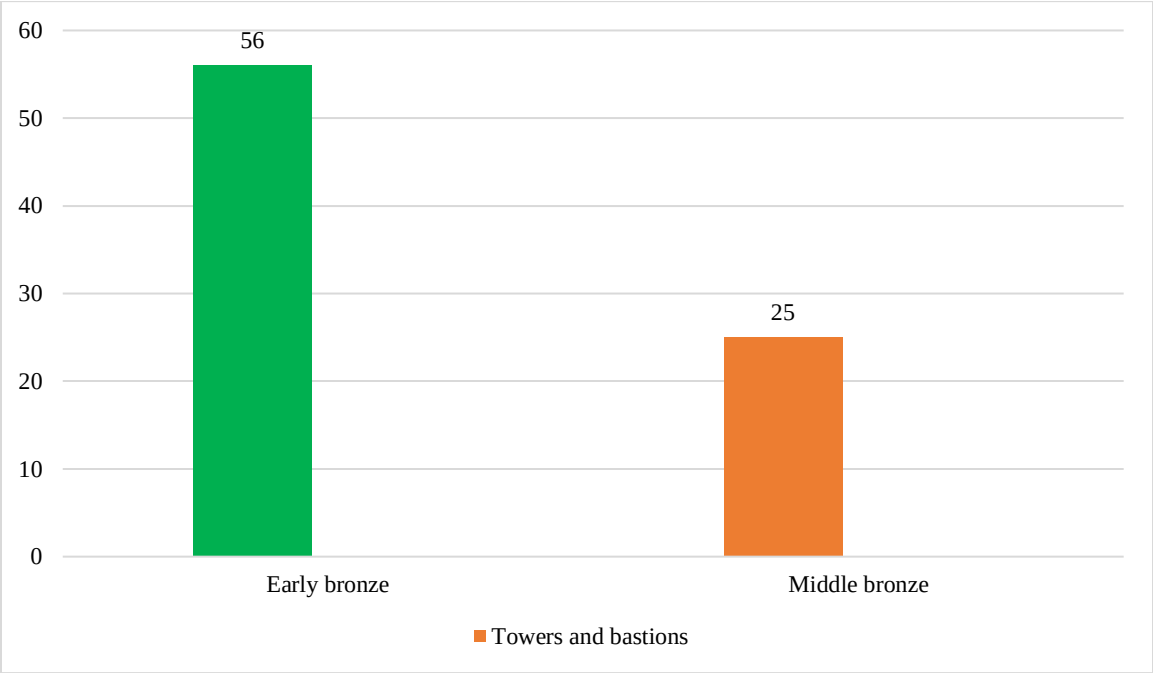

Diagram 31: Towers and bastions in Jazirah, the Euphrates region, the Upper and Lower Northern Levant during the EB and MB.

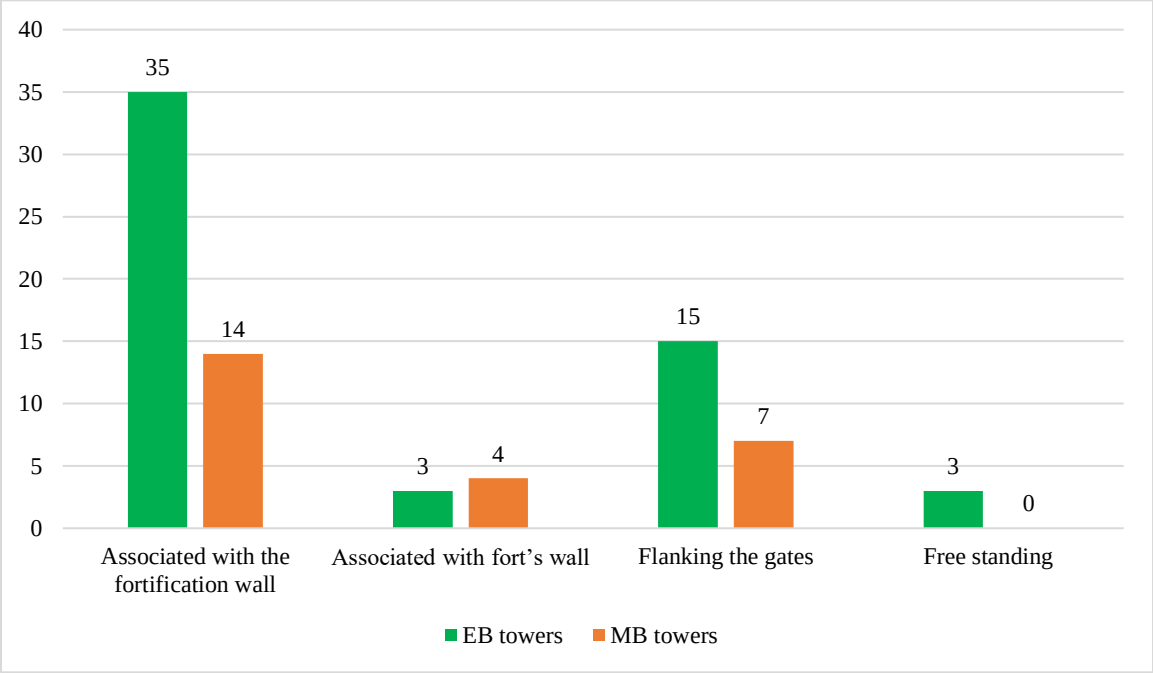

Diagram 32: Functional use of the towers and bastions in Jazirah, the Euphrates region, the Upper and Lower Northern Levant during the EB and MB.

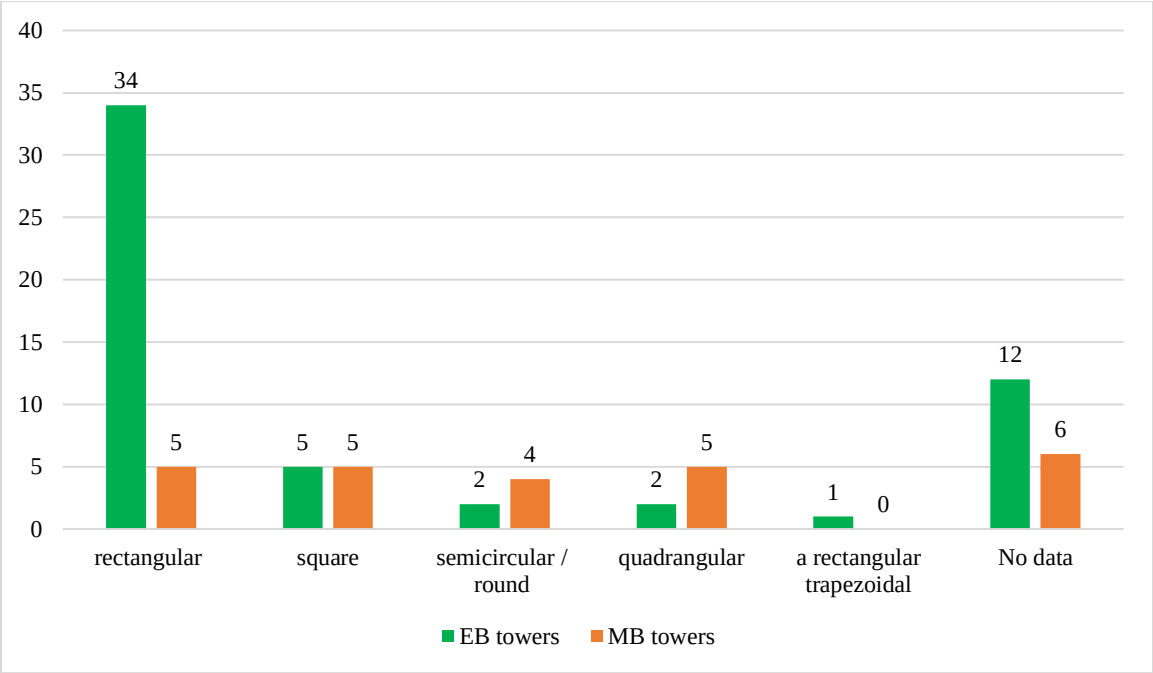

Diagram 33: Shape of the towers and bastions in Jazirah, the Euphrates region, the Upper and Lower Northern Levant during the EB and MB.

1. Syrian Jazirah

One can observe, that **six** towers and bastions have been detected in Syrian Jazirah; all of them dated to the Early Bronze Age. In regard to the shape, we can see that three of them have a rectangular shape, while one has a square shape. Moreover, there are two towers we don't have data about their shapes,

In terms of the functional use of the towers and bastions, one can notice, that three of them were associated with the outer fortification walls, and the other three were flanked and reinforced the outer gates.

Moreover, it is possible to see that the square tower in Tell Bderi considers the smallest discovered tower in Syrian Jazirah.

2. Euphrates region

We can see that **twenty-three** towers and bastions have been detected in the Euphrates region; **fourteen** of them dated back to the Early Bronze Age and **nine** dated to the Middle Bronze Age.

In regard to the shape of the towers and bastions, we can notice, that seven towers and bastions during the EB, have a rectangular shape, three of them have a square shape, while just one tower has a circular shape and there are three towers and bastions, we don't have data about their shapes. Furthermore, one can observe, during the MB that three towers and bastions have a rectangular shape, four have a square shape, and there are two towers and bastions we don't have data about their shapes.

In terms of the functional use of the towers and bastions, one can observe, during the EB that seven towers and bastions were associated with the fortification wall, (five with the outer fortification walls and two with inner fortification walls), while three towers were associated with the fort walls and four towers were flanked and reinforced the gates. Moreover, it is possible to recognise, that seven towers during the MB, were associated with the fortification walls, (four with the outer fortification wall and three with inner fortification wall) and two were flanked and reinforced the gate.

One can observe that the smallest tower has been detected in Tell Jerablus Tahtani, which measured 1.6 by 1.4 m, is dated to the EB. While the largest bastion has been detected in Tell Selenkahiye, which measured 10 by 7 m, is dated to the EB IV.

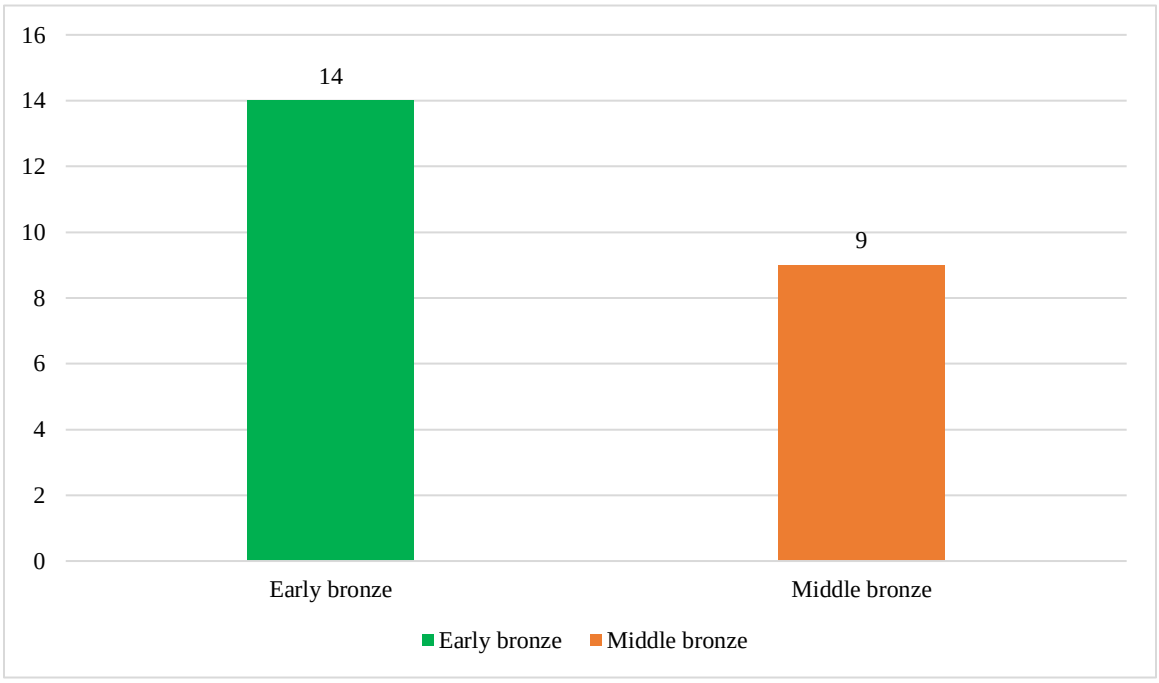

Diagram 34: Towers and bastions during in the Euphrates region during the EB and MB.

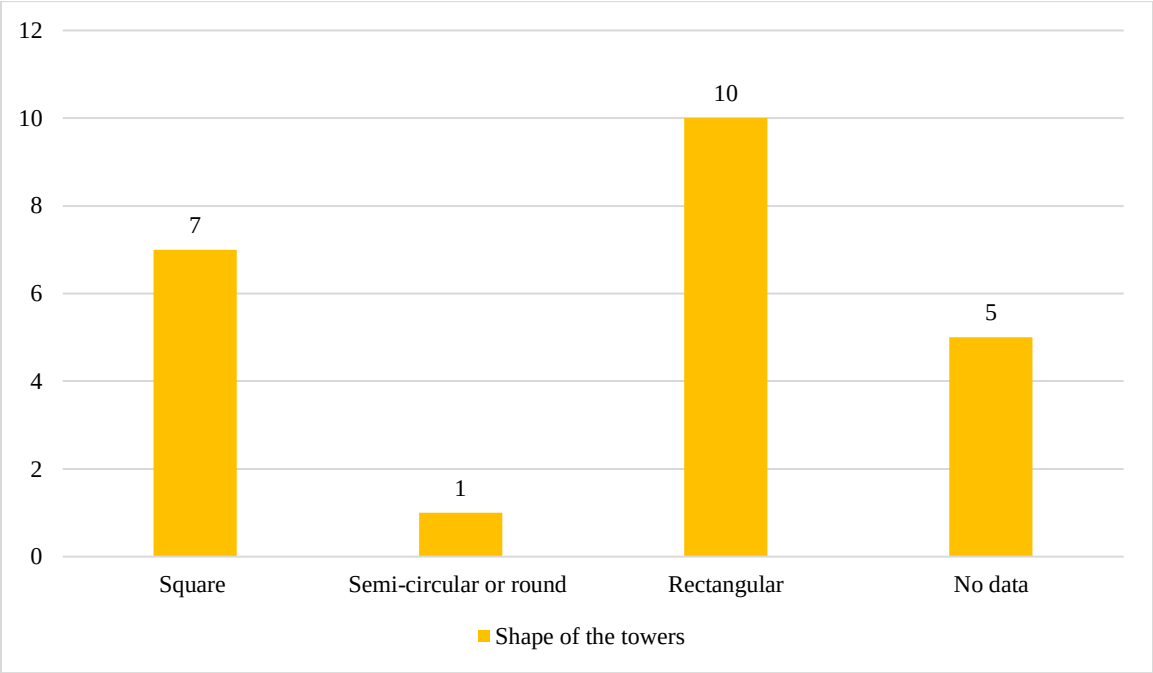

Diagram 35: : Shape of the towers and bastions in the Euphrates region during the EB and MB.

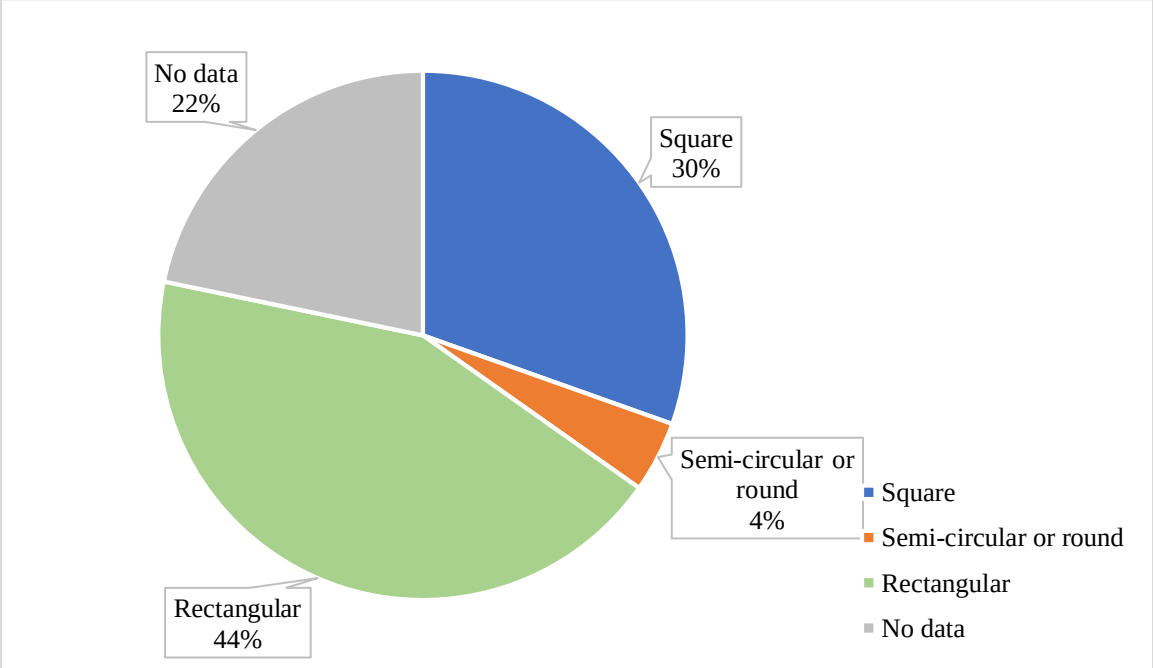

Diagram 36: Shape of the towers and bastions in the Euphrates region during the EB and MB (by percentage).

3. Upper Northern Levant

We can observe, that **twenty** towers and bastions have been detected in the Upper Northern Levant; **nine** of them dated to the Early Bronze Age and **eleven** dated to the Middle Bronze Age.

In terms of the shape of the towers and bastions, we can see, that during the EB, we have six towers and bastions have a rectangular shape, and there are three towers and bastions, we don't have data about their shapes. Furthermore, it is possible to notice, during the MB that two towers and bastions have a rectangular shape, while just one has a square shape, moreover, we can see that four of them have a circular shape, one has a quadrangular shape and there are three towers and bastions we don't have data about their shapes.

Regarding the functional use of the towers and bastions, one can observe, during the EB that two towers and bastions during the MB, were associated with the outer fortification walls, three towers were freestanding, and four were flanked and reinforced the gates. We should mention that the lower city of Tell al-Rawda during the EB IVA, was reinforced by many towers and bastions, but we don't have data about all of them. Moreover, it is possible to recognise, that six towers during the MB, were associated with the fortification walls, (four with the outer fortification walls and two with inner fortification walls) and five were flanked and reinforced the gates.

One can observe that the smallest tower has been detected in Tell al-Rawda, which measured 4.2 m by 6.3 m, dated to the EB. While the largest one has been detected out of the Tell al-Rawda tower (RW 5482) was measured 10 by 8 m, is dated to the EB.

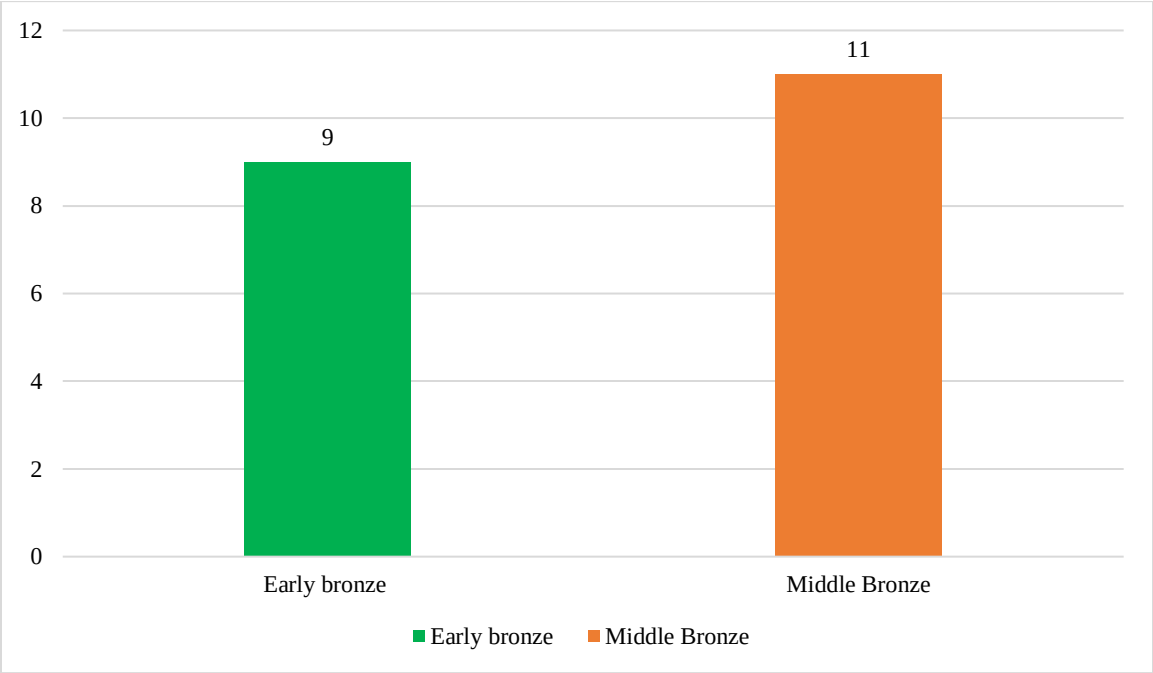

Diagram 37: Towers and bastions in the Upper Northern Levant during the EB and MB.

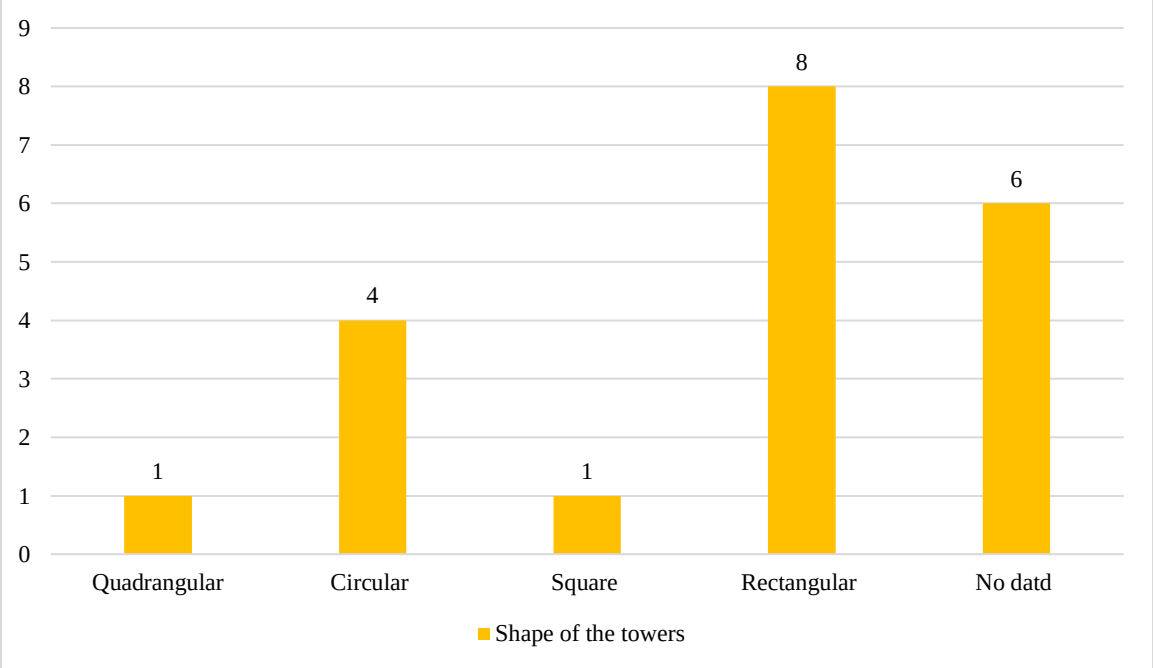

Diagram 38: Shape of the towers and bastions in the Upper Northern Levant during the EB and MB.

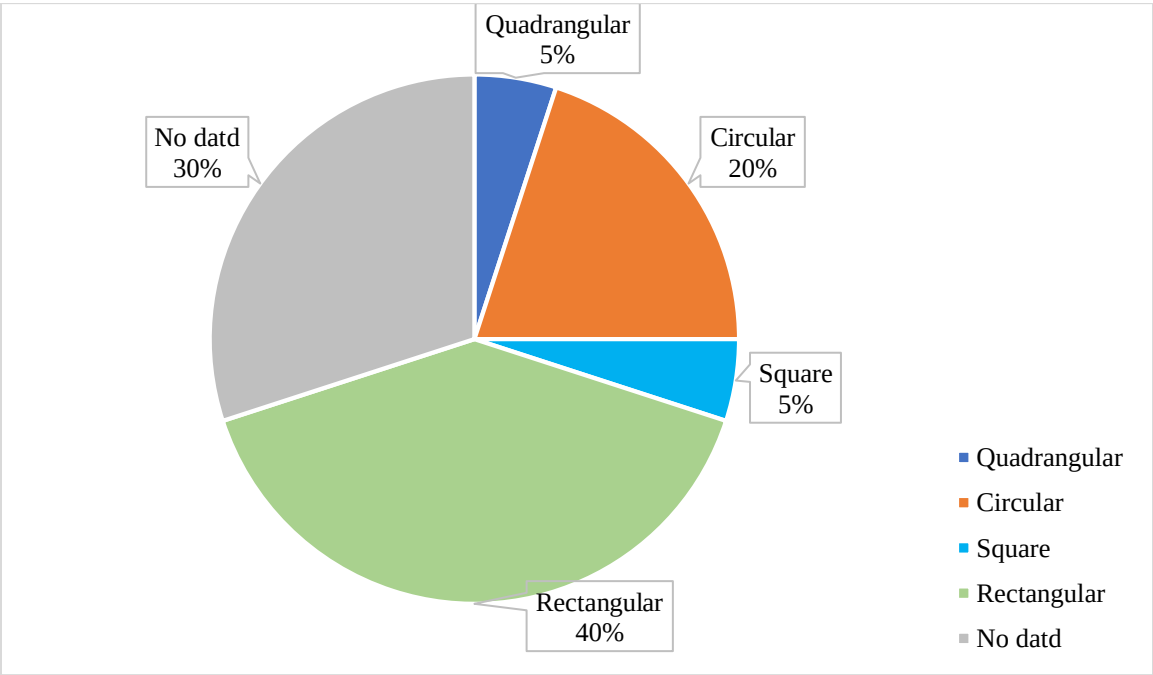

Diagram 39: Shape of the towers and bastions in the Upper Northern Levant during the EB and MB (by percentage).

4. Lower Northern Levant

We can see that **thirty-two** towers and bastions have been detected in the Lower Northern Levant, **twenty-seven** of them dated to the Early Bronze Age and **five** dated to the Middle Bronze Age.

In regard to shape of the towers and bastions, we can notice, that during the EB, eighteen towers and bastions have a rectangular shape, while one of them has a circular shape, one has a square shape, one has a trapezoidal shape, two have a quadrangular shape and there are four towers and bastions we don't have data about their shapes. Furthermore, one can observe, during the MB that four towers and bastions have a quadrangular shape and one we don't have data about their shape.

In terms of the functional use of the towers and bastions, one can see, during the EB that twenty-three towers and bastions were associated with the outer fortification walls, and four towers were flanked and reinforced the gates, while it is possible to recognise, that during the MB, one tower was associated with the outer fortification wall and four towers have reinforced the corner of the fort in Tell el-Burak. Moreover, we should mention that the walls of Tell Kamid el-Loz have been reinforced by towers during the MB, but we don't have data about their number and shapes.

One can observe that the smallest tower has been detected in Tell Labwe, which measured 15 m by 2-5 m, is dated to the EB. While the largest bastion has been detected in Tell Khirbet el-Umbashi, which measured 26 by 10 m, is dated to the EB.

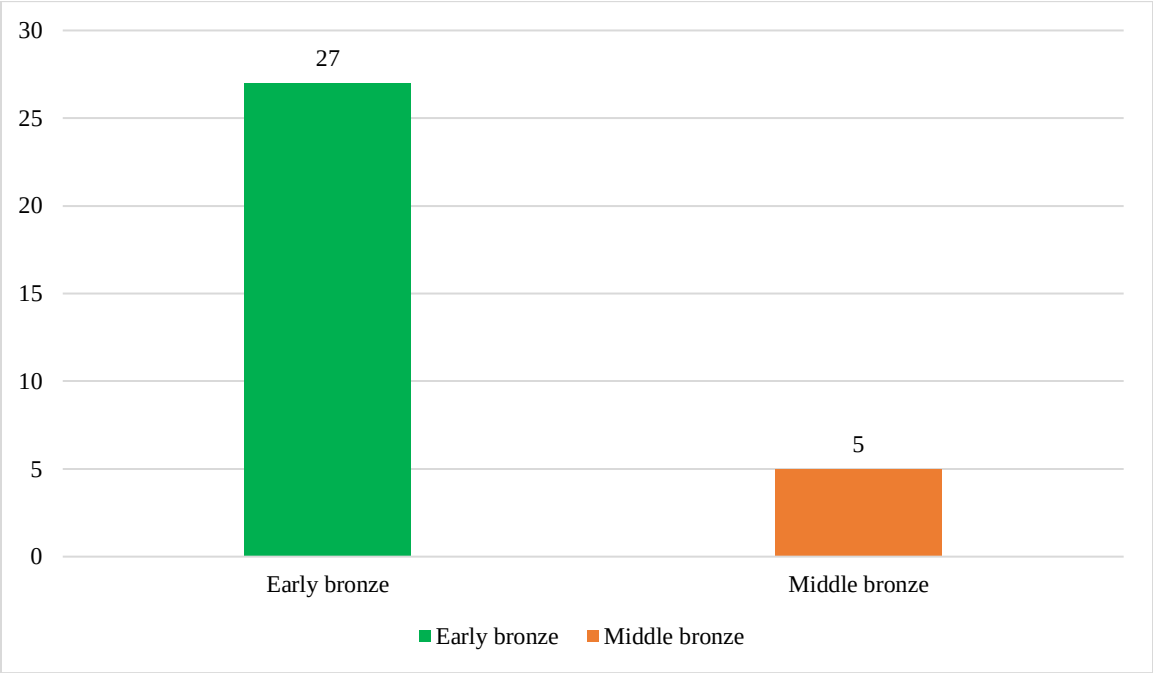

Diagram 40: Towers and bastions in the Lower Northern Levant during the EB and MB.

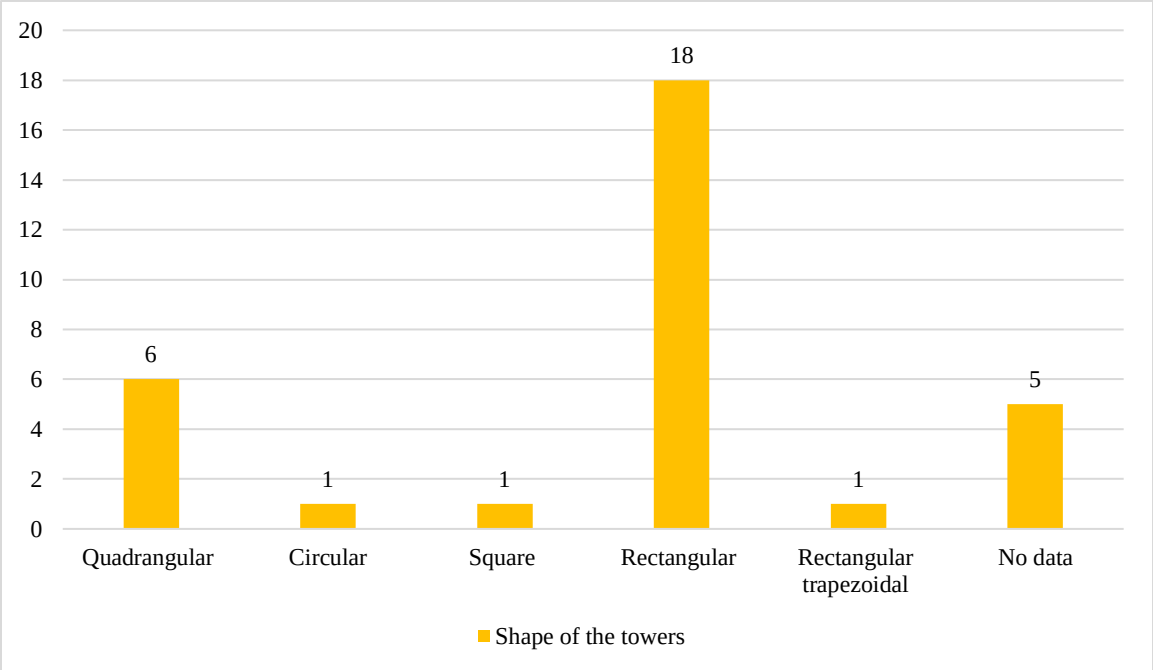

Diagram 41: Shape of the towers and bastions in the Lower Northern Levant during the EB and MB.

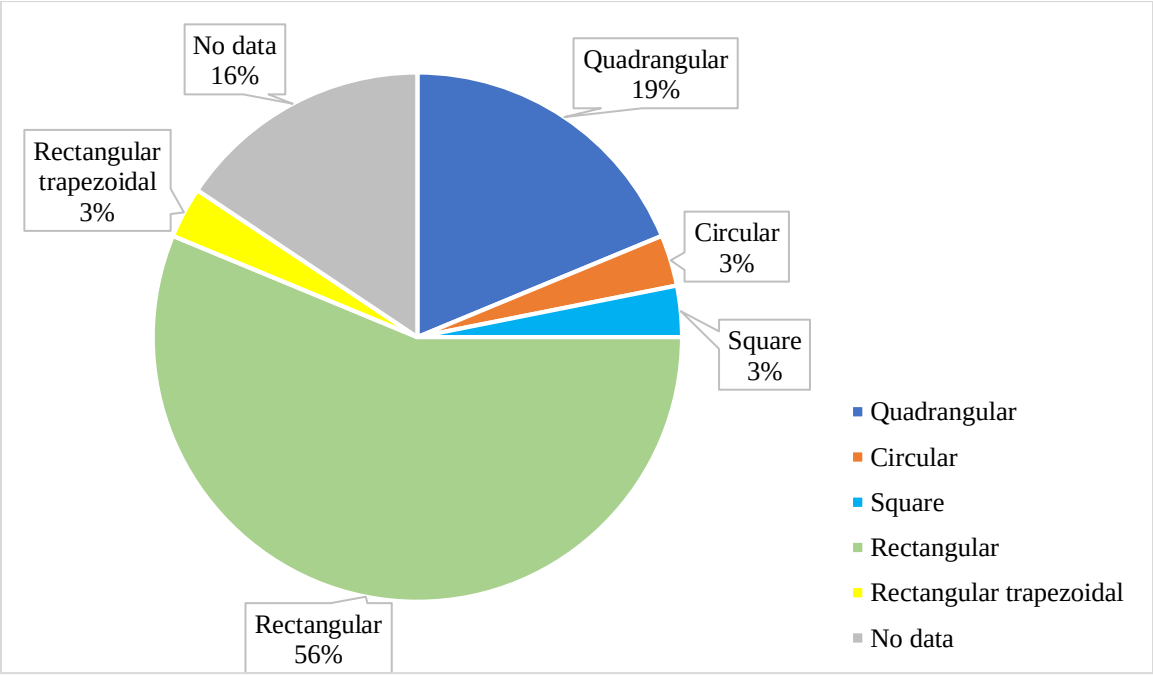

Diagram 42: Shape of the towers and bastions in the Lower Northern Levant during the EB and MB (by percentage).

Table 9: Towers and bastions in Syrian Jazirah

Site	Shape	Dimension	Period	Building materials	Type and location of the towers and bastions
Bderi	Square	1.8 m.	EB I	Brick debris and mud.	Tower, reinforced the western side of the southern outer gate.
Chuera	Rectangular	/	EB IVA	Orange and greyish mudbricks.	Large bastion, associated with the outer fortification wall, area W.
	Rectangular	/	EB IVA	Mudbricks.	Small bastion, associated with the fortification wall, area W.
Kharab Sayyar	Rectangular	/	EB	/	Tower, associated with the outer fortification wall from outside.
Mozan	/	/	EB	/	2 towers, flanked the southeast outer gate.

Table 10: Towers and bastions in the Euphrates region.

Site	Shape	Dimension	Period	Building materials	Type and location of the towers and bastions
Halawa A	Rectangular	5 × 4.5 m.	EB	Mudbricks with a stone foundation.	Tower, associated with the outer fortification wall, in corner of the city wall, area P.
	Rectangular	5 × 2.5 m.	EB	Mudbricks with a stone foundation.	Tower, associated with the outer fortification wall, in the west area of PII.
Jerablus Tahtani	Rectangular	1.6 × 1.4 m.	EB	Grey-brown and yellow-brown mudbricks.	Tower (R 1789), built up against the eastern face of (1680), area I.
	Rectangular	3 × 1.7 m.	EB	Grey-brown mudbrick.	Tower (R 2495), Situated to the immediate south of the postern entrance of the annexe, area I.

	/	/	EB	/	Tower, associated with the exterior wall of the fort, on the northern side of the Tell, area IV.
	Rectangular	2 × 3.1 m.	EB	/	2 towers, flanked the passage (2700), in area II.
Kannas	Arc of a circle	/	EB IVA-B	Mudbricks.	Tower associated with the inner fortification wall in the north-west sector of the city.
	Rectangular	7.50 × 4 m.	MB	Stones.	Tower, associated with the inner fortification wall in the north-west.
	Rectangular	7.50 × 4 m.	MB	Stones.	Tower, associated with the inner fortification wall in the north.
Selenkahiye	Rectangular	10 × 7 m.	EB IV	Pebbles.	Bastion, associated with the outer fortification wall against its outer face, Sq Z07.
	Square	/	EB IV	Mudbricks.	2 towers, flanked the outer gate, Sq Q3.
	Square	5 ×5 m.	EB IV	Based on large stones.	Bastion (B), associated with the outer fortification wall (A), Sq Q 21.
es-Sweyhat	/	7 m wide.	Late third millennium	Mudbricks on the stone foundation.	Bastion, associated with the inner fortification wall.
Bi'a /Tuttul	/	protruding of about 1.75 m.	EB	/	Tower, associated with the outer fortification wall, area M.
Hadidi	/	7 m wide.	MB	Stone foundation.	Tower, associated with the inner fortification wall.
el-Qitar	Square	/	MB	/	2 towers (6 and 7), flanked the river gate.
	Square	/	MB	/	Tower (8), associated with the outer fortification wall, northern part of area X.
	/	/	MB	/	Tower (9) associated with the outer fortification wall.

	Rectangular	/	MB	/	Tower (5) associated with the outer fortification wall, northern side of Tell.
	Square	/	MB	/	Tower (4) associated with the outer fortification wall, southern side of Tell.

Table 11: Towers and bastions in the Upper Northern Levant.

Site	Shape	Dimension	Period	Building materials	Type and location of the towers and bastions
al-Rawda	Rectangular	4.2 ×6.3 m.	EB IVA	/	2 towers, reinforced the passage of the northern outer gate.
	Rectangular	/	EB IVA	/	2 towers (E238 and E247), flanked the eastern outer gate.
	/	Protruding out of the wall more than 4 m.	EB IVA	/	Tower, associated with the first outer fortification structure.
	/	Protruding out of the second wall.	EB IVA	/	bastion, associated with the second outer fortification structure.
RW241	Rectangular	10 × 8 m.	EB IV	/	Freestanding tower in the western edge out of Tell al-Rawda
RW 5482	Rectangular	7.5 × 6.4 m.	EB IV	/	Freestanding tower in the south-west out of Tell al-Rawda, overlooking the Wadi Qastal valley.
Tilbeshar	/	Covers an area 4 m^2.	EB IV	/	Tower, south-western lower city, area L, level IIIC
Abou Danne	Quadrangular	/	MB	Grey square mudbrick (38 ×38 ×10 cm).	Tower, associated with the outer fortification wall, level VI second phase.
Touqan	Rounds	diameters of 9.4 m.	MB II	Mudbricks (40×40) cm without stone foundations.	3 towers, associated with the outer fortification wall.

	Rectangular	7.50 × 5.85 m.	MB II	Mudbricks.	Tower, associated with the inner fortification wall.
	Rectangular	/	MB II	Mudbricks.	Tower, associated with the inner fortification wall.
'Atchana	/	/	MB II	Mudbricks on stone rubble foundations.	Tower, reinforced the north-east outer gate.
Mardikh / Ebla	Square shape	/	MB I	Mudbricks.	Tower, reinforced the lower Damascus gate.
	Semi-circular	/	MB I	Mudbricks.	Tower, reinforced the lower Aleppo gate (area DD).
Umm el-Marra	/	3.8 m wide.	MB II	/	2 towers, flanked the northern inner gate.

Table 12: Towers and bastions in the Lower Northern Levant.

Site	Shape	Dimension	Period	Building materials	Type and location of the towers and bastions
Labwe	Rectangular	13 × 8 m.	EB II-III	/	Tower, reinforced the eastern outer gate.
	Rectangular	15 × 2-5m.	EB II-III	/	Tower, reinforced the south-western outer gate.
	Rectangular	2 to 3,50 m ×12 to 32 m.	EB II-III	/	4 bastions, associated with the outer face of the southern fortification wall.
	Rectangular	3 to 3.5 m long.	EB II-III	/	8 towers, associated with the inner face of the southern fortification wall.
	quadrangular	/	EB II-III	/	2 towers associated with the front-wall in the southern side of the outer fortification wall.

	/	/	EB II-III	/	2 towers associated with outer fortification wall to the east.
Khirbet el-Umbashi	Rectangular	22 × 7.50 m.	EB I -II	Blocks of bullous basalt.	Bastion (VS4.02), associated with the outer fortification wall, in the north-west sector.
	Rectangular	25 × 8.50 m.	EB I -II	Blocks of bullous basalt.	Bastion (VS4.05), associated with the outer fortification wall, in the north-west sector.
	Square	10 × 10 m.	EB I -II	/	Bastion (VS4.11), associated with the outer fortification wall, in the northeast sector.
	Rectangular	26 × 10 m.	EB I -II	/	Bastion, associated with the outer fortification wall, in the northeast sector.
	Rectangular	10 × 11 m.	EB I -II	Blocks of bullous basalt (150×100×60 cm).	Bastion, associated with the outer fortification wall, in the northeast sector, dominating the wadi.
	Round	14.90 to 15.50 m in diameter.	EB I -II	The external side built of large blocks of bullous basalt (82 × 64 × 54 cm on average), the interior side built of smaller blocks of bullous basalt (60 × 45 × 30 cm on average).	Tower (VS1 04), associated with the outer fortification wall, in the eastern sector - connects with a wall VS1.05 To the south.
	Rectangular trapezoidal	To the north it has a total thickness is 7,70 to 7.80 m and, in its southern part, has thickness is 6 m up to about 7,50 m, a total of length is 28 m.	EB I -II	Regular blocks of bullous basalt (100 × 70 ×40 cm).	Bastion (VS1.06), associated with the outer fortification wall, in the eastern sector - connects with a wall VS1.05 To the north.
	/	2.50 m long.	EB I -II	Blocks of bullous basalt?	2 towers, flanked the outer city gate, in the south-east sector.

al-Ash‘ari	/	/	MB	/	Tower, associated with the outer fortification wall, the south-eastern corner of the site.
el-Burak	Quadrangular	/	MB	/	4 towers (3, 6, 11, and 16), reinforced the corners of the fort.

D. BUTTRESSES

Early and Middle Bronze Age.

We can't accurately count the number of the buttresses, but we have studied **one hundred five** buttresses, which have been detected in Jazira, the Euphrates region, the Upper and Lower Northern Levant. It is possible to observe that **ninety-eight** buttresses dated back to the Early Bronze Age while **seven** buttresses dated back to the Middle Bronze Age.

We can see that their shapes were varied between the rectangular to the square, and they have been built of mudbricks or stones

1. Syrian Jazira

One can see, that at least **two** buttresses have been detected in Jazira, they dated to EB and were reinforced the inner gate in Tell Beydar.

2. Euphrates region

We can notice that **fifteen** buttresses have been detected in the Euphrates region, all of them dated back to the EB, they were associated with the fortification walls, (six with the outer fortification walls and one with the inner fortification walls) and six buttresses have reinforced the outer gates.

3. Upper Northern Levant

We can observe, that at least **four** buttresses have been detected in the Upper Northern Levant, they dated back to the MB, two of them were associated with the inner fortification walls, and two have reinforced the outer gate.

4. Lower Northern Levant

We can see that **eighty-six** buttresses have been detected in the Lower Northern Levant, **eighty-one** of them dated to the EB and **five** of them dated to the MB.

In terms of the functional use of the buttresses, one can see, during the EB that fourteen buttresses were associated with the outer fortification walls, while forty-seven buttresses were associated with the outer rampart and twenty buttresses were flanked and reinforced the outer gates. While during the MB, we can notice that three buttresses were associated with the revetment wall, and two buttresses were flanked and reinforced the gate.

Table 13: Buttresses in Syrian Jazira.

Site	Shape	Dimension	Period	Building materials	Type and location of the buttresses
Beydar	/	/	EB	Mudbricks?	At least 2 buttresses, were reinforced the inner gate.

Table 14: Buttresses in the Euphrates region.

Site	Shape	Dimension	Period	Building materials	Type and location of the buttresses
Titriş Höyük	/	/	EB	Mudbricks?	Buttresses, associated with the inner face of the outer fortification wall.
Bi'a /Tuttul	/	1.40-1.50 m wide.	EB	Mudbricks?	3 buttresses, associated with the inner face of the outer fortification wall, south-east side of the city.
	/	/	EB	Mudbricks?	2 buttresses, were flanked and reinforced the western outer gate.
Halawa A	/	/	EB	Mudbricks?	2 buttresses, were flanked and reinforced the northern outer gate, Sq Q.7e.
Halawa B	/	/	EB	Mudbricks?	Buttresses, associated with the outer side of the casemate wall.
Habouba Kabira	Rectangular	1.25 to 1.30 m wide, 1.45 m deep.	EB	Mudbricks?	Buttresses, associated with the inner face of the outer fortification wall, layer 10.
	/	/	EB	Mudbricks?	2 buttresses, were flanked and reinforced the southern outer gate, layer 10.
es-Sweyhat	/	/	EB	Mudbricks?	Buttresses, associated with the inner fortification wall.

Table 15: Buttresses in the Upper Northern Levant.

Site	Shape	Dimension	Period	Building materials	Type and location of the buttresses
al-Rawda	**/**	**/**	**EB**	Mudbricks?	At least 2 buttresses, were reinforced the inner side of the northern outer gate.
Umm el-Marra	Square	/	MB	Mudbricks?	2 buttresses, associated with the inner fortification wall, east side of the acropolis.

Table 16: Buttresses in the Lower Northern Levant.

Site	Shape	Dimension	Period	Building materials	Type and location of the buttresses
Byblos/ Gubla	Rectangular	1.75 m wide, protrusion 1.40 m.	EB II	Stones	Buttresses, associated with the outer fortification wall, (wall A), northern side of the city.
	Rectangular	3-3.5 m wide, protrusion 2.7 m.	EB III	Stones	13 buttresses, associated with the outer fortification wall, (wall B), northern side of the city.
Sh'airat	/	/	EB	/	47 buttresses, associated with the second rampart.
	Rectangular	2.5 m wide, 7 to 8 m long.	EB	/	2 buttresses, were flanked and reinforced the lower 10 gates that mean 20 buttresses.
Beirut	/	0.80 m wide at the top, increasing to one meter towards the base.	MB	/	3 buttresses, associated with the revetment wall (W329-398).
	Rectangular	1.97×0.35 m.	MB	/	2 buttresses, were flanked and reinforced the gate, Bey 003.

E. GATES

We have studied **seventy-five** gates dated to the Early and Middle Bronze Age, (Fig. 160-161), which have been detected in Jazirah, the Euphrates region, the Upper and Lower Northern Levant.

It is possible to observe that **forty-four** gates dated to the EB and **thirty-one** gates dated to the MB.

Concerning the type of the gates, one can notice, that during the EB, there are four gates have a complex type, fifteen of them have a direct access type, while we just six gates have an indirect access type, furthermore, we can notice that nineteen gates we don't have data about their types.

While during the MB we can see, there are fourteen gates have a six-pier type, two of them have a four-pier type. Moreover, it is possible to recognise that three gates have a direct access type, three gates have an indirect access type and nine gates we don't have data about their types.

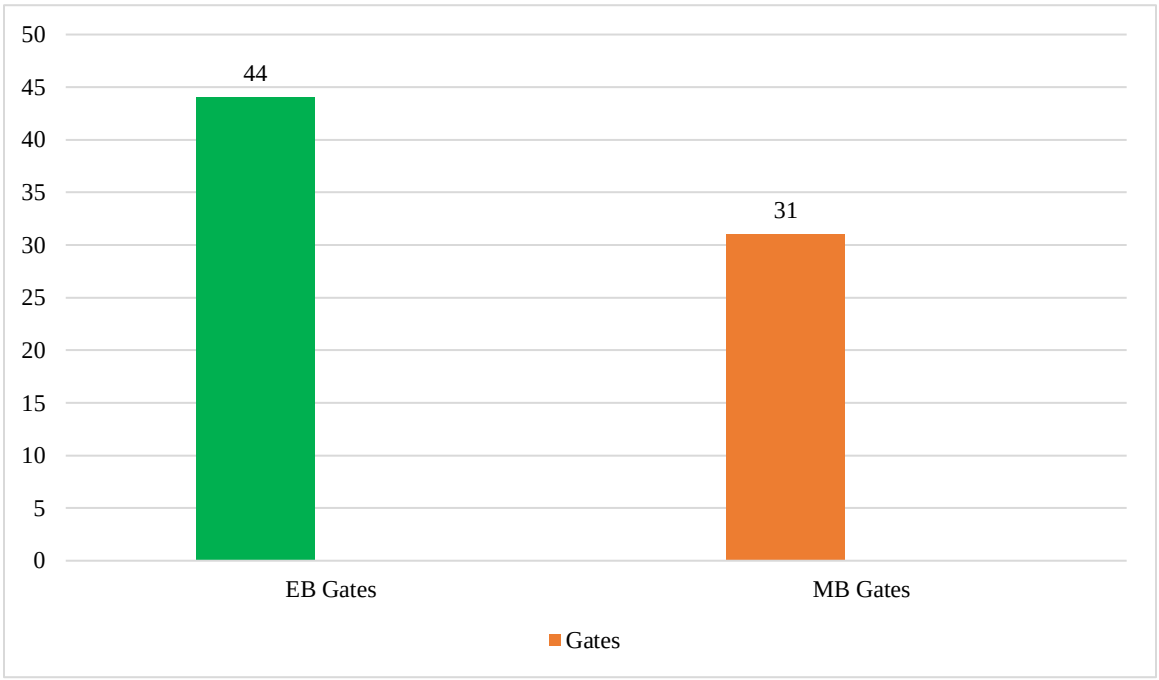

Diagram 43: Gates during the EB and MB.

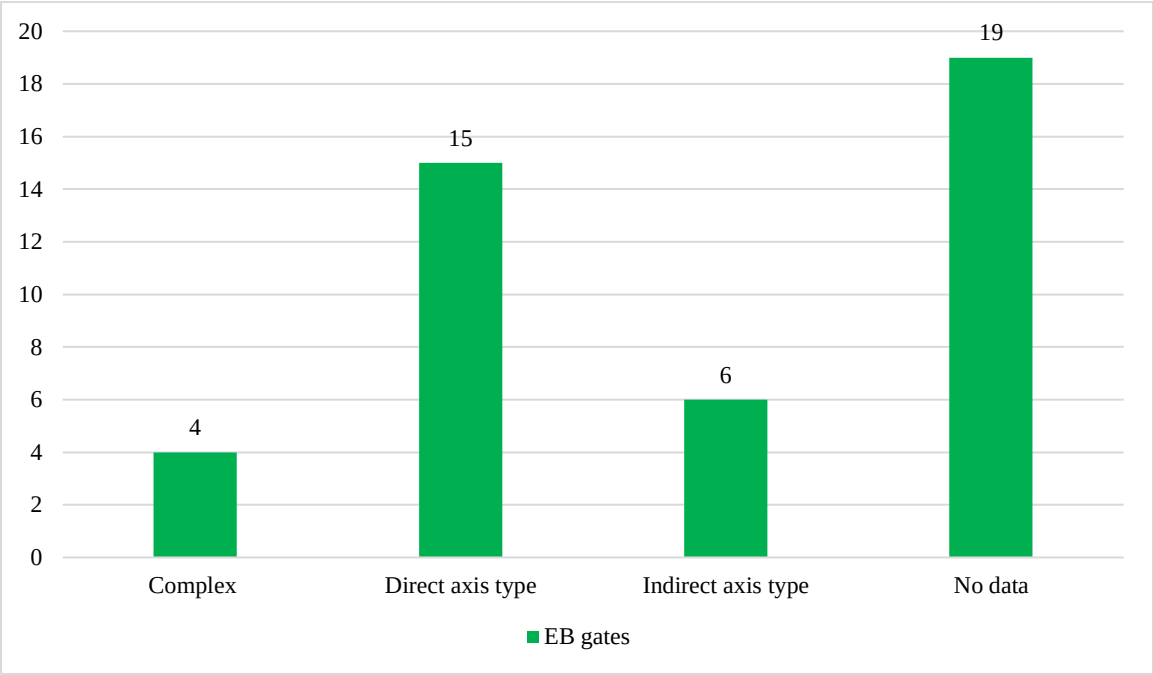

Diagram 44: Type of the gates during the EB.

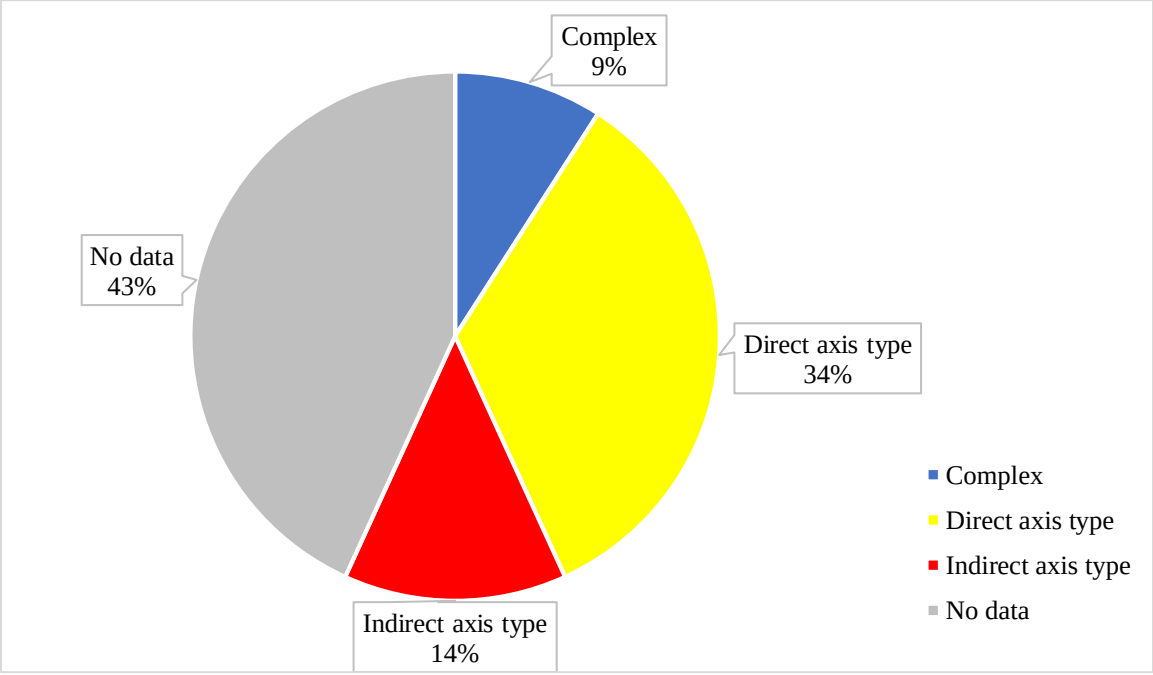

Diagram 45: Type of the gates during the EB (by percentage).

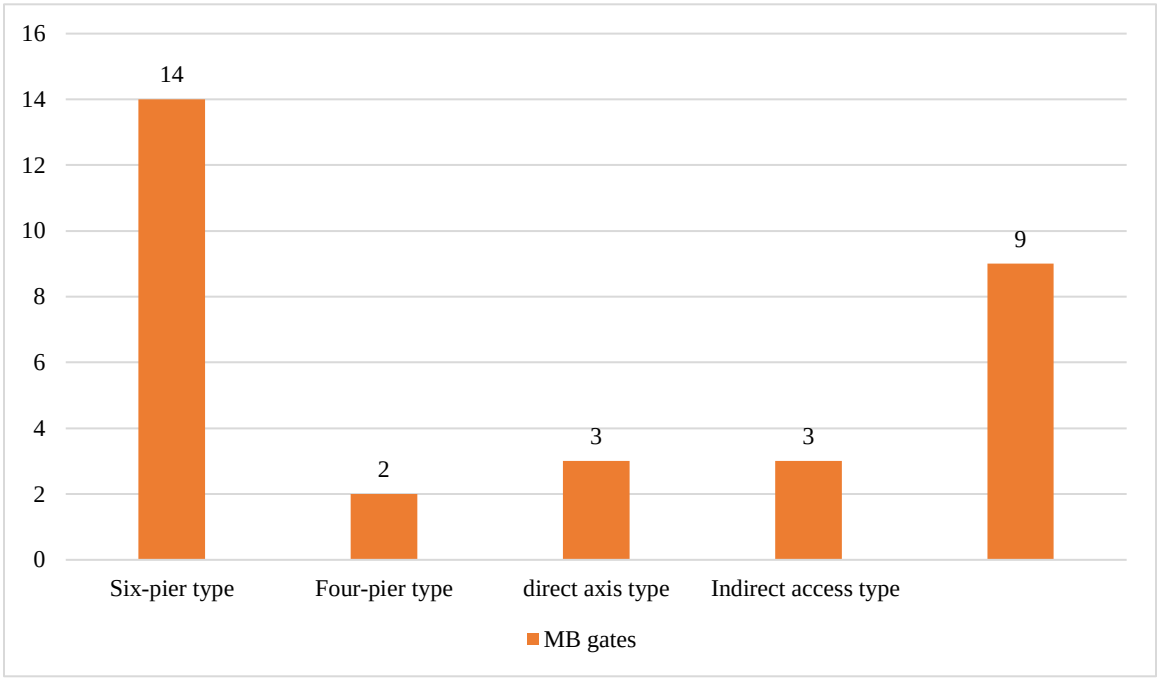

Diagram 46: Type of the gates during the MB.

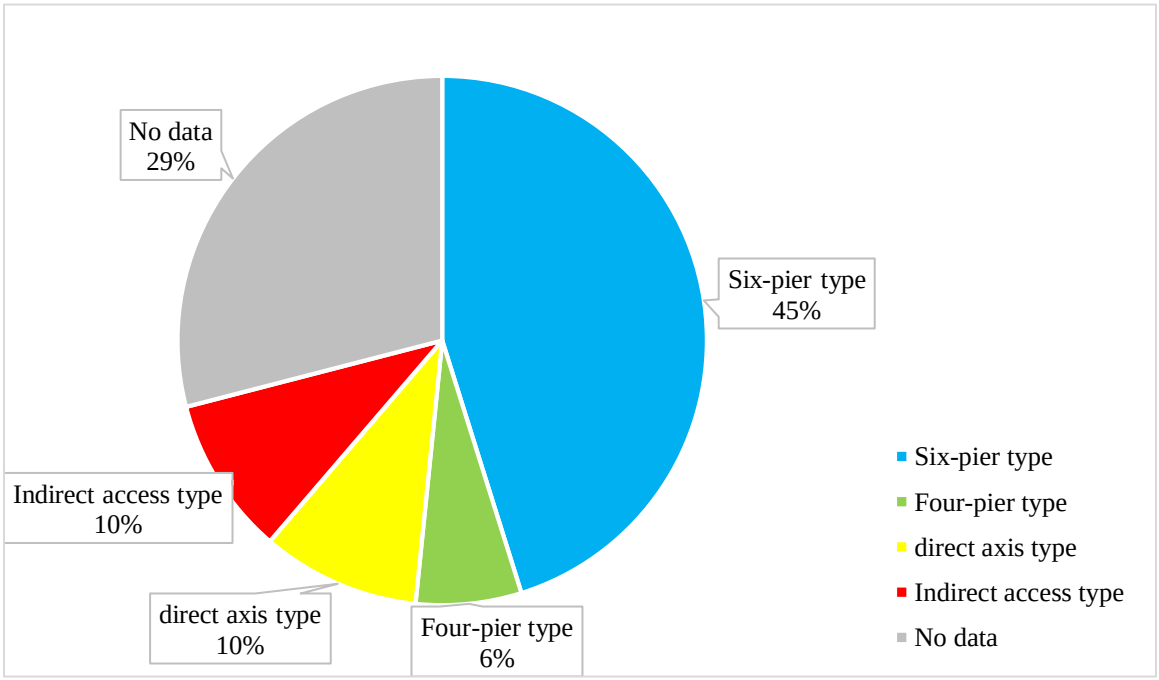

Diagram 47: Type of the gates during the MB (by percentage).

1. Syrian Jazirah

One can observe, that four gates which have been detected in **Jazirah**, they dated to the EB; two of them have a complex type and the other two have a direct access type. Moreover, it is possible to see, that at least seven gaps have been identified in Tell Chuera, in Tell Beydar and four gaps in Tell Leilan, which could be a location for the supposed gates.

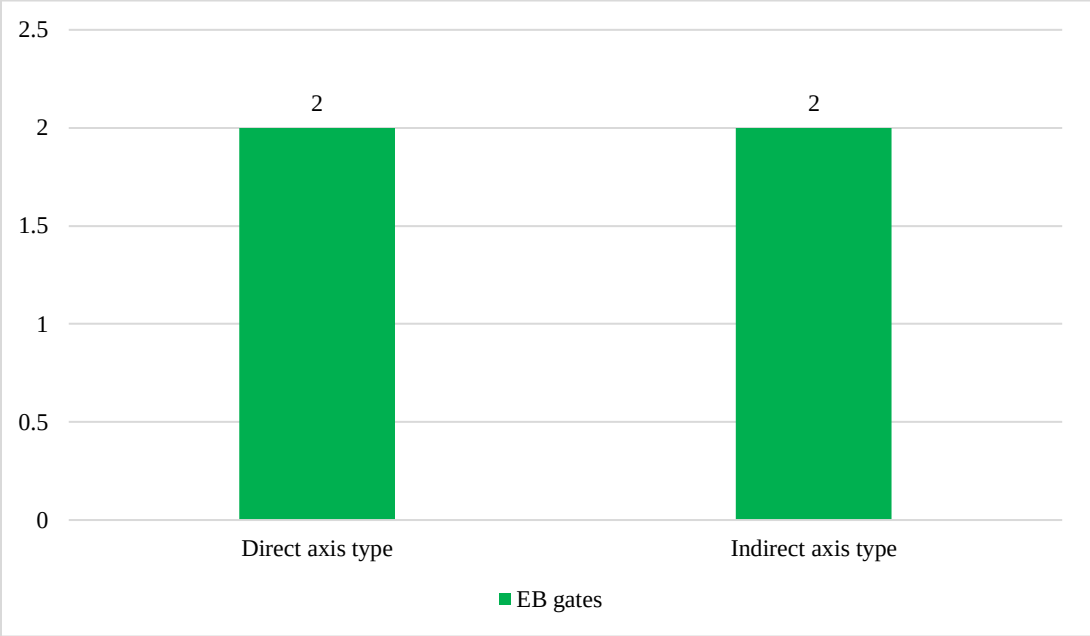

Diagram 48: Type of the gates in Jazirah during the EB.

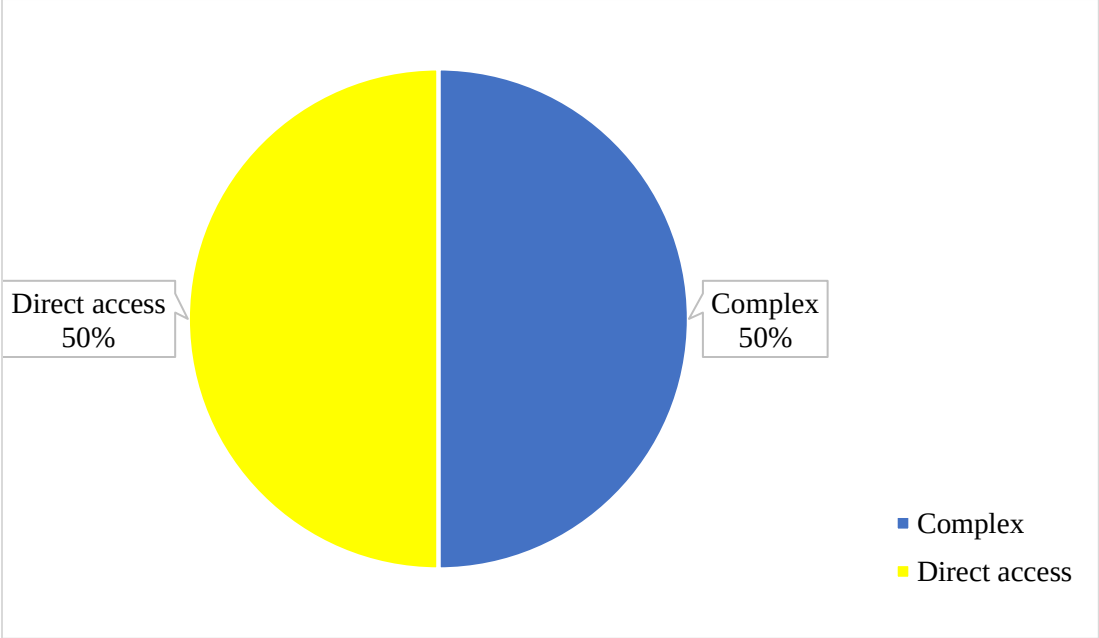

Diagram 49: Type of the gates in Jazirah during the EB (by percentage).

2. Euphrates

We can notice that sixteen gates, which have been detected in the **Euphrates region,** twelve of them dated to the EB and four gates dated to the MB.

Regarding the type of the gates, we can recognise that during the EB, ten gates have a direct access type and two gates have an indirect access type, while during the MB, one gate was a four-pier type, one gate was a direct access type, and one gate was an indirect access type, moreover, we can see that there is one gate we don't have data about its type.

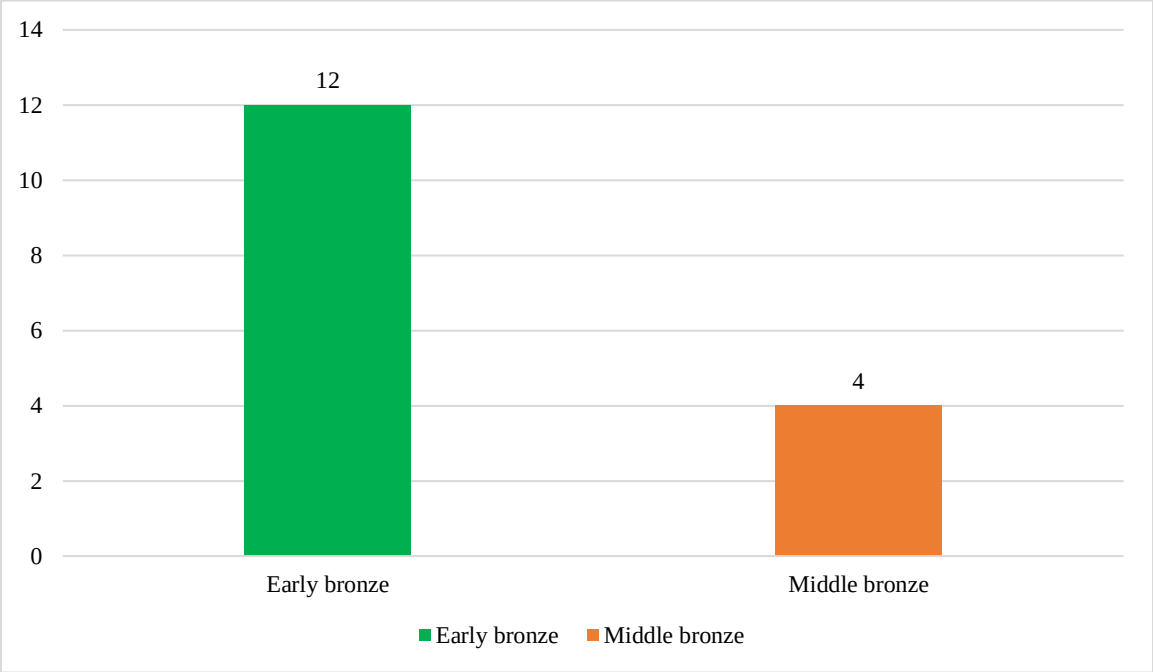

Diagram 50: Gates in the Euphrates region during the EB and MB.

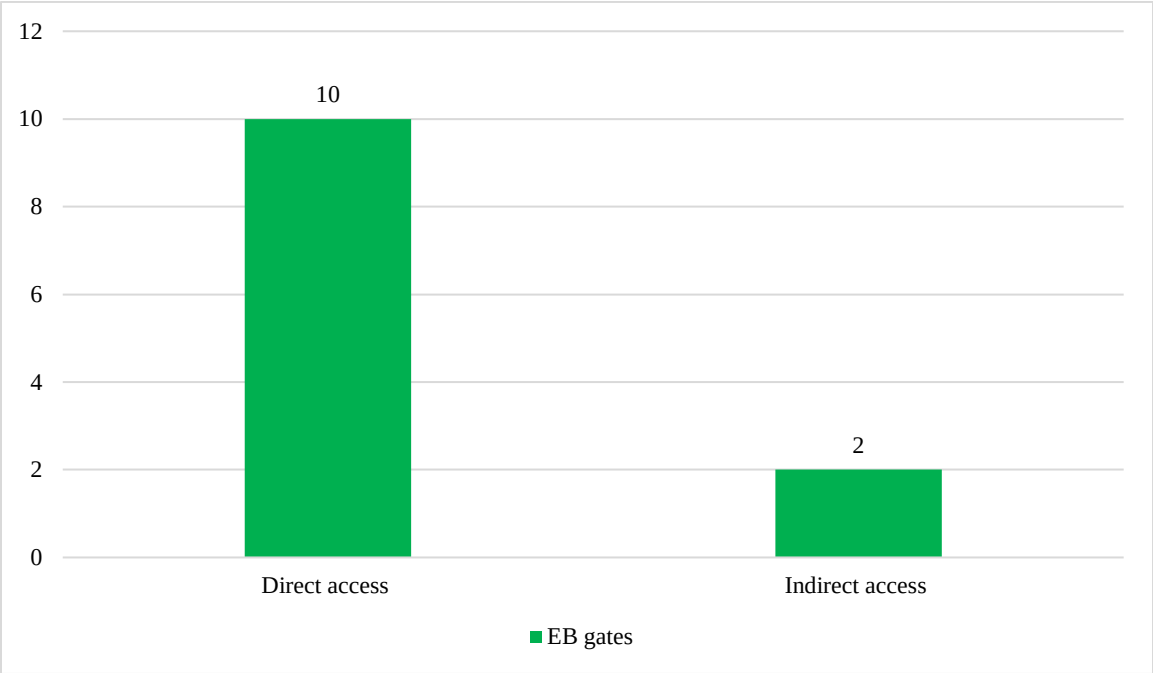

Diagram 51: Type of the gates in the Euphrates region during the EB.

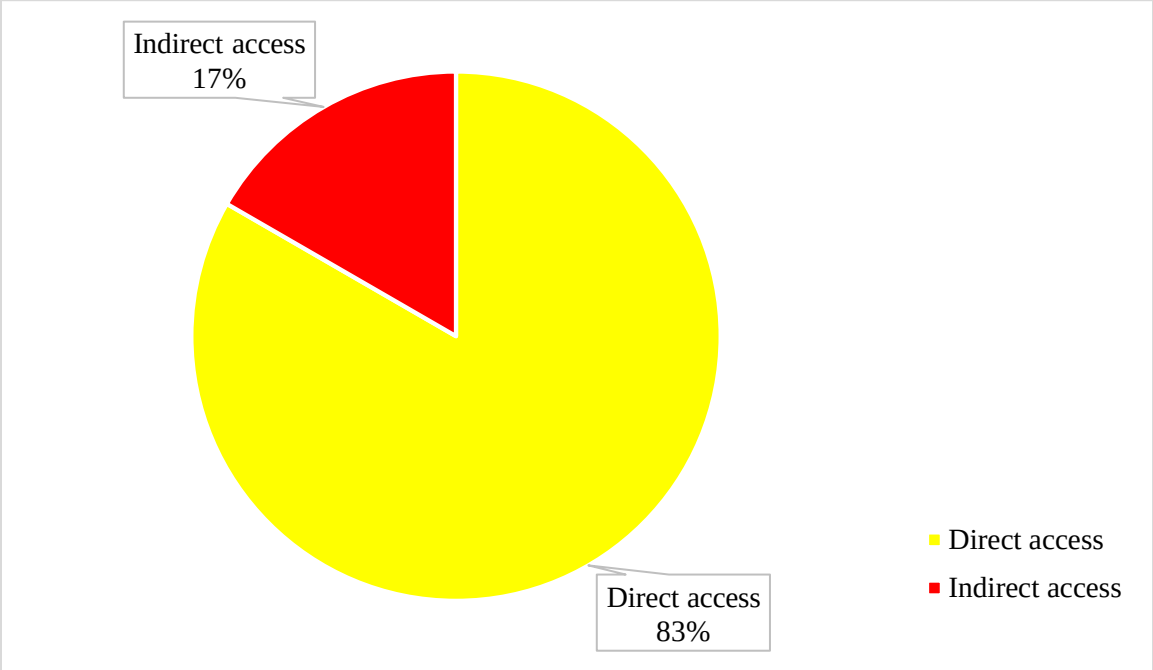

Diagram 52: Type of the gates in the Euphrates region during the EB (by percentage).

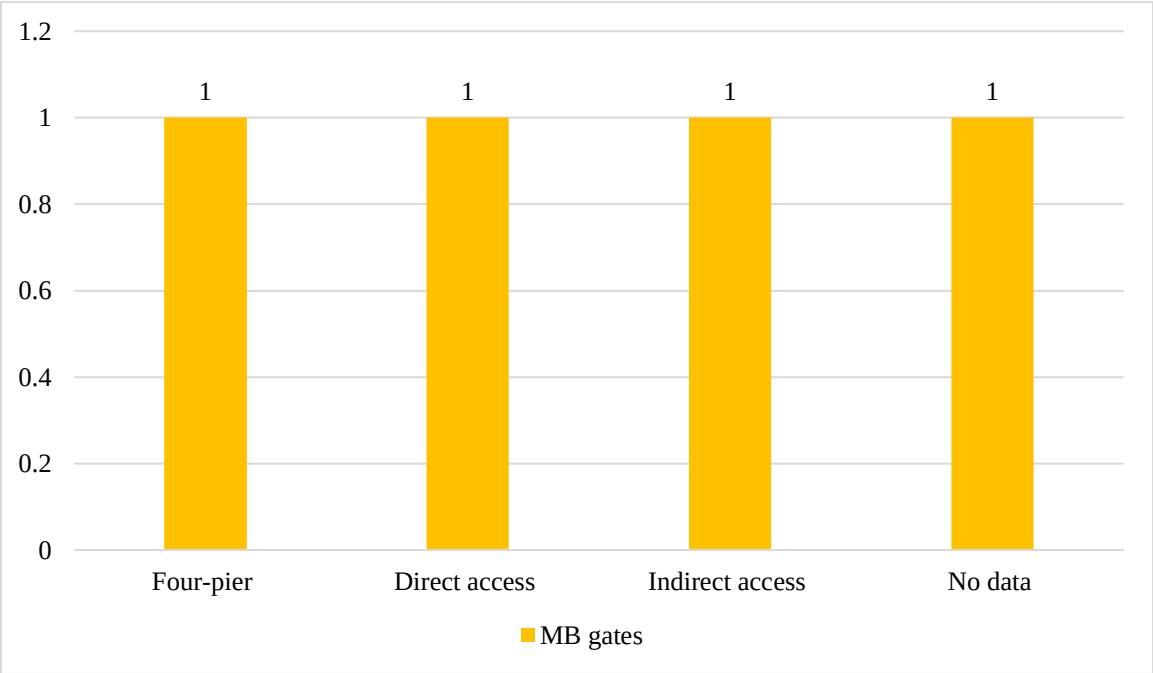

Diagram 53: Type of the gates in the Euphrates region during the MB.

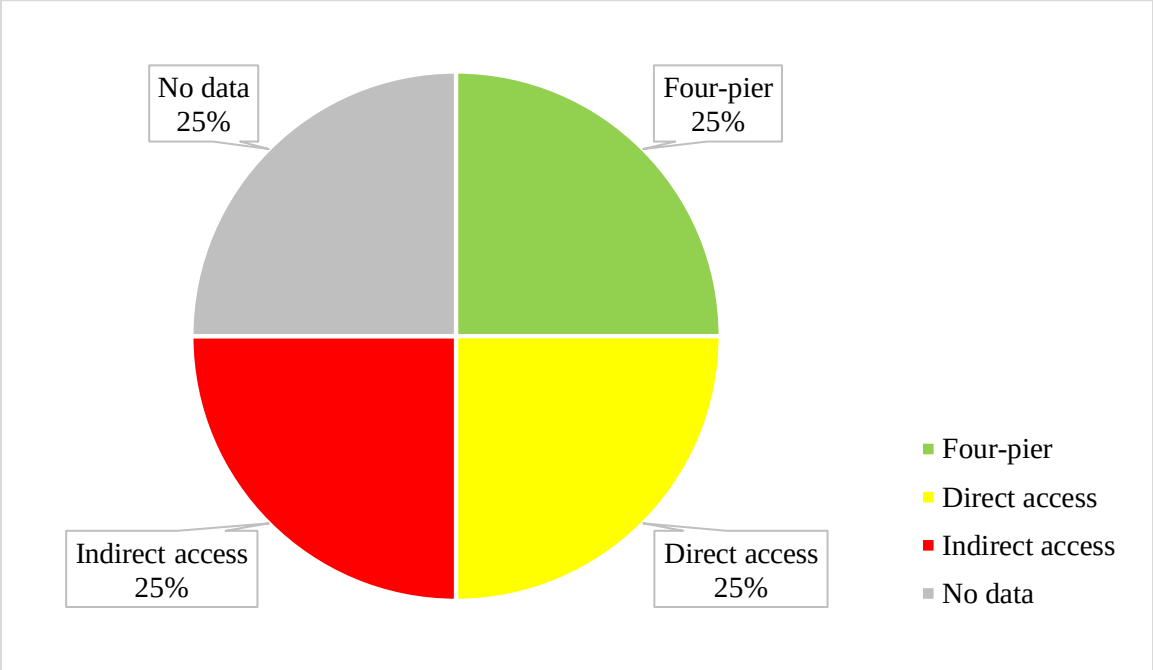

Diagram 54: Type of the gates in the Euphrates region during the MB (by percentage).

3. Upper Northern Levant

It is possible to notice that eighteen gates, which have been detected in the Upper Northern Levant, two of them dated to the EB and sixteen gates dated to the MB.

In term of the type of the gates, we can observe that during the EB, two gates have a complex type, while during the MB there are thirteen gates has a six-pier type, one gate was a four-pier type, and one gate was a direct access type, besides one gate we don't have data about its type.

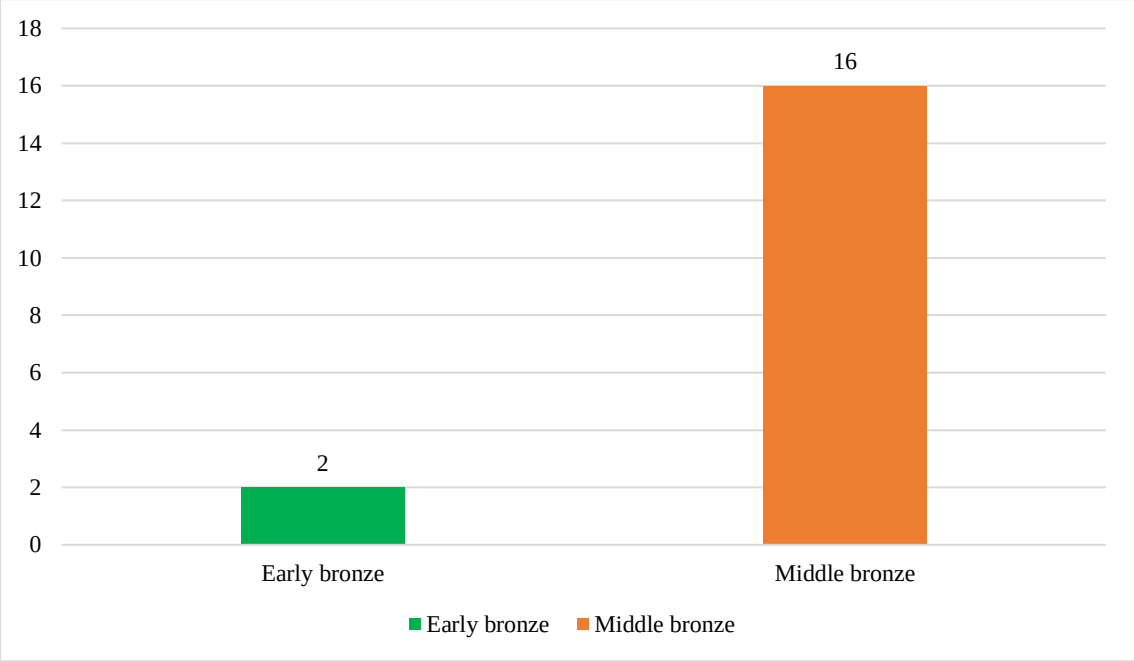

Diagram 55: Gates in the Upper Northern Levant during the EB and MB.

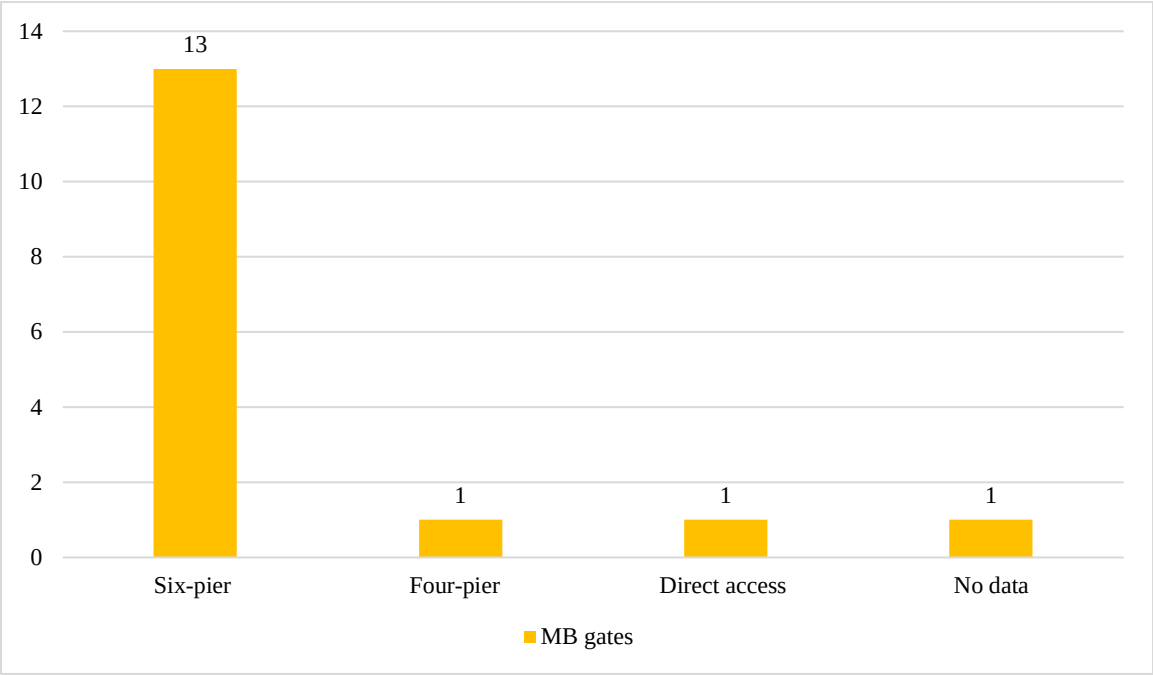

Diagram 56: Type of the gates in the Upper Northern Levant during the MB.

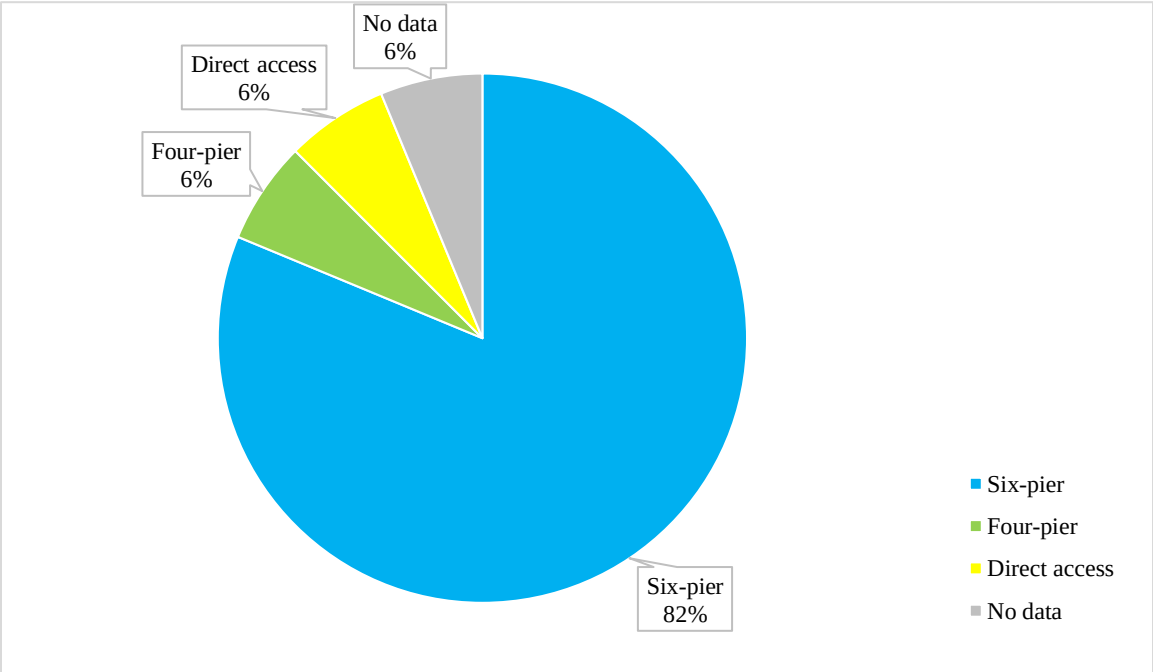

Diagram 57: Type of the gates in the Upper Northern Levant during the MB (by percentage).

4. Lower Northern Levant

We can notice that thirty-seven gates which have been detected in the Lower Northern Levant, twenty-six of them dated to the EB and eleven gates dated to the MB.

Regarding the type of the gates, we can observe that during the EB, three gates have a direct access type and four gates have an indirect access type. Furthermore, it is possible to see that, nineteen gates we don't have data about their types. While during the MB we have one gate was a six-pier type, two gates have an indirect access type, one gate was a direct axis type and seven gates we don't have data about their types.

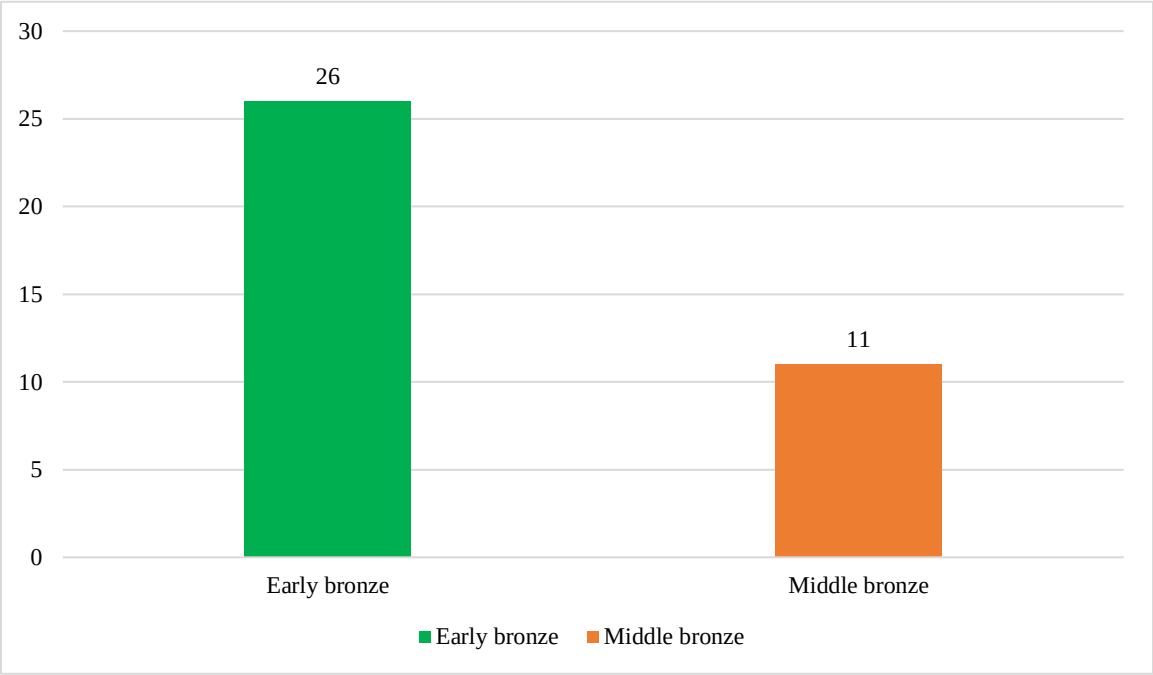

Diagram 58: Gates in the Lower Northern Levant during the EB and MB.

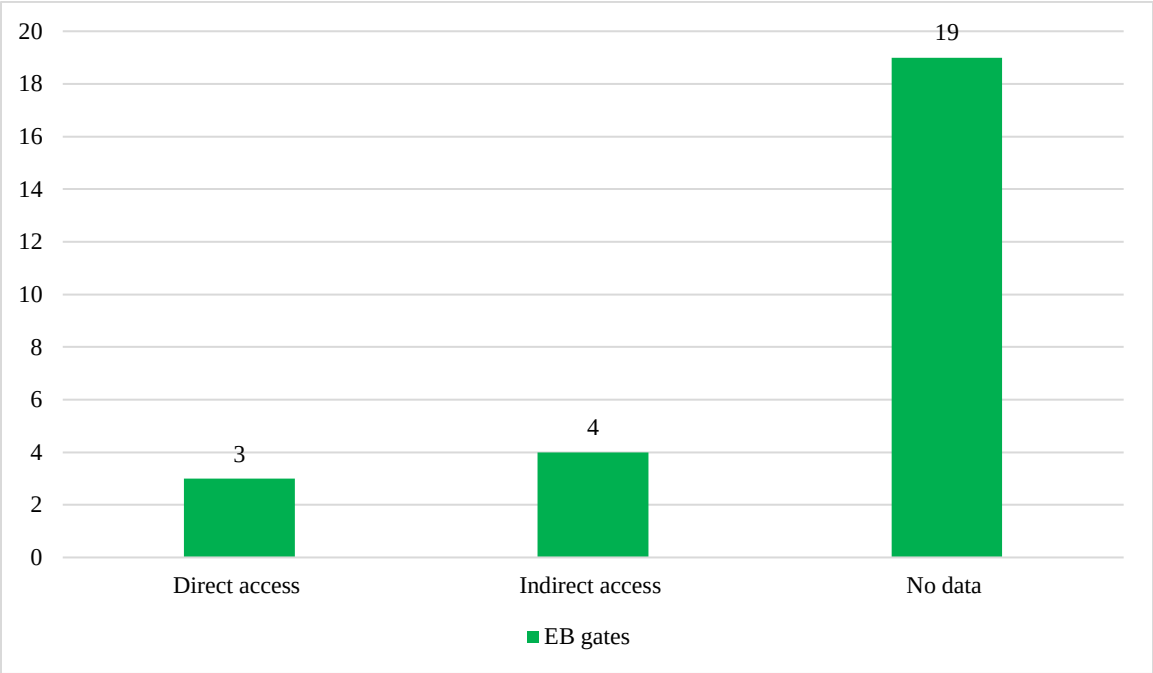

Diagram 59: Type of the gates in the Lower Northern Levant during the EB.

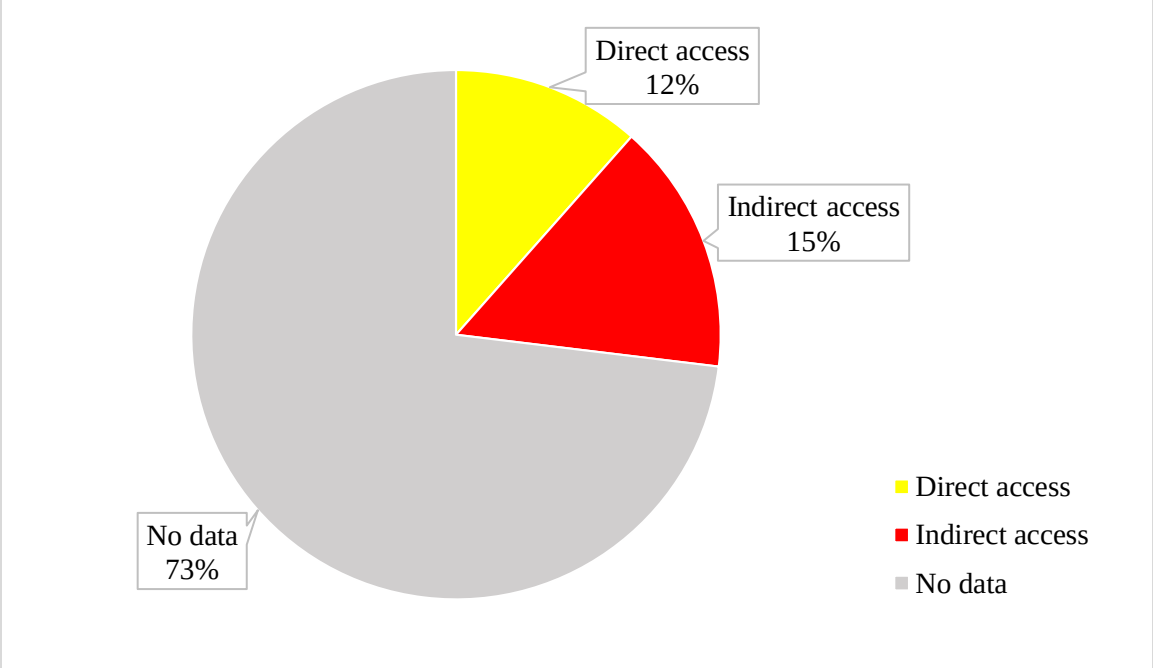

Diagram 60: Type of the gates in the Lower Northern Levant during the EB (by percentage).

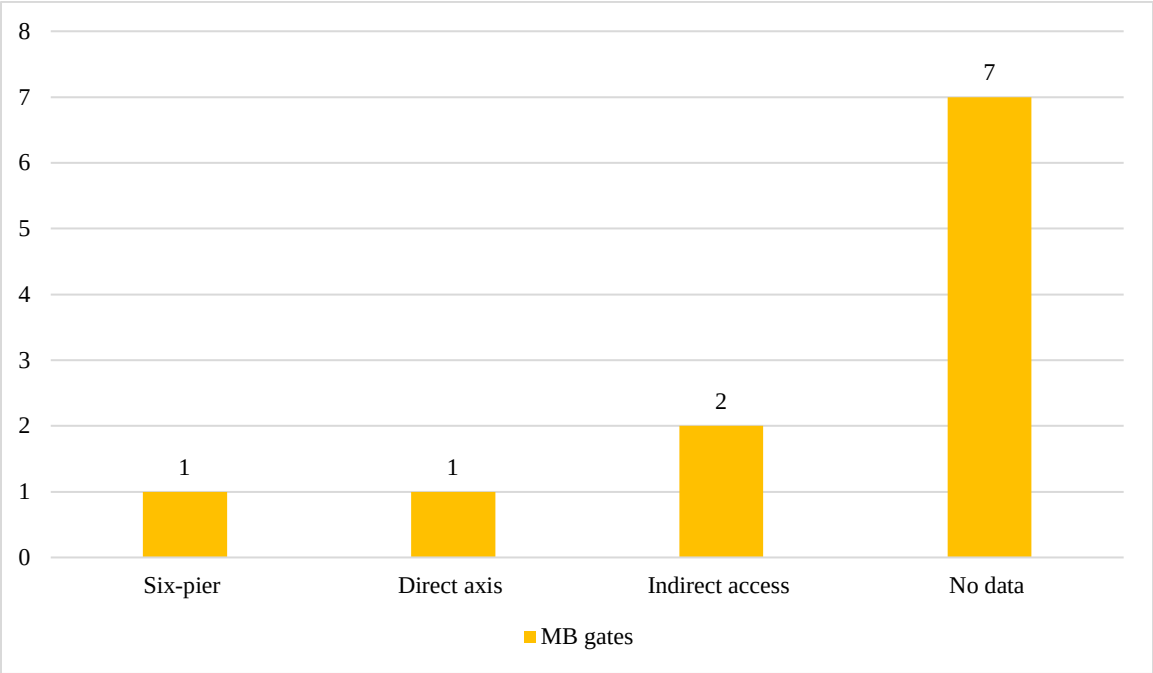

Diagram 61: Type of the gates in the Lower Northern Levant during the MB.

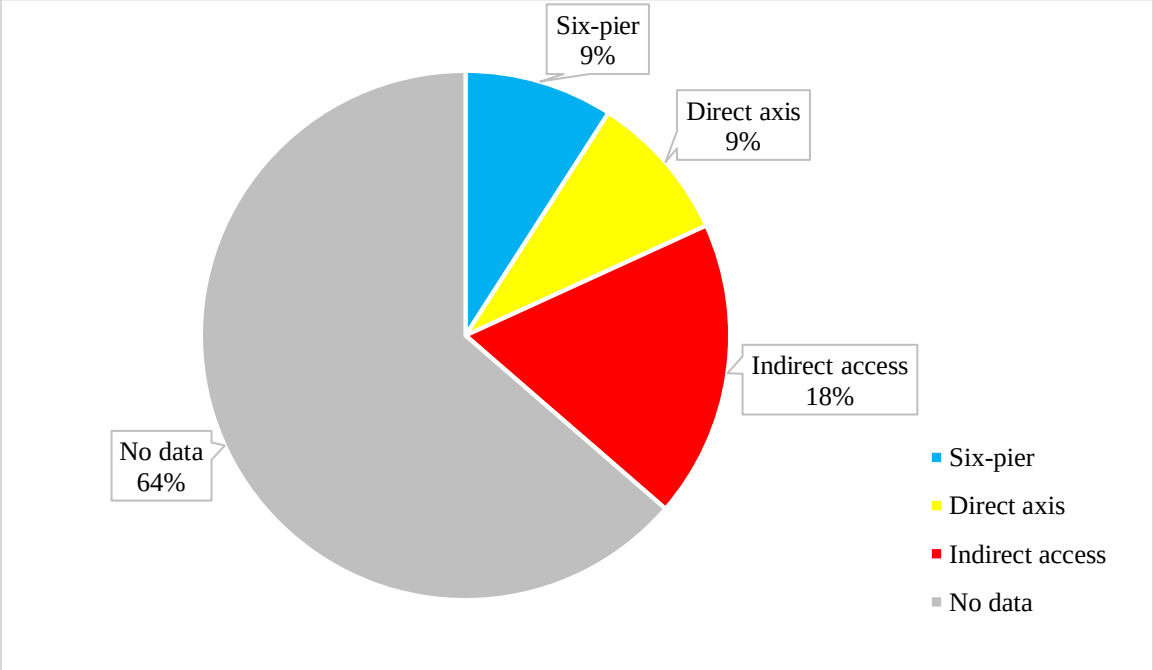

Diagram 62: Type of the gates in the Lower Northern Levant during the MB (by percentage).

Table 17: Gates in the Syrian Jazirah.

Site	Type of the gate	Dimensions	Dimensions of the entrance	Dimensions of the Passage	Period	location	Building materials	Reinforcement elements
Bderi	Direct access	/	/	3 m wide.	EB I	The Lower City, southern side, level 25.	/	Tower.
Beydar / Nabada	Complex	15 m in north south - 7m west to east.	/	/	EB II- III	The Upper City, north east side.	Mudbricks.	Buttresses.
Leilan / Šekhna/Šubat-Enlil	Complex	/	/	/	EB III	The Lower City.	Mudbricks?	/
Mozan / Urkesh	Direct access	/	20 m wide?	/	EB III	The Lower City, south-eastern side.	/	Two towers.

Table 18: Gates in the Euphrates region.

Site	Type of the gate	Dimensions	Dimensions of the entrance	Dimensions of the Passage	Period	location	Building materials	Reinforcement elements
el-'Abd	Direct access	/	/	/	EB	The Lower City, northeast side, Sq 18/27 and 19/27.	/	/

Habouba Kabira	Direct access	/	1 m wide.	/	EB	The Lower City, eastern side, layer 6.	Mudbricks?	/
	Direct access	/	1.6 m wide.	/	EB	The Lower City, eastern side, Layer 10.	Mudbricks (24-27 × 45-50 × 9-10 cm)	Two buttresses.
	Direct access	/	2.6 to 1.6 m wide.	/	EB	The Lower City, eastern side, Layer 11.	Mudbricks?	
	Direct access	/	3.6 m wide.	/	EB	The Lower City, eastern side, layer 14.	Mudbricks?	/
	Small door for people, Direct access	/	1 m wide.	/	EB	The Lower City, eastern side, layer 14.	Mudbricks?	/
Halawa A	Indirect access	The gate's room 6 ×8 m.	2.5 wide.	4.5 m long.	EB	The Lower City, northern side, Sq Q.7e, layer 3.	Mudbricks	Two buttresses.
Jerablus Tahtani	Direct access passage (990)	/	/	20 m long.	EB	The Upper City, area II.	/	/
	Direct access passage (2700)	/	/	3 m wide.	EB	The Upper City, area II.	/	Two towers.
	Direct access entrance (2746) with	/	/	2.6 ×1.8.	EB	The Upper City, area I.	/	/

	passage (2622)							
Selenkahiye	Direct access	/	/	3 m wide, 10 m long.	EB IV	The Lower City, area D, Sq Q3.	/	Two towers.
Bi'a / Tuttul	Indirect access	20 × 20 m The gate's room 5.0 × 5.50 m.	/	3.0 m wide, 20 m long.	EB	The Lower City, western side.	Mudbricks and stones.	Two buttresses.
Jerablus/ Carchemish	/	/	/	/	MB	The Upper City, southern side, area D.	/	/
el-Qitar	Direct access	/	/	4.50 - 5.00 m wide.	MB	The Lower City, eastern side, area X.	/	Two towers.
	Indirect access	/	/	5 -5.5 m wide, 23 m long.	MB	The Upper City, western side, area Y.	/	/
	Four-pier type	/	/	2.20 m wide.	MB	The Lower City, western side, area Y.	/	/

Table 19: Gates in the Upper Northern Levant.

Site	Type of the gate	Dimensions	Dimensions of the Entrance	Dimensions of the Passage	Period	location	Building materials	Reinforcement elements
al-Rawda	Complex	7 m wide - 30 m from east to west.	/	3 m wide.	EB	The Lower City, northern side, sectors 2b.	Mudbricks and stones.	Two towers and buttresses.
	Complex	/	/	/	EB	The Lower City, eastern side, sector 2C4.	Mudbricks and stones.	Two towers.
'Atchana / Alalakh	Six-pier type	23 m wide, 17 m deep.	/	2.75 m wide, 17 m long.	MB	The Lower City, north-eastern side, level VII.	Mudbricks on limestone.	Tower.
Mardikh / Ebla	Six-pier gate type with an advanced gate, one intermediate court	six-pier gate more than 21 m long, the intermediate court 16 m long, and the advanced gate 10 long had an overall length slightly less than 50 m.	/	3 m wide, 21 long.	MB	The Lower City, south-western side, area A, Damascus Gate.	Mudbricks and limestones.	Tower.
	Six-pier type?	/	/	/	MB	The Lower City, northern side, area DD, Aleppo Gate.	Mudbricks and limestones.	Semi-circular tower.
	Six-pier type	/	/	3.20 m wide, 17 m long.	MB	The Lower City, north- eastern side, area BB, Euphrates Gate.	Mudbricks and limestones.	/

	Six-pier type?	/	/	/	MB	The Lower City, south- eastern side, area L, Qatna Gate.	Mudbricks and limestones.	/
Mishrifeh / Qatna	Six-pier type	70 m long.	/	4.18 m wide, 16 m long.	MB	The Lower City, western side.	/	/
	Six-pier type	/	/	3.5 m wide, 22 m long.	MB	The Lower City, eastern side.	/	/
	Six-pier type?	/	/	/	MB	The Lower City, northern side.	/	/
	Six-pier type?	/	/	/	MB	The Lower City, southern side.	/	/
Touqan	Six-pier type	/	/	2.6 m wide, 14 m long.	MB I	The Lower City, north-eastern side, gate A.	Mudbricks (38×38 ×12cm) and limestones.	/
	Six-pier type	/	/	2.7 m wide, 14.60 m long.	MB I	The Lower City, south-eastern side, gate F.	/	/
	Six-pier type?	/	/	/	MB I	The Lower City, south- western side.	/	/
Umm el-Marra	Six-pier type?	/	/	3 m wide, 7 m long.	MB	The Lower City, north- eastern side.	/	/

	Four-pier type	/	/	3 m wide.	MB	The Lower City, north- western side, area B.	/	/
	/	/	/	/	MB	The Lower City, southern side.	/	/
	Direct access	/	/	1.2-1.4 m wide.	MB	The Upper City, northern side.	/	Two towers.

Table 20: Gates in the Lower Northern Levant.

Site	Type of the gate	Dimensions	Dimensions of the Entrance	Dimensions of the Passage	Period	location	Building materials	Reinforcement elements
Byblos/ Gubla	Indirect access	/	/	4.8 m wide, 18 m long.	EB III-IVA, reused during MB	The Lower City, north-western side, Port gate.	Carved in the rock.	/
	Direct access	4.80 m wide, 30 m long.	/	4.80 m wide, 18.00 m long.	EB III-IVA, reused during MB	The Lower City, north-eastern side, Land gate.	/	/
	/	/	/	/	EB	The Lower City, south eastern side.	/	/
	Direct access	/	/	/	EB II	The Lower City, northern side.	/	/
Labwe	Indirect access	The gate's room 3.60 × 2 m.	1.90 m wide.	/	EB II - III	The Lower City, northern side.	/	/

	Indirect access	/	1.5 m wide.	/	EB II - III	The Lower City, south-western side.	/	Tower.
	Indirect access	The gate's hall 7.50× 3.50 m.	/	2.50 m wide.	EB II - III	The Lower City, eastern side.	/	Tower.
Khirbet el-Umbashi	Direct access	2 m wide.	/	/	EB	The Lower City, south-eastern side.	/	Two towers.
Sh'airat	/	3 m wide.	/	/	EB IV	The Upper City, 8 gates.	/	/
	/	/	/	/	EB IV	The Lower City, 10 gates.	/	Two buttresses.
al-Ash'ari	Six-pier gate	/	/	/	MB	The Lower City, southern side.	/	/
Beirut /Biruta	Indirect access	2.10 m wide.	/	2.90 m wide.	MB	Bey 003, complex II.	/	/
Debbeh	/	/	/	4.20 m wide, 14 m long.	MB	The Lower City, north-eastern.	/	/
Sefinat-Nouh	/	/	/	/	MB	The Lower City, north-eastern.	/	/
	/	/	/	/	MB	The Lower City, north western.	/	/
Deir Khabiye	/	/	/	/	MB	The Lower City, northern side.	/	/

/	/	/	/	MB	The Lower City, southern side.	/	/
/	/	/	/	MB	The Lower City, western side.	/	/
/	/	/	/	MB	The Lower City, eastern side.	/	/

F. FORTS AND FORTRESSES

We can observe that nine forts and four fortresses have been studied, (Fig. 160), they have been detected in three regions.

1. Euphrates region.
2. Upper Northern Levant.
3. Lower Northern Levant.

1. Euphrates region

One can see that two forts have been detected in the Euphrates region, one dates back to the EB and the other dates back to the MB, both have been built of mudbricks.

2. Upper Northern Levant

It is possible to observe that three forts and four fortresses have been detected in the Upper Northern Levant, all of them dated to the MB.

The biggest fort has been found in Tell Mardikh / Ebla (the Western Fort in area V), its size more than $2{,}400^2$ and the biggest fortress has also been found in Tell Mardikh / Ebla (Fortress M), it measured 27 by 13m.

3. Lower Northern Levant

We can notice, that four forts have been detected in the Lower Northern Levant, three of them dated to the MB and one fort dated to the EB, we can see that the biggest one has been found in Tell al-Sür, it measured 100 × 75 m.

Table 21: Fort and fortress in the Euphrates region.

Site	Shape	period	Dimensions	Building materials	Location	Reinforcement elements
Jerablus Tahtani	/	EB	Walls; between 2 to 4.4 m wide.	Mould-made, very compact, yellow bricks.	The Upper City, area I - II – III.	Towers.
Qala'at Halwanji	/	MB	/	Grey mudbricks.	The Upper City, S 16, S 03-4/S, and S 09.	/

Table 22: Fort and fortress in the Upper Northern Levant.

Site	Shape	period	Dimensions	Building materials	Location	Reinforcement elements
'Atchana / Alalakh	/	MB	Walls; 2.10 m wide.	Mudbricks.	The Lower City, north-west corner, level VII.	/
Mardikh / Ebla	Rectangular	MB II	Structure; 70 m long on the SSW-NNE axis, the overall area of more than 2,400^2.	Mudbricks.	The Lower City, western rampart, area V, western fort.	/
	Rectangular	MB II	Structure; 10 × 26 m. Walls; 2 -3 m wide.	Mudbricks.	The Lower City, western rampart, area V, in western fort, fortress V.	/
	Rectangular	MB II	Structure; 25 × 70 m.	Mudbricks.	The Lower City, northern side, area AA, northern fort.	/

	Rectangular	MB II	/	Mudbricks.	The Lower City, northern side, area AA, in northern fort, fortress AA.	/
	/	MB II	/	Mudbricks.	The Lower City, middle of the eastern rampart, area EE, fortress EE.	/
	Rectangular	MB II	Structure; 13 × 27 m.	Mudbricks.	The Lower City, eastern rampart, area M, fortress M.	/

Table 23: Fort and fortress in the Lower Northern Levant.

Site	Shape	period	Dimensions	Building materials	Location	Reinforcement elements
el-Burak	Rectangular	MB	Structure; 31.5 × 41.6 m. Wall; 1.2 - 2 - 2.4 m wide.	mudbricks, (40×40×12cm).	The Upper City, area 1.	Towers.
al-Sür	Rectangular	MB	Structure; 100 × 75 m.	/	The Lower City, south-east corner.	/
	Roughly square	MB	Structure; 100 × 90 m.	/	The Lower City, northern part.	/
Khirbet el-Umbashi	Rectangular	EB I-II	Structure; 19 m long and 15 m wide, with wide walls of 2.40 m preserved up to 4.50 m high to the west.	/	The Lower City, south-west sector, Citadel VS3.07.	/

G. DITCHES

We have studied thirteen ditches, which have been detected in Syrian Jazirah, the Euphrates region, the Upper and Lower Northern Levant; seven of them dated to the Early Bronze Age while six ditches dated to the Middle Bronze Age, (Fig. 160-161).

One can see, that two ditches have been detected in Syrian Jazirah, they dated to the EB, while four have been detected in the Euphrates region; two of them dated to the EB and two dated to the MB. Furthermore, we can observe, that three ditches have been detected in the Upper Northern Levant; one of them dated to the EB and two dated to the MB, and four ditches have been detected in the Lower Northern Levant, all of them dated to the MB.

Moreover, it is possible to recognise, that the deepest ditch has been detected in Carchemish and Tell Mishrifeh / Qatna; their ditches reached 5 m deep and dated to the MB, while the widest one could be identified in Tell Mishrifeh / Qatna, it reached 100 m wide and dated to the MB.

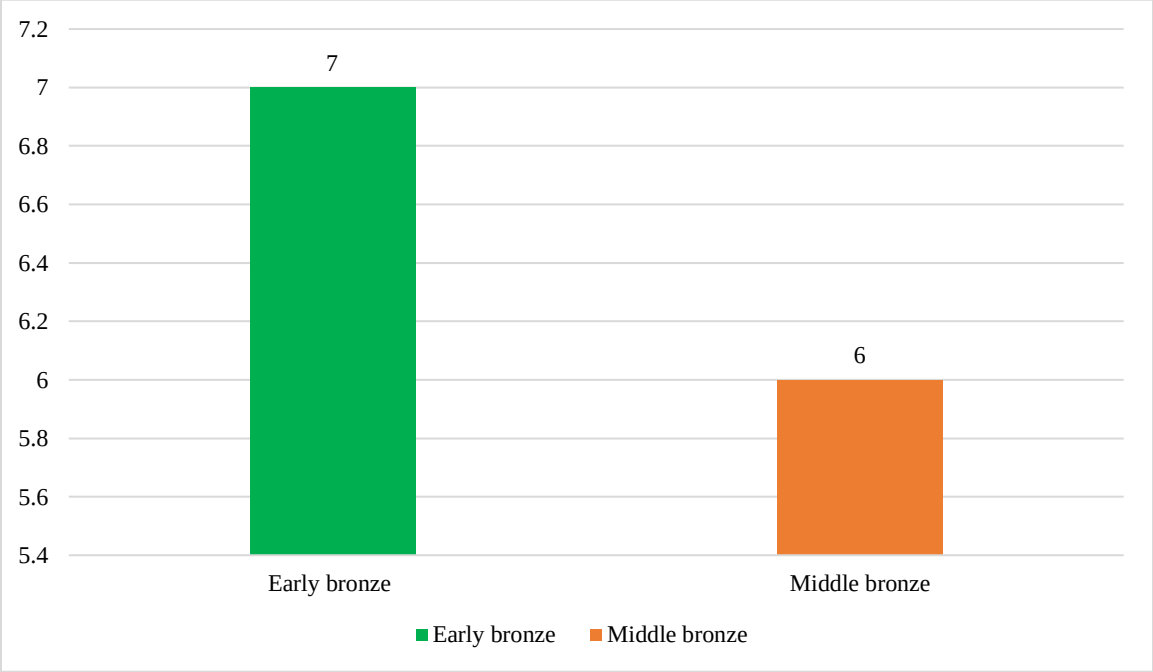

Diagram 63: Ditches during the EB and MB.

Table 24: The ditches in Syrian Jazirah.

Site	Depth	Length	Width	Period	Building materials	Location
Tell Beydar / Nabada	/	/	/	EB II	/	The Upper City.
Mozan / Urkesh	/	/	/	EB I	/	The Upper City.

Table 25: The ditches in the Euphrates region.

Site	Depth	Length	Width	Period	Building materials	Location
Selenkahiye	3 m.	/	9 m.	EB IV	/	The Lower City, Sq N 25-26.
Titriş Höyük	3.5 m.	14 m.	/	Late EB	/	The Lower City.
Jerablus/Carchemish	5 m.	/	/	MB	/	The Upper City.
el-Qitar	/	/	/	MB	/	The Lower City.

Table 26: The ditches in the Upper Northern Levant.

Site	Depth	Length	Width	Period	Building materials	Location
Mishrifeh / Qatna	5 m.	/	70-100 m.	MB	/	The Lower City.
al-Rawda	1.5 m.	/	8 m.	EB IVA	/	The Lower City.
	3 m?	/	16 m?	EB IVA	/	The Lower City.
Umm el-Marra	/	/	/	EB	Cut into bed- rock.	The Lower City.

Table 27: The ditches in the Lower Northern Levant.

Site	Depth	Length	Width	Period	Building materials	Location
Nebi Mend / Kadesh	/	/	40 m.	MB	/	The Lower City.
Sefinat-Nouh	/	/	/	MB	/	The Lower City.
al-Sür	/	/	8 to 35 m.	MB	/	The Lower City.

CHAPTER THREE

THE ASPECTS OF THE DEFENSIVE ELEMENTS DURING THE EB AND MB

This chapter attempts to answer these following questions: How have the defensive elements worked together to protect the cities? Is there any correlation between the size of the city and the width of the fortification wall or rampart or the kind of defensive system? What are the features and aspects of the fortification structure in the four areas? What are the differences between the defensive system in these regions of the study? How many cities have continued fortified from EB to MB? Why have some cities fortified and reinforced by the defensive elements more than others?

A. SAMPLES OF THE FORTIFIED CITIES

In this part, we are going to see how the defensive elements have been used in different ways from a city to another, moreover, how these elements were working together as one defensive unit to protect the cities against the invasion. One can observe that the cities have not fortified in the same way or with the same defensive elements; where some cities have been fortified only by a rampart, and the others besides of the rampart have been fortified by the fortification walls, which have been reinforced sometimes by the towers and the fortress.

All those defensive elements were part of a multifaceted defensive strategy. The strategy was intended to defend against each of the means known for entering the city.[782] we should mention four main modes existed by which a town's defences could be overcome, These included the escalade (climbing over the walls), going through the gate or a breach in the fortification walls, tunnelling under the defences, or employing a ruse. [783]

In **Jazirah**, we can observe that, **Tell Chuera** was fortified by the inner and the outer fortification walls, which follow a more or less exact circle, where the upper city was already fortified in the settlement's foundation phase during EBI while during EB II, the street system of the Upper city was laid out, orientated radially towards the centre (area K).[784]

We can notice that the inner fortification wall was measured 1.85 m wide during the EB I and later during the EB II, this wall has been improved to reach 4 m wide, which was protecting the most important public buildings (sacred district, temple and palace).

782 Burke 2008: 10.
783 Burke 2008: 37.
784 Meyer 2014: 19.

The city during EB IV had definitely been built according to a comprehensive plan, a central axis runs through all of the upper city, along which lie the most important public buildings, while the lower city was mainly a place for production and for storage keeping (area W), and less for housing.[785] the outer fortification wall of the city, was measured 5.5-8 m wide during the EB III, later during the EB IVA, this wall was reinforced on a massive scale in some places, and the outer wall in those places has been expanded to 9-12 m wide.

Moreover, during the EB IVA, we can see a massive rampart was banked up against the old phase (3) of the city wall, which has been built of gravel, mudbrick and loam and covered by a glacis in area P, has been reinforced by a 1.2 m wide mudbrick revetment wall which has been built in front of it. Furthermore, the city has been reinforced by a structure (casemate wall) consisting of two rooms were separated by a mudbrick wall, which measured 6.5 m wide and 2.5 m high, are completely filled with gravel. Also, the lower city has been reinforced by bastions during the EB IVA. That means the attackers must go through two defensive lines to conquer the city.

The outer defensive line was well protected by the bastions, the fortification walls and the rampart, which created the difficult to penetrate the city through them, but in the same time, we can see that 7 gaps measured 7 m wide have pierced the fortification structure they are the locations of the supposed gates, which were considered the weak points where the enemy could attack the city.

What can we notice in the **Euphrates region**, that **Tell Halawa A** during the EB, has been fortified by varied defensive elements, they have been worked together to protect the city. Where that the structure of the defensive system in layer 3 was consisted of: a mudbrick fortification wall measured 2 m wide, which has been reinforced by a defensive corridor measured between 2-5 m wide, and a retaining wall measured 0.8 m wide, which has been erected against of the defensive corridor. Moreover, all the previous defensive elements have been reinforced by a rampart, which in its turn has been covered by a glacis, as illustrated in (Fig. 67).

We can observe that this defensive system was surrounded the entire city except for the south where the river has created a natural border. Furthermore, we can notice that this structure has been reinforced in some points by massive towers some of them measured 5 × 4.5 m or 5.00 × 2.50 m and it has been pierced by one gate measured 2.5 m wide and 4.5 m long, which has been flanked by two buttresses.

This defensive system has worked as one unit, so, when the attackers want to penetrate the city, they must go through it. Firstly they must penetrate the rampart, which has created a slope, that is hard to climb and amount of soil is hard to penetrate by the battering ram and the attackers, without being exposed to defenders arrows who were stationed in the towers and the defensive corridor, which created a protected and fortified space for the defenders, that helped them to move safely and attack the enemy through it. So the greatest threat to the attacking force would have been from

785 Meyer 2014: 19.

arrows and missiles fired from the defensive corridor. While the rampart and the retaining wall have protected them from enemy arrows, furthermore we can see, that the towers have provided more vision for observing the enemy's movement, and good space to attack them. So, we can say that the only weak point in this fortification structure is the gate, which was consisted of the passage and room, which could be closed by slabs.

Furthermore, we can observe that the lower structure of the defensive system, in **Tell Selenkahiye** (Fig. 21) was heterogeneous during the EB IV, where it has consisted of a mudbrick fortification wall, which was varied in the width from a sector to another (between 1.8-3.6 m wide). Part of it has been reinforced by a rampart, which has been protected by a glacis is made of pebble layer and by a thin retaining wall (D) (Fig. 68). Moreover, we can see that the fortification wall has been reinforced by the bastions (two of them have been detected), one of them measured 10 × 7 m and the other measured 5 ×5 m. Besides, two square towers have flanked the gate, which measured 3 m wide and 10 m long. Also, we can notice that the city was surrounded by a ditch measured 3 m deep and 9 m wide.

Comparison with the defensive system in Tell Halawa A, which has been fortified by a defensive corridor, we have seen, that the city of Tell Selenkahiye has been surrounded by a ditch. Which played an important role to protect the city, it forced the attackers to go beyond of it until they can reach the wall, and the rampart, which has been reinforced by bigger bastions than the towers in Tell Halawa A.

Moreover, we can observe that both of the lower and upper city **Tell es-Sweyhat** (Fig. 15), was fortified during the late third millennium. Where many defensive elements have been used to fortify the city, it is possible to see, that the lower city was fortified by a mudbrick fortification wall, which has been reinforced by an earthen rampart measured 18.50 m wide. The rampart was faced on the outside with a sloping stone revetment wall and has been reinforced from inside by1.15 m wide retaining wall. Moreover, we can see that the north-western side of the lower city was fortified by a casemate wall, which its exterior wall measured 1.8 m wide and the interior dividing wall 90 cm wide. While the upper city was fortified by a fortification wall, which measured 2.5 m wide, it has been reinforced by a bastion measured 7 m wide, (just one has been detected) and buttresses.

Until the attackers could conquer the city, they must go through two defensive lines; the first one is 18.5 m wide rampart, which has been made of the soil and reinforced by the stone revetment that is sloping away at an angle of about 38°, which protected the rampart against the penetration. The second is the inner fortification wall, which played an important role to protect the upper city and the elite class.

In the **Lower Northern Levant**, one can notice that the city of **Khirbet el-Umbashi** during the EB I-II, was protected by a complex fortification structure (Fig. 23). Which consists of heterogeneous fortification walls, their width measured between 1 to 5 m in the north and from 5-15 m in the south; these walls have been built of stones. Furthermore, the north-eastern corner of

the city has been fortified by a rampart, which has been built of the clay mixed with pebbles and its width reach 17 m. Besides of that, the city has been reinforced at least by 7 bastions and towers, which were associated with the rampart and the fortification wall; they were varying in size between 10 × 11 m until 25 ×8.50 m.

Moreover, two towers have flanked the southern city gate which measured 2.5 m wide, besides we can notice, that a quadrangular construction, which has been erected in the north of the south-west sector in the lower city, it measured 19 m long and 15 m wide, has called (the citadel- fort) and it has protected this part of the city.

So, until the attackers could reach the wall, they must exceed the firepower, which has provided by the huge size bastions and towers. They played an important role to protect the city, they have reduced the dead zones and provided to defenders more vision for observing the enemy's movement, and good fortified space to attack them and protect the wall against the penetration. It is possible to see that the city without bastions and towers could have many dead zones, where the enemy could reach the wall without to be observed by the defenders, (Fig. 121-122).

Furthermore, the cities during the MB were strongly fortified, as we have seen, they have been used the huge ramparts and the fortresses to protect themselves more than cities during the EB, that could be observed in the **Upper Northern Levant;** where the lower city of **Tell Mardikh** during the MB, was strongly fortified by a huge freestanding rampart measured between 40-60 m wide at its base and 22 m high (Fig. 27-28). It was reinforced by a core wall (the EB fortification wall) from inside, and its outer and inner bases were protected by a stone escarp (revetment wall). The outer escarps were possibly quite steep, in order to prevent the rampart from being climbed too easily.

Furthermore, we can see, the rampart has been reinforced by two forts; the western one measured 70 m long, and the northern one measured 70 m long by 25 m wide. That was protected the defenders. Also, the forts have created interruptions and deviations, particularly in the long sides of the rampart. While at least a part of the forts was built on it and protruded to outside, became possible from the protruding the south-west wing and the tower-arsenal in the north-west wing of the western fort, to easily check respectively nearly 200 m to the south and 250 m the north of the outer foot of the rampart.

In addition the rampart has been reinforced by 4 fortresses one of them fortress (V), which is located in the western fort, and measured 26 by 10 m, and the other one is located in northern fort, besides two other fortresses were situated in the east-south side of the rampart measured 27 by 13 m and the east-northern side of the rampart.

Moreover, it is possible to observe that; the rampart has been pierced by 4 gates (six-pier gate type), which are located on the north-west, the north-east, the south-east, and the south-west side of it,

the average width of their entrances measured 3 m. Both the north-west and the north-east gates have been reinforced by a tower.

In addition to the previous defensive elements, the city has been fortified by an outer rampart, which is situated in the eastern and the southern side out of the lower city. It measured 40-60 m at the base. Furthermore, the upper city was fortified by a mudbrick fortification wall, which protected the acropolis and the administration buildings.

Until the attackers could conquer the city, they must penetrate or climb the huge wide rampart, without being exposed to defenders arrows, who were stationed in forts and fortresses. One can recognise that the eastern rampart is less fortified than the western one because the city in the east was facing to Yamhad, which was an ally of it and the Ebla kings have attested recognising the authority of Yamhad during the MB II.[786] So, the city didn't expect to be attacked from the east while we can see that the western rampart was strongly fortified, by two huge forts.

Furthermore, we have four gates considered the weak points in the rampart, but it is possible to see that the gate (A) has indirect axis to the city, that making it difficult to penetrate while the other gates have direct axes, which were considered easy to be penetrated.

We should mention, that the defensive elements have not built in the same time, where the rampart was built at the very beginning Middle Bronze I, while the forts as well as the fortresses, were probably built around the end of the1850 BC or at the beginning of the 1800 BC, Middle Bronze II.[787]

786 Liverani 2014: 234.
787 Matthiae 2002: 49-51. / Peyronel 2000: 1354.

B. CORRELATION BETWEEN THE SIZE OF SETTLEMENT AND THE DIMENSIONS AND THE KIND OF THE DEFENSIVE ELEMENTS.

As we had mentioned before, that the cities were fortified by varying defensive elements, where some cities have a complex fortification structure consists of varied defensive elements, and the others have a simple fortification structure. Furthermore, the width of the ramparts and fortification walls was varying from city to another and from period to another. So, we should ask; is there a connection between the size of the city and the width of the fortification structures? Or the strength of the defensive systems?

By another word can we say that the bigger and huge cities have a stronger and a better defensive system (consist of many defensive elements) than the smaller cities! Until we can answer these questions, we should divide the size of the settlements into five groups:

1. Very small cities: between 0.1- 5 ha.
2. Small cities: between 5.1 – 15 ha.
3. Medium-size cities: between 15.1-40 ha.
4. Large cities: between 40.1 -80 ha.
5. Huge cities: over than 80.1 ha.

Early Bronze Age

1. Very small cities – between 0.1- 5 ha

That could be observed in **Jazirah**, where the main mound of **Tell** '**Atij**, covers an area 0.6 ha (Fig. 52), which is considered the second smallest settlement in the entire regions of the study,[788] this mound has been fortified by a 2.5 m wide fortification wall. While we can see, that **Tell Rad Shaqrah** (Fig. 17) covers an area 1.3 ha,[789] it has been fortified by a 10 m wide fortification structure consists of a rampart, a 2-3.9 m wide fortification wall, a revetment wall and a glacis. Moreover, it is possible to notice, that **Tell Kharab Sayyar** (Fig. 49) covers an area around 2.5 ha,[790] it has been fortified by a 3.25 m wide mudbrick wall and one tower. While **Knedig** (Fig. 48) covers an area 3 ha,[791] it has been fortified by a 2.4 m wide mudbrick wall, which has been reinforced by a glacis.

More evidence about the very small cities could be identified in the **Euphrates region**, where **Tell Jerablus Tahtani** covers an area 0.03 ha around 300 m^2 (Fig. 10). It is considered the smallest fortified settlement during the EB in the entire regions of the study, its defensive system consists

788 Fortin 1998: 17. / Fortin, cooper 1994: 34.
789 Bielinski 1992: 77.
790 Hempelmann 2013: 21.
791 Brandt et al. 2005: 1.

of a rampart, a glacis, a tower, a casemate wall and a fort, the fort's walls, measured 4.4 m wide in area I. While, we can see that **Tell Halawa B** (Fig. 96) covers an area 1 ha,[792] it has been fortified by casemate walls. Also, **Tell Kannas** (Fig. 46) covers an area 1 ha, while it has been fortified by a 1-2 m wide fortification wall, which its turn has been reinforced by buttresses and one tower. One can observe that **Tell el-'Abd** (Fig. 69), covers an area 2.5 ha,[793] its defensive system consists of a gate, a glacis and a fortification wall measured 2.50 m wide during the EB III, and during the EB IV, it measured 10-12 m. While **Habouba Kabira** (Fig. 65) covers an area 3.6 ha,[794] its defensive system consists of an outer wall measured between 1-3 m wide, which has been reinforced by buttresses and one gate at least has pierced it.

One can see, in **Upper Northern Levant** that **Tell Abou Danne** (Fig. 45) covers an area 4.9 ha,[795] fortified by a 3 m wide fortification wall.

Furthermore, in the **Lower Northern Levant**, it is possible to see, that **Tell Labwe** (Fig. 24) covers an area around 3.5 ha,[796] it has been fortified by a stone rampart, which has been reinforced by towers and bastions, 3 gates and in some places by a revetment wall. While **Khirbet el-Umbashi** (Fig. 23) covers an area about 10 km^2 around 1000 ha,[797] and the walled city during the EB covers an area 4 ha, it has been fortified by many towers, bastions, stone fortification walls, which measured between 1 to 5 m wide in the north and from 5-15 m wide in the south, a fort, a rampart and one gate. Moreover, **Tell 'Arqa**, covers an area 4.5 ha,[798]it has been fortified by the outer walls of the houses.

2. Small cities between 5.1 – 15 ha

That could be noticed in **Jazirah**, where **Tell Bderi** (Fig. 53) covers an area 5-6 ha,[799] it has been fortified by a 4.8 m wide fortification structure consists of (a 2.8 m wide wall- a 1.72 m wide glacis) and one gate.

Moreover, in the **Euphrates region**, we can observe that **Tell Halawa A** (Fig. 18), covers an area 9.5-12 ha,[800] it has been fortified by a fortification wall measured 2 m wide, a defensive corridor, a gate with a room, towers, a retaining wall and a glacis. While **Tell Selenkahiye** (Fig. 21), covers an area 14 ha,[801] and it has been fortified by a fortification wall measured between 2.25 to 3.8 m wide, two bastions, a gate flanked by two towers, a ditch and a glacis.

792 Orthman 1981: 3.
793 Sconzo 2013: 15.
794 Heinrich et al. 1969: 41.
795 Tefnin 1983: 141.
796 Al-Maqdissi, Braemer 2006: 116.
797 Braemer et al.1993: 416.
798 Thalmann 2006: 7.
799 Pfälzner 1987b: 294.
800 Orthman 1981: 3.
801 Meijer 1979: 117.

One can see, in the **Lower Northern Levant**, that **Byblos** was widely opened on the sea (4 km from the north to the south and about 1500 m on the average width),[802] but from the (Fig. 22) we can notice, that the fortified city during the EB and MB measured around 300 by 350 m, that means it covers an around 8 ha. It has been fortified by the ramparts, stone walls, buttresses, glacis and gates. While **Tell al-Sür** (Fig. 13) covers an area of approximately 8,5[803] to 9.5 ha (94,822 m^2), [804] it has been fortified by a 4 m wide stone rampart, furthermore, it is possible to see, that **Khirbet al-Qasr** (Fig. 55) covers an area 11.27 ha,[805] its upper city has been fortified by a fortification wall as well as it lower city.

3. Medium-size cities between 15.1-40 ha

One can observe in **Jazirah**, that **Tell Beydar** (Fig. 47) covers an area 28 ha,[806] both the upper and lower city were fortified by a fortification wall; where the upper city has been fortified by a fortification wall and a glacis, has gone through 3 phases of construction (1.85 m -1.5 m 4.5 m wide) and one gate. While the lower city has been fortified by a 4.5 m wide fortification wall and a glacis.

In the **Euphrates region**, we can notice, that **Hammam et-Turkman** (Fig. 57) covers an area 19.5 ha,[807] it has been fortified by a fortification wall. As well as **Tell Banat** (Fig. 56), which covers an area 28 ha,[808] and **Tell Bi'a** (Fig. 20) covers an area 33 ha,[809] it has been fortified by a 6-6.5m wide (in the average) outer wall was reinforced by buttresses, a rampart, a glacis, and a gate.

Moreover, in the **Upper Northern Levant**, one can see, that **Tell al-Rawda** (Fig. 14) covers an area 16 ha, including the fortification structure.[810] The city has been fortified by a double fortification structure (a rampart and a fortification wall), double ditches, towers and gates, while, **Tell Umm el-Marra** (Fig. 12) covers an area 25 ha,[811] it has been fortified by a fortification wall, an earthen rampart, a glacis and a revetment wall.

4. Big cities between 40.1 -80 ha

That could be observed in **Jazirah**, where **Tell Chuera** (Fig. 19) covers an area 77 ha, both of the upper and lower city were fortified by a fortification structure; where the upper city has been

802 Lauffray 2008: 25.
803 380+280 / 2 = 330 m, this diameter 330/2 = 165 this radius, the size of the city is 165 by 165 by 3.14 = 85,486m2 around 8.5ha.
804 Mouamar 2013: 97.
805 Castel et al. 2014: 28.
806 Lebeau 1997: 9.
807 Van Loon 1983: 131.
808 Porter 1995: 125.
809 Strommenger 1975: 7.
810 Castel 2008: 6.
811 Ernest 2011: 1. / Schwartz et al. 2000: 420.

fortified by a fortification wall measured 1.85 -4.5 m wide, while the lower city has been fortified by a 5.5-12 m fortification wall, a rampart, a revetment wall and a glacis.

Furthermore, one can notice in the **Euphrates region**, that **Titriș Höyük** (Fig. 72), covers an area 43 ha,[812] it has been fortified just on the east by an outer wall measured 3-3.5 m wide, which in its turn has been reinforced by buttresses, a glacis and a ditch. **Tell es-Sweyhat** (Fig. 15), covers an area 45 ha,[813] it has been fortified by a 2.5 m wide fortification wall, an 18.50 m wide rampart, a sloping revetment wall, a retaining wall, a casemate wall and a tower.

More evidence about the big cities could be recognised in the **Upper Northern Levant**, where **Tell Mardikh** (Fig. 27), covers an area 56 ha,[814] it has been fortified by a 6 m wide fortification wall and 4 gates, and **Tilbeshar** (Fig. 44) covers an area 56 ha,[815] its upper city which covers an area 6 ha has been fortified by a 4 m wide fortification wall and a freestanding tower has been found in the lower city.

5. Huge cities over than 80.1 ha

One can see in **Jazirah**, that **Tell Leilan** covers an area 90 ha,[816] both of the upper and lower city were fortified by a fortification structure; where the upper city has been fortified by a 2.5 m wide fortification wall, while the lower city has been fortified by a 10 m wide rampart, 3 m and 1 m wide fortification walls, a casemate wall and a glacis. While **Tell Mozan** (Fig. 42-43), which is considered the hugest fortified settlement during the EB in the entire regions of the study, covers an area 135 ha,[817] both of the upper and lower city were fortified by a fortification structure; where the upper city has been fortified by an 8 m fortification wall, unfortunately, the fortification structure of the lower city has not been excavated.

In the **Euphrates region**, it is possible to notice, that **Kazane Höyük**, covers an area 100 ha,[818] (from (Fig. 54), it measured 800 by 1250 m) was surrounded by a city wall.

Furthermore, one can observe in **Lower Northern Levant**, that **Tell Sh'airat** (Fig. 11), which is considered the largest fortified settlement in the western part of Syria during the EB IVB. It covers 25 ha during the EB IV and with first extensions covers an area 96 ha and with the second one reaches to 130 ha, during the EB IVB.[819] It was protected by four stone ramparts; The first one measured 3 m wide, was pierced by 8 gates. The second one measured 4 m wide was reinforced by

812 Algaze et al. 1995: 15.
813 Zettler 1997: 3.
814 Mattiae 1965: 90 -91.
815 Kepinski 2010: 303.
816 Weiss 1991: 703.
817 Buccellati 1997: 60.
818 Creekmore 2010: 74.
819 Mouamar 2016: 74.

47 buttresses, was pierced by 10 gates. The third rampart measured 4 m wide. The fourth rampart measured 5 m wide.

Middle Bronze Age

1. Very small cities – between 0.1- 5 ha

That could be observed in **Jazirah**, where **Tell Mohamad Diab** (Fig. 87) specifically the hill A, covers an area of 2.28 ha, its dimensions are 190 × 120 m.[820] It has been fortified in the top by a 1,20-1,50 m wide fortification wall, which was enclosed an area 0.020 ha, and the lower part has been fortified by a 4.05 m wide fortification structure consists of two walls and a glacis is situated between of them.

Moreover, in the **Euphrates region**, we can see that**, Tell Hadidi** (Fig. 77) covers an area 1.8 ha,[821] it has been fortified by a 2-4 m wide fortification wall, and **Qala'at Halwanji** (Fig. 37) covers an area 5 ha, 200 × 200 m,[822] it has been fortified by a fortress, a rampart and casemate walls.

More evidence about the very small cities could be identified in the **Upper Northern Levant**, where **Tell Massin** (Fig. 82) covers an area 2 ha.[823] It has been fortified by a fortification wall and **Tell Khan Sheikhoun** (Fig. 83) covers an area 2.4 ha.[824] It has been fortified by a fortification wall. While we can notice that **Tell Abou Danne** covers an area 4.9 ha,[825] it has been fortified by a 2.10 m wide fortification wall with a defensive corridor, a retaining wall and a glacis, and in some places was reinforced by a casemate wall. Later the new wall has been reinforced by towers, and in the third phase, the city was protected by a 70 cm wide wall.

One can observe in the **Lower Northern Levant**, that **Tell el-Burak** (Fig. 155), which is considered the smallest fortified settlement during the MB in the entire regions of the study. It covers an area 1.3 ha,[826] on top of it, is a rectangular fortress and the mound was supported by a retaining wall and a stone-glacis. While **Tell Debbeh** (Fig. 36) covers an area 4 ha,[827] it has been fortified by a rampart, a glacis, a retaining wall and one gate, moreover, we can see that, **Tell 'Arqa** (Fig. 105) covers an area 4.5 ha,[828] it has been fortified by a casemate wall.

820 Nicolle 2006: 1.
821 Dornemann 1979b: 216.
822 Eidem 2013: 2.
823 Du Mesnil du Buisson 1935: 123.
824 Du Mesnil du Buisson 1932: 172.
825 Tefnin 1983: 141.
826 Peltenburg 2008: 149.
827 Braemer 1993: 158.
828 Thalmann. 2006: 7.

2. Small cities between 5.1 – 15 ha

It is possible to recognise in the **Euphrates region** that **Tell el-Qitar** (Fig. 80) covers an area 6 ha,[829] it has been fortified by a stone fortification wall and has been reinforced by a glacis and a revetment wall and one gate, which was flanked by the towers. While **Tell Meskene** / **Emar** (Fig. 78) covers an area 10 to 12 ha,[830] it has been fortified by a 3 m wide fortification wall.

Furthermore, we can see in the **Lower Northern Levant**, that **Kamid el-Loz** (Fig. 96) covers an area 5.5 ha,[831] it has been fortified by a 2 m wide fortification wall, a casemate wall and towers, moreover, **Deir Khabiye** (Fig. 86) covers an area 5.5 ha,[832]it has been fortified by a 3-3.5 m wide fortification wall. While **Tell al-Ash'ari** (Fig. 84) covers an area 8 ha,[833] it has been fortified by a fortification wall, which was reinforced by towers and a city gate. From (Fig. 22) we can see, **Byblos**, covers an area 8 ha, it has been fortified by two glacis were built against the EB walls. Furthermore, **Tell Kazel** (Fig. 85) covers an area 8.7 ha[834] it has been fortified by a 0.8 m wide fortification wall and a glacis, and **Tell es-Salihiyeh** (Fig. 38) covers an area 10 ha,[835] it has been fortified by a rampart and many fortification walls, and supported by a 1.90 m wide revetment wall. Moreover, it is possible to notice, that **Tell Nebi Mend** (Fig. 35) cover an area 22 ha,[836] it has been fortified by an 18 m wide rampart, a ditch and a casemate wall.

3. Medium-size cities between 15.1-40 ha

One can see in **Jazirah**, that **Tell Brak / Nagar** (Fig. 89), covers an area of over 40 ha,[837] it has been fortified by a fortification wall.

Furthermore, in the **Euphrates region**, we can observe, that **Tell Hammam et-Turkman** covers an area 19 ha,[838] it has been fortified by 3 fortification walls; The first one measured 7 m wide, the others measured 1 m and 1.5 m wide. While **Tell Bi'a** covers an area 33 ha,[839] it has been fortified by a 3.5 to 4.7 wide fortification wall.

More evidence about this size of settlements could be recognised in the **Upper Northern Levant**, where **Tell Gindaris** (Fig. 81) covers an area 20 ha, it has been fortified by an 8 m wide wall. While **Tell 'Atchana / Alalakh** (Fig. 39) covers an area 22 ha,[840] some parts of the city have been

829 Culican, Mcclellan 1983/84: 31.
830 Finkbeiner, Leisten 1999/00: 5-6.
831 Marfoe 1995: 99.
832 Von der Osten 1956: 13.
833 Kropp, Mohammad 2006: 130.
834 Bounni 1997: 275.
835 Von der Osten 1956: 15.
836 Parr 1983: 101.
837 Oates et al.1997: XVII.
838 Van Loon 1983: 131.
839 Strommenger 1975: 7.
840 Yener 2010: 1.

fortified by a 16 to 20 m wide rampart, which in it turn was reinforced by a glacis and the other parts were fortified by fortification walls or casemate walls, and the north-west sector was protected by a fort, furthermore one gate (six pier type) has pierced the fortification structure. Moreover, it is possible to notice, that **Tell Umm el-Marra** (Fig. 12) covers an area 25 ha,[841] the lower city has been fortified by a fortification wall, which measured in some places 7 m wide, a glacis and is pierced by three gates and the upper city has been fortified by a fortification wall measured 1.5 m wide and one gate was flanked by two towers. While **Tell Touqan** (Fig. 31) covers an area 26 ha,[842] it has been fortified by a massive rampart, towers and is pierced by three gates. Furthermore, we can see, that **Tell Afis** (Fig. 40) covers an area 28 ha,[843] both of the upper and lower city were fortified by a fortification structure; where the upper city has been fortified by a fortification wall measured 3-4 m wide, was reinforced by a rampart and a glacis and the lower city has been fortified by an 8 m wide casemate wall.

One can notice, in **Lower Northern Levant**, that **Tell Sefinat-Nouh** (Fig. 34) covers an area 18 ha,[844] it has been fortified by a rampart, a ditch and 2 gates, while **Tell al-Sür** (Fig. 33) covers an area 29 [845] to 32 ha,[846] it has been fortified by a rampart, a ditch and a fortress.

4. Big cities between 40.1 -80 ha

That could be recognised in the **Upper Northern Levant**, where **Tell Mardikh/Ebla** (Fig. 27), covers an area 56 ha,[847] it has been fortified by a 45 - 60 m wide rampart, which is pierced by four (six pier type) gates and it has been reinforced by at least two forts and four fortresses. While **Tell** '**Acharneh / Tunip** (Fig. 32), covers an area 70 ha, [848] it has been fortified by a 50 m wide rampart, a glacis. Moreover, we can see that **Tell al-Nasriyah** (Fig. 107), covers an area 70 ha, [849] it has been fortified by a glacis and a retaining wall.

5. Huge cities over than 80.1 ha

The evidence about the huge cities could be identified in **Jazirah**, where **Tell Leilan** (Fig. 16), covers an area 90 ha,[850] the lower city has been fortified by a 5 m wide fortification wall, while in the **Euphrates region**, it is possible to see, that **Carchemish** (Fig. 25), covers an area 90 ha.[851] The upper city has been fortified by an earthen rampart and a ditch, and it has one gate at least.

841 Ernest 2011: 1. / Schwartz et al. 2000: 420.
842 Baffi, Peyronel 2013: 195.
843 Affanni, Michele 2009: 39.
844 Mousli 1989/90: 300.
845 Mouamar 2013: 97.
846 The size of the city is 617 by 525 m = 323925m2 around 32 ha.
847 Mattiae 1965: 90 -91.
848 Fortin 2006: 3.
849 Al-Maqdissi et al 2009: 84.
850 Weiss 1991: 703.
851 Marchetti 2012: 133.

Furthermore, one can notice in the **Upper Northern Levant**, that **Tell Mishrifeh/ Qatna** (Fig. 29-30), which is considered the hugest fortified settlement during the MB, covers an area 100 ha,[852] it has been fortified by a 70 m wide rampart, a ditch and is pierced by four gates (six pier type).

Results

We can say, during the Early Bronze Age, the small settlements; as Jerablus Tahtani, Tell Rad Shaqrah, Tell el-'Abd and Khirbet el-Umbashi, besides the medium settlements as al-Rawda and Beydar and the big settlements; as Mardikh/Ebla and Chuera, they have been fortified by a strong fortification structure. Also, they were reinforced by varied defensive elements as the towers, bastions, fortress, glacis, casemate walls and buttresses.

Moreover, we can observe that Titriș Höyük, which is considered a big settlement, has been fortified by a 3.5 m wide fortification wall, in other side Tell Rad Shaqrah, which is considered a very small settlement, it has been fortified by a 10 m wide fortification structure. Furthermore, it is possible to say that most of the huge settlements, which cover an area more than 80 ha, they were fortified by strong fortification structures; as Tell Leilan and Sh'airat.

That means the size of settlements during the Early Bronze didn't play a role in determining the width of the fortification structures and the kind of defensive elements, which have been used to fortify the settlements.

Moreover, during the Middle Bronze Age, we can observe that the small settlements have been fortified by thin fortification walls, with an average width around 3 m; as in Tell Hadidi, Mohamad Diab, Abou Danne and Deir Khabiye, only Nebi Mend has been fortified by an 18 m wide rampart. Furthermore, all the medium settlements between 15.1- 40 ha, have been fortified by wider fortification structures (ramparts - fortification walls) as in 'Atchana, Gindaris and Afis.

So, the size of the settlements during the Middle Bronze Age played a role in determining the width of fortification structures, and we can say most of the big and huge settlements, which cover an area more than 40.1 ha, have been fortified by the huge ramparts as Tell Mardikh, 'Acharneh and Mishrifeh, where the largest ramparts appear to have been built in areas where the greatest quantities of the requisite raw materials, such as loose earth, could be excavated with the least amount of effort.[853] Moreover, the fortifications of these cities demonstrate a proportionate expression of their importance, These measures make sense, since huge-cities were existentially needed by their societies due to their socio-political importance.

852 Assaf 1997: 35.
853 Burke 2004: 104./ Burke 2008: 50.

In other words, the conquest of an ordinary city is only an existential crisis for one particular town and its small region. However, if a mega-city is conquered, this signifies a loss of historic dimensions, they are intended to demonstrate the power and the greatness that underlie the completion of such huge construction projects. [854]

Furthermore, we should say that the size of the settlements did not affect about reinforcing them by towers or fortress. It is possible to observe that most of the settlements whatever their size have been reinforced by varied defensive elements such as the towers in Abou Danne, al-Ash‘ari and Touqan. The casemate walls in Qala'at Halwanji and Afis. The fortresses in Qala'at Halwanji, Tell el-Burak, ‘Atchana and Mardikh.

As a result, we can say, that during the MB, most of the big settlements have been fortified by wide fortification structures on the contrary of the small settlements, which have been fortified by thinner structures. On the opposite of that, it is possible to observe during the EB, that the size of the settlements doesn’t have any role in determining the width of the fortification structures.

Furthermore, in both periods we have seen, that the size of the settlements did not affect about reinforcing them by varied defensive elements, such as (the towers, bastions, fortress).

854 Mielke 2012: 78-79

C. CONTINUITY THE FORTIFIED CITIES FROM THE EB TO MB.

One can observe, that not all the cities, which were fortified during the EB continue fortified during the MB, many of them have become abandoned. Such as; Jerablus Tahtani in the **Euphrates region,** it was suddenly abandoned about 2300 BC, the water may have played a decisive role in the abandonment of the site, on its eastern edge, the expedition found evidence for exceptionally high and recurrent Euphrates floodwaters, the floods are likely to have occurred before harvest in spring when the winter snow melts on the mountains to the north took place, they must have devastated surrounding crops and perhaps rendered the site uninhabitable.[855]

Moreover, in **Jazirah** many cities have been abandoned because of desertification and desertion during 2200-1900 BC, which characterised by the collapse of Akkadian imperialism, but we have some cities continued fortified during the MB, and the fortification structure has been changed. Such as; Tell Leilan at the end of this desertification period, with the reestablishment of favourable climatic conditions in the 19th century BC, was sedentary settlement re-established on the Khabur Plains.[856] that has accompanied by a change of the defensive elements, which have used during the EB, where three observable changes have occurred in the fortification structure:

The first; in the outer fortification wall, which was 3 m wide during the EB III, and during the EB IVB, the city has been reinforced by another wall measured 1.04 m wide, while during the MB I-II the width of fortification was 5 m wide.

The second; in the rampart, which has been built during the EB IVB, and has been not used during the MB.

The third; in the mudbricks, which have been used to build the fortification walls during the EB has been changed during the MB, where during the EB, the red and black bricks measured (33×17×8 cm) have been used to build the wall (A). They have been replaced by another kind of mudbricks during the MB, consist of a very clean dark reddish-brown mudbricks with large lime inclusions.[857] Finally, we can say that the fortification structure during EB was better and stronger than the MB.

Furthermore, in the **Euphrates region**, we can see, that the circle tower in the upper city of **Tell Kannas**, which has been built during the EB IVA-B, it has been replaced by a rectangular tower during the MB. Moreover, one can see that **Tell Mumbaqa** (Fig. 26), has been expanded during the MB, and it has been fortified by a rampart and a mudbrick fortification wall (saw-tooth design), that means the fortification structure has been changed from the casemate wall during the EB to a rampart and a fortification wall during the MB, contemporaneously with expanding the city.

855 Peltenburg 2006: 20.
856 Weiss 1997: 345.
857 Stein 1991: 554.

Moreover, one can notice that the outer fortification wall in **Tell Bi'a** during the MB became thinner than the EB fortification wall. It was 6 -6.5 m wide (in the average) during the EB while its width was 3.5 - 4.7 m during the MB, in addition, different formats of mudbricks have been used during the MB instead these, which have been used during the EB. We can see the mudbricks during the MB measured (38-40 × 31-34 × 8-9 cm)[858] and (37 -38/16- 17 cm), while during EB they were (38 × 34, 42 × 36, 43 × 30, 47 × 32, 48 × 38, 49 × 31 cm)[859] and often (50 × 36 cm).

We can say, that fortification structure during the EB was stronger than the MB because fortification wall during the EB was reinforced by buttresses and towers and was pierced by 3 gates one of them measured 20 × 20. Furthermore, a ramp and a glacis have been reinforced the area C, besides, a 1.8 m wide wall has been built parallel of the main fortification wall.

It is possible to see in **Hammam et-Turkman** that the outer fortification structure has been changed from a mudbrick wall during the EB to three fortification walls, which surrounded the lower city during the MB.

Moreover, one can observe in **Upper Northern Levant**, that the outer fortification wall of **Tell Abou Danne** during the MB became stronger than the EB fortification wall, where it has been renewed many times during the MB and has been reinforced by towers in the second phase, while in first phase it has been reinforced by a retaining wall and a defensive corridor/ walkway. Moreover, the size of the mudbrick has been changed and became bigger during the MB, where the dimensions of the bricks have changed from (18-20×6-7 cm) during the EB I-II to (33 × 33 × 7 cm) during the MB in the first phase, while in second phase the grey square mudbricks measured (38 ×38 ×10 cm), and in third phase they used mudbricks measured (35 × 35 × 8 cm).

Furthermore, we can notice, that the lower city of **Tell Mardikh/Ebla** during the MB was much fortified than the EB city; the defensive system became stronger by building a huge rampart measured 45 to 60 m wide, and 22 m high; besides, two forts and 4 fortresses have been built on top of the rampart, which was pierced by four gates were reinforced by towers, in addition, the 6 m wide EB fortification wall, which has used as the core wall for the MB rampart.

While it is possible to recognise that the lower city of **Umm el-Marra** during the MB II was poorly fortified compared to the EB city, it was surrounded by an enclosure wall reaches 7 m wide in some places during the MB, and during the late MB II, it was 4.5-6 brick wide (1.5-2 m wide) instead of the rampart during the EB IVA, which has been reinforced by revetment structures and a ditch.

More evidence about the continuous fortified cities could be identified in the **Lower Northern Levant**, where **Tell 'Arqa** during the MB has been fortified by casemate walls instead of the outer wall of the houses during the EB.

858 Miglus, Strommenger 2002: 13.
859 Miglus, Strommenger 2002: 9.

Moreover, we can observe that **Byblos** during the MB, has been reinforced by two glacis in the northern side of the city, during the MB I; the glacis (D) is sloping away at an angle less than 40°and was built of earth, limestone, sandstone cobbles and stones, while during the MB II the glacis (E) is sloping away at an angle of about 60° and was built of dark brown earth and sand layers. [860]

While during the EB III, it is possible to notice, that the glacis (C) is sloping away at an angle less than 40° and was built of small blocks of calcareous mixed with sandy stones. We could say that this is the only part of the city was refortified during the MB, maybe because it connects the city with the port. The northern fortification structure incorporating the pre-existing the EB II-III ramparts was at least 8 m high, and it reached an overall thickness of ca. 25 m at its base on the northern side, and 45 m on the eastern side. [861]

Furthermore, the gates, which have been built during the EB (the north-eastern gate and the north-western gate) were reused during the MB, in general, we can say, that the city was a better fortified during the EB by ramparts and the stone wall which in its turn was reinforced by buttresses.

One can see, that the shape of the lower city of **Tell al-Sür** has been changed from an elliptical shape during the EB (Fig. 12) to a rectangular shape during the MB (Fig. 33). That was accompanied by a change in city size, which became bigger and covered an area 29 ha during the MB, (617 m in length and 525 m in width) instead 9.5 ha (380 m from the east to the west and 280 m from the north to the south) during the EB.[862] Moreover, the fortification structure became stronger during the MB, by building two fortresses, which have protected the south-east sector and the northern sector of the city. Besides an earthen rampart, and several external ditches, measured between 8 m to 35 m wide were reinforced the city, while during the EB it has been fortified just by a stone rampart.

Finally, we can say that just eleven cities have been fortified in both periods (EB and MB), it is possible to observe that seven cities from eleven, were better fortified during the MB and the other four cities were better fortified during the EB, and just one shape of the city has been changed during the MB.

860 Sala 2013: 183.
861 Sala 2013: 183.
862 Mouamar 2013: 97.

D. FEATURES AND ASPECTS OF THE FORTIFICATION STRUCTURE AND DEFENSIVE ELEMENTS

We can notice, that each region was characterised by own special defensive features, which could be observed, in the kind of the defensive elements that have been used to fortify the cities and the building materials that have been used to build the fortification structure (wall- rampart), moreover, the methods of using the fortification walls, the types of gates and the methods of using the towers and bastions, furthermore, the shape of the settlements.

In this part we will present the features and the aspects of the fortification structures in the regions of the study; Syrian Jazirah, the Euphrates region, the Northern Levant, during the EB and MB in the upper and lower cities.

1. Syrian Jazirah

a. Early Bronze Age

One can observe that **ten** settlements in Syrian Jazirah have been fortified by varied defensive elements during the EB, just four settlements (Chuera, Beydar, Leilan, Mozan), their upper and lower cities have been fortified in the same period, while six settlements have been fortified just in the lower city.

In terms of the **defensive elements**, one can see, that the defensive elements, which have been used to fortify the upper cities are: fortification walls, ditches, glacis and gates, while the lower cities have been fortified by fortification walls, ramparts, glacis, casemate walls, revetment walls, towers, rooms and gates.

Regarding the **building materials**, we can notice, that the inner fortification walls have been built of mudbricks as well as the outer fortification walls, except the outer fortification wall in Tell Rad Shaqrah, where the basalt stones combined with mudbricks have been used to build a part of fortification wall, specifically in the south-eastern corner of the city. Moreover, it is possible to see, that some of the outer fortification walls have been erected on stone foundations, where some of them were made of limestones as in Tell Chuera specifically in area P, and the others were made of basalt boulders as in Tell Rad Shaqrah. Furthermore, the soil, clay, mudbricks, debris and gravel have been used to build the outer ramparts.

Moreover, we can recognise that the gaps between the casemate walls have filled with gravel. Also, the fine black ash, several layers of tightly packed stone boulders, clay, stones and mudbricks have been used to build glacis.

In terms of the **methods of using the fortification walls**, one can see, that the walls have been used to fortify the entire upper and lower cities, sometimes have been used alone or have been reinforced by the ramparts and other defensive elements. Moreover, we can notice that two upper cities (Tell Chuera and Tell Beydar) and in three lower cities (Tell Chuera, Tell Rad Shaqrah and Tell Leilan) their walls have gone through many phases of successive construction.

In regard to the **types of gates,** we can notice, that the inner gates have a complex structure as well as the outer gates, which have been used as a toll point that controlled ingress and egress on a daily basis for the inhabitants of the city, visitors, and their goods.

In terms of the **methods of using the towers and bastions**, one can observe, that all the towers have a rectangular and square shape, and they were either associated with outer fortification walls or flanked the outer gates.

Regarding the **shape of the settlements**, it is possible to notice that all the settlements have circular and elliptical shapes, except for Tell Mozan, which has a polygonal shape.

Furthermore, we can see, that some cities have been expanded during the EB, such as **Tell Leilan**, during the EB III, the city has been expanded more than six-fold, growing from an acropolis-based city of fewer than 15 ha to the approximately 90- 100 ha.[863]

It is possible to notice that the city of **Tell Chuera** during the EB III, has already grown to an impressive size. It had several thousand inhabitants, a road network with a central main road and radial access roads and a series of large temples and it was surrounded by a massive wall of mudbricks. At the same time, the inner fortification wall was abandoned as an actual fortification, and it apparently fell out of use after the construction of the outer fortification wall, when the inhabitants of the site began to utilise it as an intramural burial ground. At that point, the defence capacity of the site relied solely on a single line of defence, at least for a certain period.[864]

Around 2200 BC, the city is completely abandoned,[865] prof Meyer said, in area W-4 "the inhabitants of Chuera's lower cities started to use the glacis as a dumpsite, through the enormous accumulation of ashes, which were simply dumped over the wall, the rampart gradually lost its steep character, in the long run, most certainly to the disadvantage of its defence capacity" [866]

Moreover, one can observe, that the city of **Tell Mozan** during the EB III, has been expanded to cover an area 135 ha, and the upper city wall was indeed deprived of its defensive function somewhere in the EB III.[867]

863 Weiss 1997: 342.
864 Helms, Meyer 2016: 147.
865 Meyer 2010: 14.
866 Helms, Meyer 2016: 154.
867 Buccellati 1998: 18.

b. Middle Bronze Age

One can notice, that **three** settlements in Syrian Jazirah have been fortified by varied defensive elements during the MB, just one settlement (Tell Mohamad Diab), its upper and lower city have been fortified in the same period, while two settlements have been fortified just in the lower city.

Regarding the **defensive elements**, one can observe, that the defensive elements, which have been used to fortify the upper cities are: fortification walls while the lower cities have been fortified by fortification walls and the glacis.

In terms of the **building materials,** we can see that the inner fortification walls have been built of mudbricks as well as the outer fortification walls. Moreover, one can notice, that the earth compacted and accumulation of horizontal layers of ash have been used to build the glacis.

Regarding the **methods of using the fortification walls**, we can observe that the walls have been used to fortify the entire upper and lower cities.

In terms of the **shape of the settlements**, it is possible to notice that all the cities have elliptical shapes.

2. Euphrates region

a. Early Bronze Age

It is possible to notice that **fourteen** settlements in the Euphrates region have been fortified by varied defensive elements during the EB. Furthermore, we can observe that just two settlements (es-Sweyhat and Kazane Höyük), their upper and lower cities have been fortified in the same period. Moreover, three settlements have been fortified just in the upper city, while nine settlements have been fortified just in the lower city.

In regard to the **defensive elements**, we can see, that the defensive elements, which have been used to fortify the upper cities are: fortification walls, casemate walls, towers, glacis, ramparts, gates and forts. While the lower cities have been fortified by fortification walls, ramparts with glacis, casemate walls, walls of the house, revetment walls, retaining walls, the defensive corridor, ditches, towers and gates, furthermore, some cities have used their natural position to protect a part of them, such as Tell Halawa A and Tell Titriș Höyük.

In terms of the **building materials**, we can observe that the inner and outer fortification walls have been built of varied mudbricks. Moreover, it is possible to see that the limestones have been used to build the foundations, where some of the inner and outer walls have been erected on stone foundations. Some of them have a complex structure, such as in Tell Halawa A and B. Furthermore,

the homogeneous brick deposits and charcoal flecked lenses have been used to build the inner ramparts, while the soil and mudbrick debris have been used to build the outer ramparts.

Moreover, we can recognise that the gaps between casemate walls were filled with bricks debris or settlement debris, while the limestone fragments, clay, pebble stones and mudbricks have been used to build glacis.

Furthermore, one can observe that the walls of the fort in Tell Jerablus Tahtani, which oriented towards the Euphrates have a white plastered to protect them against the water; because the Euphrates was susceptible to periodic inundation.[868]

In terms of the **methods of using the fortification walls**, it is possible to see, that the walls have been used to fortify the entire or a part of the upper and lower cities, which were used either alone or have been reinforced by the rampart. Moreover, we can notice, that four lower cities (Habouba Kabira, Tell el-'Abd, Titriș Höyük and Tell Halawa A), their walls have gone through many phases of successive construction.

In regard to the **types of gates**, we can observe, that the inner gates were direct access types as well as the outer gates, except for Tell Bi‘a and Tell Halawa A, their gates were indirect access types, where they consist of an entrance, a small passage and a room (square - rectangle). This type of the city gate is a precursor to the so-called 3-chamber gates, which have been spreading on Syria during the Middle Bronze Age, all of them have been built of mudbricks on a stone foundation.

In terms of the **methods of using the towers and bastions**, we can see, that one tower has an arc circle shape, which has been detected in Tell Kannas, the other towers have rectangular shapes, these towers were either associated with the inner and outer fortification walls, associated with fort’s wall or flanked the inner and outer gates.

Regarding the **shape of the settlements**, we can notice that all the cities have roughly circular or elliptical shapes except for Tell es-Sweyhat and Kazane Höyük, they have a roughly rectangular shape.

b. Middle Bronze Age

One can observe that **nine** settlements in the Euphrates region have been fortified by varied defensive elements during the MB. Moreover, we can see that three settlements have been fortified just in the upper city, while six settlements have been fortified just in the lower city.

In terms of the **defensive elements**, one can observe, that the defensive elements, which have been used to fortify the upper cities are: fortification walls, ramparts, ditches, towers and gates, while

868 Peltenburg et al. 2000: 55.

the lower cities have been fortified by fortification walls, ramparts, glacis, casemate walls, revetment walls, ditches, towers, forts and gates.

Regarding the **building materials**, we can notice, that the inner fortification walls have been built of mudbricks as well as the outer fortification walls, except for the fortification walls in Tell el-Qitar, where they have been built of the large block of stones. Furthermore, we can observe, that the limestones have been used to build the foundations and the inner tower in Tell Kannas, also, it is possible to see, that the soil and clay have been used to build the inner ramparts, while the outer ramparts have been built of pebbles, clay.

Moreover, we can recognise that the gaps between the casemate walls were filled with the burnt debris, broken bricks and sherds from the bowls, while limestones chunks have been used to build glacis.

In terms of the **methods of using the fortification walls**, we can notice, that the walls have been used to fortify the entire upper and lower cities, sometimes have been used alone as in Tell Bi‘a or have been reinforced by the rampart as in Tell Mumbaqa.

In regard to the **types of gates**, one can observe, that the four pier gates beside to indirect and direct access type were common in this region.

In terms of the **methods of using the towers and bastions**, it is possible to see, that all the towers have a rectangular shape, were either associated with the inner and outer fortification walls or flanked the gates.

Regarding the **shape of the settlements**, we can notice, that all the cities have roughly circular or elliptical shapes, except for Qala'at Halwanji, it has a square shape, and the upper city of Tell Hadidi has an almost rectangular shape.

3. Upper Northern Levant

a. Early Bronze Age

It is possible to see that **six** settlements in the Upper Northern Levant have been fortified by varied defensive elements during the EB. Furthermore, one can observe that just in two settlements (Tell Khirbet al-Qasr - Tilbeshar), their upper and lower cities have been fortified in the same period, while four settlements have been fortified just in the lower city.

In regard to the **defensive elements**, we can notice that the defensive elements, which have been used to fortify the upper cities are: fortification walls and buttresses, while the lower cities have

been fortified by fortification walls, ramparts with glacis, revetment walls**,** ditches, towers and gates.

In terms of the **building materials**, one can recognise that the inner and outer fortification walls have been built of mudbricks. Moreover, it is possible to notice, that stones have been used to build the foundations, specifically in Tell al- Rawda, where the outer fortification structure has been erected on large unworked blocks (fieldstone) as in the sector 2a.[869] Furthermore, we can observe that the soil and pebbles have been used to build the outer ramparts. While it is possible to see, that the reddish-brown soil, lenses of white limestone fragments and pebbles have been used to build the glacis. Also, we should mention that the long wall, which has been extended along the western Syrian steppe, was built of the stones on a stone foundation (fieldstone).

In terms of the **methods of using the fortification walls**, one can notice that the walls have been used to fortify the entire upper and lower cities, in addition, we can see that Tell al- Rawda has been characterised by double fortification structure.

In regard to the **types of gates**, we can notice that the outer gates have a complex structure.

In terms of the **methods of using the towers and bastions**, one can see, that all the towers have a rectangle shape, were either associated with the outer fortification walls or flanked, the outer gates or they were freestanding towers.

Regarding the shape **of the Tell**, we can notice that all the cities have circular or elliptical shapes.

Furthermore, we can see, that some cities have been expanded during the EB, such as **Tilbeshar**, during the EB I, the city limited to the citadel (upper city), which covers an area 6 ha,[870] we can see during the EB II, the fortification wall, which fortified the upper city does not exist anymore, and the city has been expanded to the north to reach 30 ha. [871] During the EB III, the city has been expanded to the south to reach 56 ha.[872]

b. Middle Bronze Age

One can notice, that **twelve** settlements in the Upper Northern Levant have been fortified by varied defensive elements during the MB, we can observe that four settlements (Tell Touqan- Afis- Umm el-Marra- Mardikh) their upper and lower cities have been fortified in the same period. Moreover, eight settlements have been fortified just in the lower city.

869 Castel 2008a: 303.
870 Kepinski 2005: 145 -147
871 Kepinski 2005: 148
872 Kepinski 2005: 306

Regarding the **defensive elements**, we can observe, that the defensive elements, which have been used to fortify the upper cities are: fortification walls, ramparts, glacis, gates, towers and buttresses. While the lower cities have been fortified by fortification walls, ramparts, glacis, casemate walls, retaining walls, ditches, towers, defensive corridor, forts, fortresses and gates. Some cities used their natural position to protect a part of them, such as Tell 'Acharneh and Tell Touqan

In terms of the **building materials**, we can notice that the inner fortification walls have been built out of varied mudbricks as well as the outer fortification walls. Furthermore, it is possible to observe, that the limestones have been used to build the foundations and have been used as escarp to protect the outer and inner bases of the rampart in Tell Mardikh. Also, it is possible to see, that the soil and clay used to build the inner ramparts, while the outer ramparts have been built out of soil mixed with the pottery fragments, ash and limestone crumbs. Moreover, we can recognise that the gaps between casemate walls were filled with rubble, ashy loose soil and mudbricks. While the clay, pebble and limestone gravels have been used to build glacis which the slopes of 40°.

In terms of the **methods of using the fortification walls**, we can notice, that the walls have been used to fortify the entire upper and lower cities, sometimes have been used alone such as in Gindaris or have been reinforced by the rampart such as in Tell Touqan. Moreover, one can see, that the inner fortification wall of Tell Afis and the outer fortification wall of Tell Abou Danne have gone through many phases of successive construction.

In regard to the **types of gates**, we can see, that the one inner gate has been detected in Umm el-Marra was direct access type. While most of the outer gates were Six-pier types and just one gate was a four-pier type, which has been detected in Umm el-Marra.

In terms of the **methods of using the towers and bastions**, one can observe, that all the towers have a rectangular and square shape except for Tell Touqan, where the outer fortification wall has been reinforced by three circular towers. In general, the towers were either associated with the inner and outer fortification walls or flanked the inner and outer gates.

Regarding the **shape of the settlements**, one can notice that all the cities have elliptical or circular shapes except for Tell al-Nasriyah has a square shape and Tell Mishrifeh has a rectangular shape.

4. Lower Northern Levant

a. Early Bronze Age

We can observe, that **six** settlements in the Lower Northern Levant have been fortified by varied defensive elements during the EB, just one settlement (Tell Sh'airat), its upper and lower city have been fortified in the same period. While five settlements have been fortified just in the lower city.

In terms of the **defensive elements**, one can see, that the defensive elements, which have been used to fortify the upper cities are: ramparts and gates. While the lower cities have been fortified by fortification walls, ramparts with glacis, the outer walls of the houses, towers, bastions, fortress, buttresses and gates, furthermore, some cities used their natural location to protect a part of them such as Byblos.

Regarding the **building materials**, it is possible to notice that the outer fortification walls beside the inner and some outer ramparts have been built of stones. We can see that some cities have used the limestones such as Byblos and others have used the basaltic stones such as Tell Labwe and Khirbet el-Umbashi. Moreover, it is possible to observe, that most of the fortification walls have been erected on virgin soil such as Tell al-Sür or on the rock such as Byblos. Addition to the stones we can see, that clay mixed with pebbles and earth have been used to build some outer ramparts. Moreover, we can recognise that the limestones have been used to build glacis, which the slopes of some of them less than 40°.

In terms of the **methods of using the fortification walls**, it is possible to see that the walls have been used to fortify the entire lower cities or a part of them. Moreover, we can notice that just in one city "Byblos", its northern fortification wall has gone through many phases of the successive construction.

In regard to the **types of gates**, one can observe, that outer gates in some cities were direct access type such as the south-east gate in Khirbet el-Umbashi. Other gates were indirect access type, where we have to turn left or right and go through a tower or a room until to reach the city such as the northern gate, the south-western gate and the eastern gate in Labwe. We should mention that Tell Sh'airat contains the biggest number of gates, 8 in the upper city and 10 in the lower city.

In terms of the **methods of using the towers and bastions**, we can see that they have a rectangular or square shape except one tower has a circular shape, which is located in the east sector of Khirbet el-Umbashi. The towers were either associated with the outer fortification walls or flanked the outer gates, while all the bastions have a rectangular shape, just one has a trapezoidal shape, and they associated with outer fortification walls

Regarding the **shape of the settlements**, one can notice that all the cities have an elliptical shape just Labwe has an irregular elliptical shape and Sh'airat was nearly circular.

It is possible to see that the city of **Tell Sh'airat** has been expanded two times, its size has been changed from 25 ha to 96, and in the last expansion, it reached 130 ha. [873]

873 Mouamar 2016: 74.

b. Middle Bronze Age

We can see, that **thirteen** settlements in the Lower Northern Levant have been fortified by varied defensive elements during the MB. Just one settlement (Tell Nebi Mend), its upper and lower city have been fortified in the same period. Moreover, one city (Tell el-Burak) has been fortified just in the upper city, while eleven settlements have been fortified just in the lower city.

Regarding the **defensive elements**, we can observe, that the defensive elements, which have been used to fortify the upper cities are: casemate walls, fortresses, glacis, and retaining walls. While the lower cities have been fortified by casemate walls, retaining walls, revetment walls, ditches, buttresses, towers, fortresses and gates. Some cities have used their natural position to protect a part of them, such as Tell al-Ash‘ari.

In terms of the **building materials**, we can recognise, that the inner fortification walls have been built of mudbricks as well as outer fortification all, except Wall (W329 – 398), in Beirut and the fortification wall in Tell Kazel, which have been built out of stones. Furthermore, we can observe that the stones have been used to build the foundations. Also, it is possible to see that the soil and clay used to build the outer ramparts.

Moreover, one can recognise that the gaps between casemate walls were filled with the soil. Also, it is possible to see that the clay, soil, pebble stones and large stones have been used to build glacis, which the slopes of them were 30° -20°-40°-45° -60°.

In regard to the **methods of using the fortification walls**, one can notice, that the walls have been used to fortify the entire upper and lower cities, were used either alone such as in Tell al-Ash‘ari and Deir Khabiye or have been reinforced by the rampart such as Tell es-Salihiyeh. We can observe, that some walls have gone through many phases of successive construction, such as the outer fortification wall in Tell es-Salihiyeh.

Regarding the **types of gates**, we can see that one six-pier gate has been detected in Tell al-Ash‘ari and other gates were either indirect or direct access types.

In terms of the **methods of using the towers and bastions**, it is possible to observe, that all the towers have a rectangular or square shape, were either associated with fort’s walls or with the outer fortification walls.

Regarding the **shape of the settlements**, one can notice that all the cities have an elliptical shape, except for Sefinat-Nouh and al-Sür have a rectangular shape.

E. THE REASONS BEHIND OF FORTIFYING AND REINFORCING SOME CITIES MORE THAN OTHERS

We can say that the reasons for building the defensive system are different from city to another, where many reasons forced the cities to be fortified. Therefore, the functions of the fortifications can be manifold. But certainly, the original purpose, in most cases, which considered the most important is the defence, [874] whether against the invasion, or the natural forces, furthermore, the defensive systems have been built to protect the food sources, grain stores, palaces, temples and elite centres. Moreover, we should mention, that in many cases, there are urbanistic and symbolic functions (as the psychological impact) to be considered, which sometimes even eclipsed the protective purpose.[875] Five important reasons have to be taken into consideration.

1. The invasion and military events

It is possible to say, that the evolution of the architectural structure of the cities, which was accompanied by economy development in varied fields such as; (agriculture - handicrafts- the location of city on trading routes), that exposed the cities to invade, which are considered besides the military events, one of the most reasons that prompted the cities to fortify themselves, specifically during the EB, where northern Syria, the Euphrates region and Syrian Jazirah were unstable regions because of many military events have affected on the cities such as the conflict between Ebla and Mari, which expanded and affected to Euphrates region.[876] Besides to the invasion of the Akkadian empire to the Khabur region and the Middle Euphrates region during the EB IVB. [877]

Furthermore, we can see between the end of the Early Bronze Age and the beaning of the Middle Bronze Age; The nomadic groups played an important role in the political and military life in the Levant and the Euphrates region.[878] Where the cities were probably perennially vulnerable to pillaging and attacks by desert marauders. While in the Middle Bronze Age, one can observe, that the conflict between Yahdun-Lim king of Mari with Shamshi-Adad king of Assyria and Shamshi-Adad's expansion[879] have affected in Syrian Jazirah region and the Middle Euphrates region. In addition to that, the relations between Yamhad and Qatna[880] during the Middle Bronze Age were difficult; both of them were independence, and they were controlling the large territory of Levant.

We can say, that all these military events, besides to the competition between of the cities, which have been further exacerbated by climatic fluctuations that pushed them to build the fortifications

874 Müth 2016: 183.
875 Müth 2016: 183.
876 Liverani 2014: 118.
877 Liverani 2014: 135.
878 Klengel 1992: 37.
879 Liverani 2014: 226 -227.
880 Klengel 1992: 55.

to protect themselves and available natural resources, pasturages and agricultural land. So the foremost function of the defensive system is protected the cities against the invasion. Therefore, we have seen that the ramparts were wider and have been used to fortify the lowers cities during the MB more than the cities during the EB.

The idea that the ramparts of the MB period were planned in order to contrast some effective siege techniques, from the increased employment of battering rams to the excavation of underground galleries, seems still convincing, as the highness, the thickness, and the solidity of the ramparts do neutralise completely these siege systems.[881]

2. Natural forces

It is possible to notice that the natural forces as flooding have affected the cities; therefore, some settlements have been fortified against them. We can see that in the settlements, which are located in or just above the level of the Euphrates flood plain were particularly vulnerable to this type of natural calamity, which may have been quite hazardous and destructive during seasons of exceptionally high river inundations. Therefore, their inhabitants may have constructed thick perimeter walls as a defence against encroaching waters[882] as in Jerablus Tahtani, specifically, in area I, where the outer facade of the fort's wall, which faced the Euphrates, was plastered during the EB.[883]

3. Psychological impact

We should mention, that the defensive systems besides their primary defensive function, may have had a psychological impact, these walls served as potent symbols of the wealth, sophistication and strength of the populations whom they protected, setting them apart from the unsettled, less 'civilised' populations and regions that existed beyond.[884] Where the fortification structure was considered as a manifestation of the power of the city.

4. Economic role and protecting the food storages

One can observe that these reasons did not affect in the same degree in the cities, which some of them were much fortified than others. As we have seen, that during the Middle Bronze Age that the huge cities were fortified by a huge fortification structure on the contrary during the Early Bronze Age, where the size of the settlement didn't play a role in determining the kind of defensive

881 Matthiae 2002: 48.
882 Cooper 2006: 70.
883 Peltenburg et al. 1996: 7.
884 Cooper 2006: 87.

elements and the dimensions of them. Therefore, it is possible to notice; there were many small settlements during the EB were well fortified like the big cities; the reasons behind of that, these small settlements had an important economic role during this period, where many of them were as grain storages and distribution centre for cereal plants. So, they have interpreted as a trading outpost specifically on the Khabur River, where large quantities of grain were stored in silos.[885]

It is possible to suggest that this grain, as well as grain stored at other contemporary depots in the middle Khabur Valley such as Tell Rad Shaqrah, Tell Kerma, and Tell 'Atij.[886] Where their location was ideal as a trading post or commercial station where the grain was stored and then easily loaded onto boats that navigated the Khabur River. Therefore, they have been fortified by the defensive walls which were a precaution against pastoral nomads who grazed their flocks in the vicinity and who may have hoped to appropriate for themselves provisions of grain conserved in the silos.[887]

Such as in **Tell** '**Atij**, which covers an area around 0.6 ha and it has been fortified by a 2.5 m wide fortification wall. Of course, these small settlements were under control from anther bigger and stronger cities, could be Mari on the Euphrates river, which was considered as a commercial centre, which has controlled naval trade on both the Euphrates and Khabur rivers. Mari was founded around 2800 BC, about the same time that Tell 'Atij was first occupied. Moreover, it seems possible, therefore, that some kind of economic relationship existed between Mari and the middle Khabur depot sites such as Tell 'Atij.[888] Or Tell 'Atij could be belong to Tell Beydar, which rapid growth for this city was at the beginning of the Early Bronze Age, during the 3rd millennium BC, nearly the same time that Tell 'Atij was first occupied, besides the distance between Tell Beydar and Tell 'Atij is shorter than the distance between Tell al Hariri/ Mari and Tell 'Atij, as illustrated in (Fig. 6).

Moreover, one can notice, that some cities were located on trading routes, which pass them towards the Lower Northern Levant, these cities were good and strong fortified such as Khirbet el-Umbashi, Labwe, which were near to each other and were situated in basaltic region, both were well fortified during the EB by fortification walls and reinforced by towers and bastions.

It is possible to see that the city of Tell Sh'airat, it is the only city, which has been fortified by 4 ramparts during the EB, the inner and outer rampart beside two other ramparts were result of the extension the city two times, where they were organised on a regular circular plan constructed around a concentric network of roads, maybe the city played a prominent role as the main city or regional capital of the confederation of Ib'al.[889]

885 were destined for the populations of southern Mesopotamia, where excessive irrigation and an arid climate often resulted in food shortages. We know from second millennium textual sources that city-states in southern Mesopotamia often organized expeditions into the north in order to procure grain to supplement their own agricultural produce, particularly in times of drought or food shortages. (Fortin, Cooper 1994: 34).
886 Fortin, Cooper 1994: 34.
887 Fortin, Cooper 1994: 44.
888 Fortin, Cooper 1994: 34.
889 Mouamar 2016: 71.

Furthermore, one can observe that huge fortification structures were a feature of many big and huge lower cities, that could be identified in Jazirah during the EB in Tell Chuera, the Upper Northern Levant during the MB such as in Tell Mardikh and Tell Mishrifeh, and the Lower Northern Levant as Khirbet el-Umbashi during the EB. In some cases, as in Tell Chuera, we can say that the outer fortification structures have been built to protect the food storages, which were for the long term in the lower city.[890] Moreover, it has been built to protect some important complexes, which were situated in the lower city.

5. Protecting the ruling class and administrative centre

In regard to the inner fortification structures, we can see that besides of many lower strong fortified cities, there are many upper cities were strongly fortified, that could be observed in Jazirah during the EB such as Tell Chuera, Tell Beydar, which were well fortified by strong fortification walls to protect the residence of the élite, ruling class, administrative buildings and private dwellings. [891]

That could be observed in the upper city of Tell Chuera, where the inner fortification wall was protecting the sacred district which is located in the south-eastern part of the Upper city, The palace in the north-western part of the city wall and the square in the centre of the upper city and the Temple complex S. [892]

Moreover, one can see in the Upper Northern Levant during the MB, that the upper city of Tell Mardikh, was well fortified, maybe to protect the ruling class and administrative centre, where it is possible to observe, that the residence of the élite or ruling class (possibly somehow related to the palace and temple) was situated on the northern side of the acropolis. Furthermore, the temple of Ishtar (temple D) with its sacred area[893] and part of the royal palace (G) were situated from the north to the south side of the acropolis.

Furthermore, it is possible to notice in Tell Touqan, that the brick wall during the MB II, was apparently designed specifically to defend an urban space to which a precise, physical role had been assigned, the dimensions of which were such as to be able to hold part of the population, possibly the élite. In order to surround the acropolis. The wall did not take a straight path but covered short, straight stretches that led to the winding outline of the citadel, at least to the north.[894]

While one can recognise in Umm el-Marra, that the wall used as restriction of access to cultic or ceremonial activities and architecture argues for control by a central authority or elite over ritual practices and contact with the divine. Such behaviour could have been part of the legitimising

890 Meyer 2007: 136.
891 Meyer 2007: 139.
892 Meyer 2014: 19.
893 Pinnock 2001: 17.
894 Baffi 2013: 169.

activities of the new authorities of the MB, as part of a claim to privileged communication with the spiritual realm.[895]

We should mention, that the presence of 'citadel cities - upper city' presupposes the existence of a strongly hierarchical system of control and authority, in which an elite power in the community presided over the settlement in most economical, political and religious affairs, and upon which all inhabitants of the city were dependent. For the Euphrates Valley of Syria, we argue that during much of the third millennium BC, the continued existence of decentralising tendencies within the social and political fabric of the Euphrates communities may have offset or hindered the growth of such systems of centralised authority and power. Such tendencies could explain the absence in many Early Bronze Age settlements of clearly distinguishable central zones of elite structures, demarcated by citadel walls and dominating the community of citizens that surrounded them.[896] Therefore citadel cities – upper cities, do not appear to be distinguishing features of the Euphrates valley of Syria.

Moreover, one can notice that not all of the fortification structures were homogeneous; where some of them have been changed from a sector of the city to another; because the political system of the city was not a central authority. That led the individuals who inhabit near to the wall was responsible for building and renewing the defensive system,[897] as in Tell Selenkahiye in the Euphrates region during the Early Bronze Age.

So, as a result, we can say, that many upper and lower cities either small or huge, were strong and good fortified during the EB and MB by varied elements, for many reasons, the military reason and protecting the food storages were considered the most important reasons.

Finally, we must be emphasized that the construction of these complex fortification facilities in both periods, as well as the planned urban development, suggest a strong political organisation capable of correspondingly employing workers.[898]

895 Schwartz et al 2012: 179.
896 Cooper 2006: 77 -78.
897 Van Loon 2001: 110.
898 Meyer 2010: 181.

CONCLUSIONS AND RESULTS

This work presents a comprehensive study of the Early and Middle Bronze defensive elements in Syrian Jazirah, the Euphrates region, the Upper and Lower Northern Levant (Fertile Crescent). In the preceding chapters, I have reviewed varied defensive elements such as ramparts, fortification walls, gates, towers, fortresses and ditches and the changes that have occurred at them between the EB and MB, we could observe that these changes have included the methods of using the defensive elements, their dimensions and their building materials.

The ramparts as a "huge defensive element" have been used during the Middle Bronze Age to fortify the settlements more than during the Early Bronze Age, furthermore, its size became wider during MB, as we have observed in Tell Mishrifeh/Qatna, where its rampart reached 70 m wide. On the contrary, the width of the rampart during EB doesn't exceed more than 30 m, this change is compatible with the development of the siege weapons.

Besides the width, also, the slope of the of ramparts during the MB became steeper and more gradient comparison with the slope of the ramparts during EB, that making them hard for attackers to climb over.

The importance of the ramparts during MB was reflected their functional use; where the ramparts during EB in most cases were supporting the fortification walls; that could be observed in eight cities, while just four cities were surrounded by the freestanding ramparts. On the contrary during MB we have nine cities were fortified and surrounded by freestanding ramparts and just two cities have used the rampart to reinforce their fortification walls.

During MB the layout of the ramparts has been changed in some cities from the circular shape to a square or a rectangle shape. While we can clearly see during the EB, the ramparts have circular or elliptical layouts.

This change in the size of the ramparts during the MB, was accompanied by significant changes in construction technology; since the cities of the second millennium depended on ramparts to protect themselves, that made them build their ramparts to be more resistant to erosion and rains, by adopting technique the "layered fill" ("sandwich" technique), which is used to increase drainage and do not allow easy movement of water within them, it was necessary to keep ramparts from becoming saturated.

Also, some cities during the EB built their ramparts of large blocks of stones as Tell Sh'airat and Tell al-Sür on the contrary during the MB where most of the ramparts have been built of the cohesive clay soil, which was widely available and easy to dig and transport.

Although there is no big changing at the average width of the outer fortification walls during the EB and MB, but the successive reinforcements and enlargements of the fortification walls during EB is confirmed on their importance as main defensive elements to face the threat of danger in this period. Furthermore, the average width of the inner fortification walls during EB was bigger than

the width of the walls during MB, we can see that the width inner fortification wall in Tell Mozan reaches 8 m. That indicates and on the contrary of the ramparts, the fortification walls were strong and have been renewed many times during the EB, because the EB cities were depended on fortification walls as main elements in the defensive system more than MB cities.

That has been confirmed by the functional use of the fortification walls; where thirty cities during the EB were fortified and surrounded by the fortification walls while nineteen cities during MB have used the fortification wall to fortify themselves.

Concerning the building materials of the fortification walls, we can observe two important changes; first, the average size of the mudbrick, which has been used during the EB was around (40×40 cm), while during the MB, the average size was around (35×35 cm); that means became smaller.

Second, some cities during EB have used the basalt stones to build their fortification wall, especially in the Lower Northern Levant, as in Khirbet el-Umbashi, which have been disappeared during the MB, by another word the basalt stones have not been used during MB to build the fortification walls.

In regard to the foundations building materials, we can notice two important changes; first, the complex foundations, which have been discovered in Tell Halawa A and B during the EB, which are distinguished by their strong structure which consists of two shells and filled gap in the middle. this kind of complex foundation has not been found during the MB, maybe because the cities during EB were depended on the fortification walls as main defensive elements that pushed them to reinforce them by strong foundations. Second that some walls during EB have used the basalt stones to build their foundations, which has been disappeared during the MB.

The ramparts were reinforced in most cases by glacis, retaining walls and revetment walls, besides in some cases by core walls. as we have seen, the only recognisable change in the glacis that they were during MB steeper than the EB glacis, as the MB ramparts. While in regard to revetment walls; they were wider during EB on the contrary to the retaining walls which were wider during MB.

As well as the ramparts, also, the casemate walls became wider during the MB, as in Qala'at Halwanji, the width of its casemate walls reached 9.2 m, while during EB the widest casemate wall was 6.5 in Tell Chuera, besides, casemate walls have been used to fortify MB cities more than EB cities.

On the contrary of EB, there is no sign of using the walls of the houses as a part of the defensive system during MB, while we found two cities have used their walls of the houses as part of the defensive system.

Since fortification walls have been reinforced by buttresses, towers and bastions, therefore, they have been used during EB more than MB, that has been confirmed through discovering thirty five towers and bastions have reinforced the fortification walls during EB, while just fourteen towers and bastions have been found associated with the fortification walls during MB. those towers and

bastions were bigger during EB than the MB, and they have a square and a rectangle shape during the EB while, some towers during MB have a circular shape as in Tell Touqan. During EB some towers and bastions have been built of large blocks of stone as in Khirbet el-Umbashi on the contrary, during MB most of the towers and bastions have been built of mudbricks. Moreover, freestanding towers have been found just during EB. The same thing applies buttresses, which have been used to reinforce fortification walls during EB more than MB.

While the significant changes have occurred regarding the type of gates, where the six-pier gates and the four-pier gates, were prevalent in the MB cities, while the complex gates, which were existed during the EB, have been disappeared.

Regarding forts and fortresses, five settlements during MB have used fort and fortress to reinforce their cities, while just two settlements during EB, that is normal since the EB cities have fortified by towers and bastions more the MB cities.

Moreover, since ditches were a result of digging to bring the building materials as the soil to build the ramparts, therefore, ditches during MB were wider than ditches during EB.

The politic system of the cities played an important role to determine the homogeneity and heterogeneity of the defensive system, where centralised political authority has planed the city structure included the defensive system, therefore their defensive systems were homogeneous. While the Decentralised political authority has left to individual community groups, or city neighbourhoods, to coordinate and to renew the defensive system, therefore, their defensive systems were heterogeneous.

Also, the size of the settlements during the Middle Bronze Age played a role in determining the width of fortification structures as in Tell Mardikh, ‘Acharneh and Mishrifeh, on the contrary during EB where the size of settlements didn’t play a role in determining the width of the fortification structures.

We can say, in the regions of the study, that the defensive system of the EB cities in most cases consisted of the fortification walls, which have been reinforced by buttresses, towers and bastions, besides, some of them have been reinforced with a supplementary rampart which has pierced by complex gates and surrounded by a ditch. While the defensive system of the MB cities in most cases consisted of a huge freestanding rampart has been reinforced by glacis, revetment, retaining walls, forts and fortress, has pierced by six or four pier gates and surrounded by a wide ditch. Those defensive elements worked as one unit to protect the cities against the invasion, so until the attackers could conquer the cities, they must go through them.

Where the conditions at many sites prohibited the use of only a single fortification strategy. Therefore, a combination of defensive strategies may have been necessary to adapt the site’s defences to the local conditions, areas of occupation, or uneven topography around the site.[899]

899 Burke 2004: 94.

Furthermore, each region has its defensive features and aspects, which distinguishes it from the other regions, such as the quality of the mudbricks were varied from region to another because of the building materials have been taken from the environment, which is surrounded the cities as soil and stones as we have seen that the EB cities in the Lower Northern Levant have used the basalt stones to build the fortification walls, while in the Euphrates region we have observed that the walls and ramparts, which faced the river were plastered.

Moreover, the foundations were consisting of limestones in the Upper Northern Levant and basalt stones in the Lower Northern Levant, furthermore, we have noticed that the glacis which have been built in areas have heavy rain (highest precipitation) were made of stones (strong materials to protect the rampart against the rain).

Finally, the reasons for fortifying were different from city to another; of course, invasion and military events were the main reasons which pushed the cities to build the fortification structures to protect themselves, but they were not the only reasons, where natural forces as flooding have affected the cities especially the cities are located in or just above the level of the river flood plain, those cities have built the earthen ramparts to protect themselves against the flooding. besides, the defensive systems have a psychological impact, as the huge earthen rampart is supposed to convey to the enemy an impression of power and fear and to those who live behind the wall a sense of reliance upon the commander and a feeling of security to the population. also, the outer fortification walls and ramparts played an important role to protect the food storages, while the inner fortification structures protected the ruling class and administrative centre.

We can say that the construction process for a fortification is different from most other categories of architecture. Since fortifications were often a community's most massive undertaking and each is made up of numerous semi-independent structures, such as towers and gates connected by stretches of curtains and ramparts. [900]
We should mention that this study has gone through 503 defensive elements which have been detected in 62 Tells, these elements consist of; 104 fortification walls, 37 rampart, 41 glacis, 11 revetment walls, 8 retaining walls, 11 casemate walls, 2 core walls, 2 defensive corridors, 81 towers and bastions, 105 buttresses, 13 forts and fortress, 75 gates and 13 ditches.

We can say that these defensive elements considered as huge engineering projects, especially during the MB, where ramparts were so wide, these projects need a huge resource (workers, food, management). So, building these fortifications reflect the economic, political and admirative concepts of the cities.

Finally, I would like to say that many defensive elements need to excavate deeply on many sites in Syria.

[900] Staebler 2016: 123.

Altogether, the analysis of the various functions of defensive buildings is not an easy task and can only be achieved by a very careful and integrative study not only of the monument itself, but also of its various contexts and environments, and by a critical consideration of all aspects together. [901]

[901] Müth 2016: 191.

CHAPTER FOUR

FORTIFIED SETTLEMENTS DURING EARLY AND MIDDLE BRONZE AGE

This chapter presents the archaeological sites in their geographical location, which is divided into four regions, (Syrian Jazirah, Euphrates Region, Upper and Lower Northern Levant) each region included its sites in alphabetical order. These sites were named after their modern name, along with their old name (EB or MB), in confirmed cases, such as Tell Mishrifeh/ Qatna.

This chapter tried to provide the following information for each site: its location, its coordinates, its shape and dimensions. The name of the archaeological mission that has excavated it, its Stratigraphy, and finally its Fortifications during the Early and Middle Bronze Age.

SYRIAN JAZIRAH

Tell ‘Atij

Location: Located about 20 km south of Hasseke,[902] (13 Km depending on the google map), on the left bank of Khabur and is part of the salvage zone of the Middle Habur.[903]

Coordinates: 36°25'49" N, 40°51'51" E.

Dimensions: It consists of two Tells/mounds; the main Tell (Fig. 52) covers an area 0.6 ha, it measured 150 m long and 40 m wide at its base with an 8 m accumulation of occupational debris, and a secondary Tell covers an area 0.8 ha, it measured 200 m long and 40 m wide, which does not exceed more than 2 m in height, in antiquity, a 30 m wide river channel separated the two mounds,[904] during the time 'Atij was occupied, the river was higher and much wider than at the present.[905]

Expedition: Canadian team from Laval University (Québec), headed by prof M. Fortin.[906]

Stratigraphy:

- Ninevite 5 period.

902 Fortin 1991a: 208.
903 Fortin 1998: 17.
904 Fortin 1998: 17. / Fortin, Cooper 1994 :34.
905 Fortin 1998: 17.
906 Fortin 1991a: 208.

- EB I-II -III (ca. 3000-2500 BC).

Fortifications:

Early Bronze Age

The Enclosure Wall

On the Summit of the main Tell (Fig. 52), two excavation squares were opened (B-C 13), in this sector a massive mudbrick wall has been detected, 2.50 m wide, due to the wall's curved construction, it is probable that it encircled the entire site in antiquity,[907] this "enclosure" wall was also excavated in its entire width further to the north on the main Tell (Sq E 5). Here, it was possible to record the wall's total height of 4 m,[908] since the wall has been built on virgin soil, we must conclude that it played a defensive role from the onset of the site's occupation (EB II - 2800 BC).

This should come as no surprise in view of the importance of the installations on the main tell and the site's economic role during this period, as a storage and distribution centre for cereal plants.

Furthermore, we suspect that the defensive wall was a precaution against pastoral nomads who grazed their flocks in the vicinity and who may have hoped to appropriate for themselves provisions of grain conserved in the silos.

Through a reconstruction of the original line of the enclosure wall, we can observe how much of the site was eroded away by the river after the site was abandoned.[909]

Depending on (Fig. 52), the reconstruction wall has an elliptical shape, with diameters around 72-75 m, north-south and 45-50 m, west-east, that lead the circumference is 191-194 m, and it enclosed an area around 0.25 ha.

Tell Bderi

Location: Located almost 15 km south of Hassaka, on the east bank of the Khabur River.[910]

Coordinates: 36°23'17" N, 40°48'49" E.

Dimensions: It has an elliptical shape and measured about 310 m from the north to the south and 245 m from the east to the west (Fig. 53). The Tell, which raises 12 m above the surrounding flood

907 Fortin, Cooper 1994 :44.
908 Fortin, Cooper 1994: 44.
909 Fortin, Cooper 1994: 44.
910 Pfälzner 1990: 64.

plain,[911] covers an area 4.6 to 6 ha during the Early Bronze Age.[912]

Expedition: German team (Free University of Berlin) under the direction of Prof. Dr H. Kuhne.[913]

Stratigraphy:

- Sherds of Chalcolithic Halaf pottery have been found on the surface of the Tell/mound dated to the 5th Millennium BC.

- The oldest excavated settlement layer dates from the Uruk period, at the end of the 4th Millennium BC.

- Beginning of the Early Bronze Age, the first half of the 3rd millennium BC, until the Late Bronze Age, the second half of the 2nd millennium BC, layers 25 to 7 belong to the Early Bronze Age (EB), they cover probably the entire Early Dynastic period from 2800 BC until 2350 BC and reach into the following Akkad period from 2350 BC until 2200 BC.

- After this period, we recognise a hiatus, an interruption of occupation in the Middle Bronze Age (MB). The settlement must have been nearly completely abandoned, this is level 6 of the step trench.

- A new intensive occupation starts in the Late Bronze Age (LB) at about the middle of the 2nd millennium BC. This was the time of the Hurri-Mitannian empire during the 15th and 14th centuries BC. Architectural layers 5 to 3 of the step trench belong to this period.[914]

Fortifications:

The beginning of the Early Bronze Age, during the 3rd millennium BC, we can observe the rapid growth of the settlement, which was fortified by a mighty city wall with a glacis in front of it, this wall runs along the foot of the present Tell. Evidently, the wall once surrounded the entire city, the erection of this wall at the beginning of the Early Bronze Age determined the extent and size of the settlement throughout the 3rd millennium BC.[915]

Early Bronze Age

The city was surrounded by the wall and glacis in front of is dated to the beginning of the Early Bronze Age (EB I) during the 3rd millennium BC.[916] From the (Fig. 53) we can see the wall has around 840 m long and pierced in the sloping southern area with a gate measured 3 m wide, has

911 Pfälzner 1987a: 276.
912 Pfälzner 1990: 67.
913 Pfälzner 1987b: 292.
914 Pfälzner 1990: 65-66.
915 Pfälzner 1990: 66.
916 Pfälzner 1990: 66.

been built of mudbricks, it is at least 2.80 m wide,[917] the bricks are rather small, at the average 20 × 20 cm in size.[918]

In front of it, there is a sloping glacis, made of pise or mashed clay[919]without the use of bricks; the glacis is 1.70 to 2 m wide,[920] a special technique of pise is applied. Partitions of mud - 0,5 to 1 m wide and sometimes more than 1 m long - are set side by side in several layers, as different clays are used the partitions sometimes differ in colour from each other. In the eastern part of the wall, the glacis seems to be renewed and broadened once or even twice.

Gate (Fig. 126)

The city-gate in level 25 in south sloping area of the step trench dates from the Early Dynastic I period, which was the beginning of the 3rd millennium BC,[921]a city-gate leads through the wall and glacis, it was 3 m wide, and its passage is lined on both sides by orthostats, they are roughly dressed, unsmoothed stone slabs, about 20 cm wide,[922] the orthostat at the eastern side is still standing upright. Its height is 1.25 m high and 95 cm wide,[923] the one from the western side is fallen down and broken in several large pieces lying in the passage of the gate, at the outside the gate has been reinforced on its western side by a tower.[924]

This tower is only 1.80 × 1.80 m large and built of brick debris and mud within a framing of upright standing mudbricks,[925] a way marked by pebbles leads away from the gate in southern direction. The way is flanked on both sides by a mudbrick wall over a distance of 4 m, judging from the pottery found in the passage of the gate the defences are dated tentatively to the beginning of the Early Bronze Age, the early dynastic I or II.[926]

Tell Beydar / Nabada

Location: Beydar I dated to the 3rd millennium BC, is located 35 km to the north-west of Hassake in the upper Syrian Jazirah, a region called "Khabur Triangle, at the cross point of two major roads: the east-west road leading from the Tigris to the Euphrates, and the north-south road that leads to the Diyarbekir plain and to the region of Altinova.[927]

917 Pfälzner 1987b: 294.
918 Pfälzner 1987b: 294. / Pfälzner 1989/90: 216.
919 Pfälzner 1990: 67.
920 Pfälzner 1987b: 294.
921 Pfälzner 1990: 68.
922 Pfälzner 1987b: 294.
923 Pfälzner 1989/90: 218.
924 Pfälzner 1987b: 294.
925 Pfälzner 1987b: 294.
926 Pfälzner 1987b: 294.
927 Lebeau, Suleiman 2005: 3.

Coordinates: 36°44'16.6" N, 40°35'13.3" E.

Dimensions: Beydar I (Fig. 47), covers an area 25 ha[928] 28 ha[929] 28.5,[930] the topography is based on concentric circles, starting from outside, we encounter first a fortification circle (diameter 600 m, perimeter 1885 m),[931] which clearly represents a rampart.

Inside this perimeter and at altimetry slightly lower than the plain, lays an empty space corresponding to the lower city,[932] a wide and deep ditch, dating most probably to the Early Jazirah II, surrounded the upper city.

Further inside rises an upper city, of a diameter of 400 m that culminates at 20 m, while at the centre of the site stands a small acropolis (diameter 60 m, height 7.50 m).

Several gates can be identified that cut both the outer perimeter and the flanks of the upper city.[933]

Expedition: Syro-European archaeological mission the European Centre for Upper Mesopotamian Studies in collaboration with the Directorate-General of Antiquities and Museums of Syria) Start in 1992.

The European part of the mission is directed by Marc Lebeau, the Syrian one is led since 1995 by the late Antoine Suleiman (by H. Hammade in 1994). Since 2005, directed by Abd el-Messih Baghdo.[934]

Stratigraphy:

Beydar I, this site clearly dated to the 3rd millennium BC and was partially reoccupied in the Hellenistic period, a sounding was opened there in 1996. The virgin soil has been reached, and Late Chalcolithic 1 and 2 levels have been recognised (c. 4300–3700 BC).

At the base of this circular site, there is a lower city of more than 50 ha, built during the Mitannian period, probably in the 14th century BC, which was abandoned and later rebuilt in the neo-Assyrian period (this part of the site is called Beydar II).[935]

Beydar III, about 500 m south of Beydar I, 1.3 h and 3 m high.[936] The virgin soil has been reached, and Late Chalcolithic 1 and 2 levels have been recognised (c. 4300–3700 BC).[937]

928 Lebeau, Suleiman 2005: 3.
929 Lebeau 1997: 9.
930 $A = \pi r2$.
931 Lebeau 1997: 9.
932 Lebeau, Suleiman 2005: 13.
933 Lebeau, Suleiman 2005: 13.
934 Lebeau, Suleiman 2005: 2.
935 Lebeau, Suleiman 2005: 3.
936 Nieuwenhuyse, Suleman 2002/03: 41.
937 Lebeau, Suleiman 2005: 3.

Table 28: Stratigraphy of Tell Beydar I.[938]

Early Bronze I	Early Jazirah 0	Jamdat Nasr		3000-3050 BC.
Early Bronze I	Early Jazirah I	Early Dynastic I	Beydar I	2800-3000 BC.
Early Bronze II	Early Jazirah II	Early Dynastic II	Beydar II	2600-2800 BC.
Early Bronze III	Early Jazirah IIIA	Early Dynastic II-III	Beydar IIIA	2400-2600 BC.
Early Bronze IVA	Early Jazirah IIIB	Late ED III – Early Akkad	Beydar IIIB	2300-2400 BC.
Early Bronze IVB	Early Jazirah IV	Akkad	Beydar IVA	2200-2300 BC.
Early Bronze IVB	Early Jazirah V	Ur III – Lagash II	Beydar IVB	2000-2200 BC.

Fortifications:

Beydar I, Field I, **Early Bronze III c.2600 and 2400 BC**

This field occupies the north-east slope of the 3rd millennium upper city (Beydar I), just inside the inner fortification wall, where the presence of a deep gully approximately on the line of one of the major gaps in the outer wall suggested the presence of one of the ancient accesses to the upper (inner) city, the opening in the fortification wall was protected by two huge, massive brick structures projecting on its internal side.

Through this passage, a narrow street lead from the outer city toward the mound's central plateau, this street was flanked on both sides by large complex buildings, possibly official in character, and by small open spaces occupied by graves and dumping areas, with the exception of some Hellenistic pits, excavated layers date between the EB II – III, EJ II/IIIA and the EB IVA, early EJ IIIB period, the dates obtained from a number of 14C samples from different parts of the field cluster between 2600 and 2400 BC.

In general agreement with those proposed on the basis of the pottery sequence, the various elements (notably some early pottery fragments) suggest that the area was occupied since the beginning of

938 Lebeau, Rova 2003: 10-11.

the 3rd millennium BC.[939]

North-east inner-city gate, EB II to the EB IVA, (EJ II to early EJ IIIB)

On both sides of the street, the inner city gate complex was a huge, massive structure which extended for several meters in both directions, the top of the structure appeared rather wearied and eroded, it was certainly standing for a long time, and was probably repeatedly modified and repaired, between the EB II / EJ II and the beginning of the EB III /EJ IIIA period,[940] the gate structure was remarkably asymmetrical: the limits of the east wall were shifted of ca. 4 m in the north direction in comparison with those of the west wall, the latter extended for 15m in the north-south direction, along the street, and for at least 7 m from the west to the east.[941]

The east face was articulated into a series of irregular buttresses, the north face was also rather irregular, and was joined to the north by a system of glacis-like superimposed sloping layers of compacted clay and debris, retained by a series of smaller mudbrick walls, the northernmost of these walls was used, during the EB III /EJ IIIA period, as the south limit of a building flanking the continuation of the street in the lower city area.[942]

One room of this building could be completely excavated, it was accessed from the north through a narrow corridor, while a second door opened to the west, into what seems to have been an open space outside of the inner fortification wall,[943] the room had a fine, light-plastered floor, which raised into a low bench running along its north and east walls.

On its eastern wall, along the street, there were two niches, in which small, a window like openings were probably located, the presence by this phase of rooms joining the external side of the inner fortification wall confirms the suggestion that this had already lost its original defensive function.[944]

The limits of the opposite side of the inner city gate wall were less clear, since the area had been heavily disturbed by the wadi; it is sure, however, that it extended for more than 15 × 6 m, both walls were built with a mixed technique which alternated sections of proper mudbrick walls with sections filled with pisé and miscellaneous debris filling layers, in the lower part of the wall, large, very fine, sandy bricks of greyish-yellowish colour were used.

These were covered by layers of crumbly, reddish bricks, which probably represented a later phase in the life of the inner-city gate structure,[945] the area inside the north-east inner city gate was characterised by series of complex buildings on both sides of a narrow street.

939 Lebeau, Suleiman 2005: 5.
940 Lebeau, Suleiman 2005: 8.
941 Lebeau, Suleiman 2005: 8.
942 Lebeau, Suleiman 2005: 8.
943 Lebeau, Suleiman 2005: 8.
944 Lebeau, Suleiman 2005: 8.
945 Lebeau, Suleiman 2005: 8.

The Inner-city wall

It has surrounded the upper city, was pierced by seven large gaps which are the places of the supposed gates, it is enclosed an area 12.5 ha.

Field G

Located on the outer side of the upper city, in front of the north gate (field H) of the outer fortification wall surrounding the 3rd millennium BC settlement, the excavation consisted of a 41m long, 4.5–3m wide, 14 m deep step trench, from the top of the upper city slope down to the ring-shaped depression which surrounds it.

The 1997 excavation allowed to obtain a complete sequence of the early 3rd millennium occupation of the upper city, from the EB III /EJ IIIA down to the EB I/ EJ I period, under which virgin soil was encountered, the investigated area was divided into three different sectors, from the top to the bottom of the slope.[946]

The first section of the sounding:

Domestic occupation inside the inner fortification wall in the southernmost part of field G, a sequence of domestic buildings leaning against, and partially cutting into, the internal side of the large inner fortification wall was unearthed.[947]

The second section of the sounding:

The inner fortification wall has gone through three successive phases of rebuilding, all of them characterised by a massive mudbrick wall doubled on the outer side by a sloping "glacis", whose upper surface was repeatedly coated with a layer of hard clay,[948]the latest phase is represented by wall 7662, whose glacis, whose total height was 7.50 m,[949] was coated with hard, whitish soil 4.5 m wide.[950]

Under the base of wall 7662, the remains of a second, earlier fortification wall 7904, were found. Its preserved height amounted to 2.28 m and 1.5 m wide, wall 7904 is similar to 7662, in that it is also doubled, on the outer side, by a glacis made of grey bricks coated with hard layers of clay, of a different quality from that used for its bricks.

Under this, a third, earliest wall 7917 was found, it also had an associated glacis made of grey bricks, coated with a 5cm wide layer of red clay, wall 7917 was 1.85 m wide. top alt. is 366.56 m,

946 Lebeau, Suleiman 2005: 10.
947 Lebeau, Suleiman 2005: 10.
948 Lebeau, Suleiman 2005: 10.
949 Suleiman 2003: 303.
950 Quenet 1997: 170.

base alt. is 365.00 m.[951]

While the latest wall 7662 can be attributed to the early EB III/ EJ IIIA period, the second wall 7904 dated to the EB II /EJ II period (a considerable amount of excised Ninevite 5 pottery was recovered from associated levels), as for the earliest wall 7917, the presence in layers underlying it of some associated fragments of local dark-red painted wares ("Karababa-like" pottery) suggests dating its construction at the very end of the EB I /EJ I period.

Under these layers, virgin soil was reached in this area, thus allowing to date the first occupation within the EB I /EJ I period, a grave was found some 0.65 m outside of the external limit of the inner fortification wall. It had been dug, probably at the time of the latest wall, into the glacis of the previous phase, and contained two Metallic Ware vessels, four bronze toggle-pins, and a necklace of beads of different colours.[952]

The third section of the sounding:

The nature of the lowest strata encountered supports the hypothesis that this area was swampy in ancient times. In 1998, a long, narrow trench was opened to connect the central mound with the outer fortification wall,[953] the recovery of some pottery sherds from its base proved that the depression is a human-made and was purposely dug to serve as a ditch for the defence of the settlement.

The outer fortification wall

The remains of the wall are still visible on the ground, as an annular raised area 4 -7 m above the surrounding plain, with a diameter 600 m, perimeter 1884 m, the wide for embankment today about 90 m wide,[954] this embankment has only been explored in area H. Seven large gaps (7 m wide) which presently cross it mark the gates of the ancient settlement, leading to the major ED destinations such as Mardin to the north, Urkeš to the east-north-east, Ninua to the south-east, Nagar to the south-east, the Æabur River to the south-west, the Abd el-Aziz to the south-west, and Chuera to the west north-west.[955]

From the outer gates, streets following a radial pattern lead toward the upper city, crossing the inner fortification circuit at points which are presently marked by deep gullies on the central mound slope,[956]the outer fortification wall was built early in the site's sequence, probably at the end of the EB I /EJ I period, an area roughly 80 m wide around the foot of the upper city was probably the

951 Suleiman 2003: 303.
952 Lebeau, Suleiman 2005: 10 -11.
953 Lebeau, Suleiman 2005: 11.
954 Lebeau 1997: 9.
955 Lebeau, Suleiman 2005: 13.
956 Lebeau, Suleiman 2005: 11.

area where the earth used in the construction of this wall.[957]

During the following EB II /EJ II period and later, several graves were dug on its sides, while in the following EB III / EJ IIIA period the wall went out of use and was partially dismantled, and small private houses and workshops were built against and partially over it.[958]

Field H

On the northern side of the site, a 4.50 m wide massive wall made of successive layers of clay blocks was found, this was originally overlain by a mudbrick wall, of which however no traces could be detected, and which was had probably been dismantled in ancient times, on its northern outer side, the wall was protected by sloping layers of hard clay, into which a number of adult and children burials were dug.[959]

Field K

Excavation in Field K, in the north-west part of the outer fortification wall, just east of the present road crossing the external fortification, the excavated area is located on the inner slope of the rampart. Under a thick mixed accumulation, a layer characterised by graves of the final EB III /EJ IIIA earliest EJ IVA / EJ IIIB period was encountered.[960]

Tell Chuera

Location: Located in the Raqqa province of north-eastern Syria between the Balikh and Khabur rivers,[961] around 112 km west of Hassake.

Coordinates: 36°38′44.88″ N, 39°29′53.88″ E.

Dimensions: It has a circular shape and covers an area 77 ha (Fig. 19), its diameter at least 1 km, up to 18 m high,[962]in the centre is the elevated upper city with a diameter of approx. 600 m.

Expedition: Tell Chuera was recognised and described in 1913 by Max Freiherr von Oppenheim as a first-class settlement; the first excavations were carried out by the French structural historian Jean Lauffray in 1955, Systematic excavations began in 1958, under the leadership of Anton Moortgat, professor of post-modern Asian Archeology at Freie Universität Berlin. He directed the digs, which for political reasons had to be pierced for several years, until his death in 1977.

957 Lebeau 1997: 9.
958 Lebeau, Suleiman 2005: 11.
959 Lebeau, Suleiman 2005: 11.
960 Lebeau, Suleiman 2005: 12.
961 Meyer 2007: 129.
962 Meyer 2007: 131.

From 1982 to 1985, Ursula Moortgat-Correns from Berlin continued the excavations, in the first two years in collaboration with Prof. Winfried Orthmann from the University of Saarland in Saarbrücken, from 1986 onwards, Prof. Orthmann is responsible for the excavations on his own responsibility,[963] since 1994, the project is responsible at the Martin Luther University Halle-Wittenberg, in 1998 the Excavation was taken up by a team from the Goethe University Frankfurt, under the direction of Professor Jan-Waalke Meyer.

Stratigraphy:

The first settlement at this place was established in the Halaf period, in the 5th millennium BC, the site was abandoned in the 4th millennium BC, in the first centuries of the 3rd millennium BC, a city was founded (Chuera IA).[964]

The oldest layers (Chuera IB) encountered during the excavations date back to the second quarter of the third millennium (about 2700-2600), in the Chuera IC (ca. 2600-2450 BC) the city has already grown to impressive size, it had several thousand inhabitants, a road network with a central main road and radial access roads and a series of large temples.

In the following period Chuera ID (c. 2450-2300 BC), the temples in the city centre are combined into a cult complex, at this time, the city is surrounded by a massive wall of mudbricks, about 6-10 m high, the period Chuera IE (c. 2300-2200 BC) can be dated to the Akkad period, around 2200 BC the city is completely abandoned.

A resettlement took place in the 14th century BC, when this part of Syria belonged to the Mitanni kingdom, in this period (period IIA), only the northern part of the upper city is populated, the remains of the Middle Assyrian period are the period IIB (ca. 1250-1150 BC) on Tell Chuera, in the north of the upper city the residence of a local Assyrian statue was excavated, in the 12th century BC, the city was abandoned and rebuilt only to a very small.[965]

Table 29: Stratigraphy of Tell Chuera.[966]

- Early Bronze I	Early Jazirah 0	Jamdat Nasr		3000-3050 BC.
- Early Bronze I	Early Jazirah I	Early Dynastic I	Chuera IA	2800-3000 BC.
- Early Bronze II	Early Jazirah II	Early Dynastic II	Chuera IB	2600-2800 BC.

963 Orthmann 1997: 491.
964 Orthmann 1997: 491.
965 Meyer 2010: 14.
966 Meyer 2010: 14.

- Early Bronze III	Early Jazirah IIIA	Early Dynastic II- III	Chuera IC	2400-2600 BC.
- Early Bronze IVA	Early Jazirah IIIB	Late ED III – Early Akkad	Chuera ID	2300-2400 BC.
- Early Bronze IVB	Early Jazirah IV	Akkad	Chuera IE	2200-2300 BC.
- Early Bronze IVB	Early Jazirah V	Ur III – Lagash II		2000-2200 BC.
- Late Bronze Age		Mitanni	Chuera IIA	1400-1300 BC.
- Late Bronze Age		Middle Assyrian	Chuera IIB	1250-1150 BC.

Fortifications:

The outer and the inner walls follow a more or less exact circle, originally the Tell Chuera was obviously a normal settlement with a massive city fortification.

During EB I - Tell Chuera IA, in area H, a part of fortification wall has been detected, this part of the wall was 1.85 m wide and built upon a slightly wider foundation,[967] there is no data if the wall was surrounding the entire upper city or it was just protecting an important building. If the first fortification wall was surrounding the entire upper city, that means its length measured 2500 m.

During EB II - Tell Chuera IB, the upper city has been surrounded by a fortification wall, measured ca. 4 m wide, at least 6 m high and enclosed an area 50 ha with a circumference of 2,5 km,[968] Prof Meyer said, "The construction of the inner fortification wall is required at least 10 million[969] to 15 million[970] mudbricks" in the early period Tell Chuera IB (ca. 2.650 BC), this wall was protected the palace and the official, administrative buildings and private dwellings as in area K and H, which in each case are accessible from one of the radially running streets.[971]

At the end of the Tell Chuera IB period, or at the beginning of the Tell Chuera IC period (around 2,500 BC), the city was extended in the course and the outer fortification wall was built, it has been excavated in P, U and Z, at the same time, the inner fortification wall was abandoned as an actual

967 Helms 2018: 341.
968 Meyer 2007:141.
969 Meyer 2010: 181.
970 Meyer 2010: 181.
971 Meyer 2007: 139.

fortification.

The fortification of the upper city apparently fell out of use after the construction of the outer fortification wall, when the inhabitants of the site began to utilise it as an intramural burial ground. At that point, the defence capacity of the site relied solely on a single line of defence, at least for a certain period.[972]

Period IB yielded neither trace of a fortification wall nor of any proper settlement in the lower city, apparently, the inner fortification wall served its purposes only during the early phases and as the city grew. New fortifications in the outer perimeter were erected, in other words, the two defensive systems are not contemporaneous at all, and thus Chuera is not to be viewed as a "Kranzhugel" during its early phases (the foundation phases), thus, outer and inner-city walls have never served simultaneously as a city fortification. This means that the double-wall ring (upper and lower city) remains an external characteristic of the settlements of the "Kranzhügeltyp".[973]

The course of the outer fortification wall is clearly visible in the north-east, but also in the south, In the western and north-western part, the outer wall is not as well preserved,[974]in the outer fortification wall there are several gateways, at least seven, all of which seem to be connected with streets or similar structures, altogether, the number of supposed gateways seems to be more than one can expect in order of a defensive character of the fortification wall, some of them are probably to be interpreted as canals running outside,[975] in the north-eastern area outside the city-wall a faint line can be made out, maybe a canal.[976]

With the city's extension in Tell Chuera period IC (ca. 2.500 BC) corresponds with ED/EJ LIIb,[977] The city during EB III and EB IVA was fortified by an outer mudbrick fortification wall, which has been detected along the northern (area P), western (area Z), southern (area U), and the south-eastern perimeter of the Tell (area W) .[978]

During Tell Chuera period IC (ca. 2.500 BC) the city has been extended, and it has been fortified by an outer fortification wall 3100 m long and 5.5 -8 m wide enclose a circular area ca.77 to 80 ha.

During period ID (ca. 2.350 BC) the outer wall in some places was reinforced on a massive scale,[979]and the outer wall in those places has been expanded to 9-12 m wide, between 7-9 m high as in area Z,[980] and some segments of the outer fortification wall were even partly demolished and completely rebuilt,[981] and in some places, they used the wall of period IC during period ID as in

972 Helms, Meyer 2016: 147.
973 Meyer 2010: 181.
974 Meyer 2007: 131.
975 Meyer 2007: 135.
976 Meyer 2007: 134.
977 Meyer 2007: 137.
978 Helms, Meyer 2016: 145.
979 Helms, Meyer 2016: 148.
980 Meyer 2007: 141.
981 Helms 2018: 343.

area W.

Prof Meyer said, “The construction of the outer fortification wall is required around 18 million mudbricks during period IC (EG IIIa) and at least 7 million more during the later period ID”,[982] it must be emphasized that the construction of these complex fortification facilities in both periods, as well as the obviously planned urban development, suggest a strong political organisation capable of correspondingly employing workers.[983]

Area P, the eastern side of the Tell (Fig. 61)

In period IC, the wall was 5.50 m wide and almost 7 m high, it had a revetment wall "Vormauer" and a glacis (a fixed base in front of the wall with a sloping surface),[984] a revetment wall "Vormauer" was erected 6 m front of the wall it was 1.2 m wide, which was built in its older stage of mudbricks. In its later phase (period ID), it had a foundation of relatively large, unprocessed limestones.[985]

Between the outer fortification wall and the revetment wall there is a glacis (period IC) built of complete and fragmented mudbricks, above this "glacis" lay a black fine ash layer, which contained relatively little ceramics, this glacis was renovated in period ID,[986] it was shown by geological investigations that there was a city moat outside the siege, which apparently had spread around the entire Tell.

Area Z (Fig. 60)

The oldest construction phase of the city wall is on a thin ash layer above the grown soil, based on the ceramics, it can be assigned to the period Tell Chuera IB about EB II / III,[987] in Tell Chuera IC the wall has been built of mudbricks without stone foundation, is 5.50 m wide in this older phase (layer 2) and is preserved up to a height of 3 m.

After a comprehensive destruction horizon, a new or a reconstruction follows, in the course of which the old city wall is not only built over but also increases considerably in width (layer 1); It is now about 9 m wide dated to Tell Chuera ID as a result of this broadening, the older structures erected directly on the walls of the city walls,[988]in front of the outer fortification wall there is a construction, this is a box-like, 6.5-meter-wide and 2.5 m high, the structure consisting of two rooms separated by a mudbrick wall, which are completely filled with gravel.[989]

982 Meyer 2007: 141.
983 Meyer 2010: 181.
984 Novák 1995: 175.
985 Novák 1995: 175.
986 Novák 1995: 175.
987 Meyer 2010: 175.
988 Meyer 2010: 176.
989 Meyer 2010: 176.

In both construction phases of the city wall, this structure is covered by a sloping glacis sloping outwards. The reason for the construction of this facility is to be seen near Wadis; in this way, the mudbricks of the actual city walls should be protected from the water.

In the 1990s, of the settlement a stone wall was found, which was also regarded as protection against water, the width of the older city wall (Tell Chuera IC) is increased to 12 m and the width of the next level of city wall (Tell Chuera ID) to 15.5 m,[990] that means the rampart structure in area Z, consists of a mudbrick outer wall, a mudbrick revetment wall and a glacis.

Area W

Defensive structure consists of a 5.5 m high rampart, on which the actual city wall was erected,[991] in area W-4 (Fig. 58-59), in stage one - during local period TCH ID a massive rampart was banked up against the old phase 3 city wall, its substructure and bottom part were constructed from more or less horizontal layers of gravel, mudbrick and loam, but it also contains ashy deposits, indicating that garbage was used for construction,[992]in the second stage, leaning against the rear wall of a large building (Haus 5) which was erected on the stub of the older city wall.[993]

In the third stage, a new city wall was built on top of rampart, prof Meyer refer to the combination of city wall and rampart as construction phase 2, both defensive elements constitute an architectural and functional unit, the excavated segments of the curtain wall are 3.5–5 m wide,[994]the wall is made up of straight segments, which are interconnected in the already described offset manner.

Behind the wall the geomagnetic prospection revealed the existence of a roughly circular road which was also exposed in several excavation areas, the ring-road, which was paved with pebbles during period TCH ID and facilitated direct access to various parts of the settlement,[995] presumably the radio-concentric shape of the street system of Tell Chuera and other circular sites offered an advantage to the defenders, we can see two bastions associated with the fortification wall in this area, a first one large rectangular bastion (Bastion I) and second (Bastion II) is smaller than the first[996] (Fig. 109-110).

In fourth stage - prof Meyer said, “the inhabitants of Chuera’s lower city started to use the glacis as a dumpsite, through the enormous accumulation of ashes, which were simply dumped over the wall, the rampart gradually lost its steep character, in the long run, most certainly to the disadvantage of its defence capacity”.[997]

990 Meyer 2010: 176.
991 Helms, Meyer 2016: 148.
992 Helms, Meyer 2016 :151.
993 Helms, Meyer 2016 :152.
994 Helms, Meyer 2016 :152.
995 Helms, Meyer 2016 :152.
996 Helms, Meyer 2016 :153.
997 Helms, Meyer 2016 :154.

The practice of using the outer defence works as a convenient location for waste disposal offers a good example of how the city walls were integrated into the daily routines of the EBA community, which apparently also included an 'out of sight, out of mind attitude' when it came to the question of discarding household waste, in the fifth stage - the excavations in area W-4 also yielded evidence for the demise of the city wall.[998]

Area U

There is a passage of a canal through the city wall, could be detected at a length of 10 m. It runs nearly straight from south to north, it was 1.5 m wide, dated to Tell Chuera IE, and the northern canal area could be recovered in a somewhat deeper section older ceramic that material indicates a use already during the period Tell Chuera ID.[999]

The city wall in this area it is about 7 m wide, the outer, southern part of the city wall is formed by a chamber construction, there is a chamber on either side of the canal which is solidly filled with gravel, as a result, the city wall widens to just under 11 m, this is followed by a glacis descending towards the south.[1000]

Tell Kerma

Location: Located about 15 km south of Hasseke "according to the google map" (Fig. 6-7), on the left bank of Khabur.

Coordinates: /

Dimensions : /

Expedition: Lebanese university in Beirut headed by Muntaha Saghié.

Stratigraphy: /

Fortifications:

The city was fortified by a thick wall that passes to the north and west and gives the impression of encircling the whole site,[1001] the ceramic which has been taken from the debris of this wall, which obviously destroyed by a fire, would date from the third millennium.[1002]

998 Helms, Meyer 2016 :154.
999 Meyer 2010: 177.
1000 Meyer 2010: 177.
1001 Fortin 1991: 13.
1002 Fortin 1991: 13.

Tell Kerma as a commercial counter where foodstuffs were stored for the purpose of trading through the river.

Tell Kharab Sayyar

Location: Located about 86 km north-east of the Raqqa city and 9 km north-west of Tell Chuera,[1003]105 km western al-Hasaka city, between al-Balikh and Khabour Rivers.

Coordinates: 36°35'27.8" N, 39°33'47.1" E.

Dimension: From (Fig. 49) we can see the site has a circular shape its diameter around 170 m and covers an area around 2.5 ha.

Expedition: The excavations were part of the Syrian-German joint project between the Ancient Department of Damascus and the Goethe University, Frankfurt, the excavation was in the hands of Professor Jan-Waalke Meyer as representative of the German and M. al-Khalaf as representative of the Syrian side,[1004]Since 1997, 11 excavation campaigns have been carried out.[1005]

Stratigraphy:

Twenty-seven layers and phases have been detected, the oldest one dated back to the Early Bronze Age and the latest one dated to the Islamic period.

Fortifications:

The enclosure wall which has surrounded the Early Bronze city, has been detected in trench A, from phase 17 to 27,[1006] it has been built directly on the ground; we can see in phase 27, it consists of two segments (677 and 678) (Fig. 50-51), which were separated by a gap of about 5 cm wide; these segments differed both in their width and in the building materials, where the north north-western section (677) was about 1.40 m wide, while the south-eastern section (678) was 1.80 m wide.

One of them has been built of grey mudbricks and the other of reddish-brown mudbricks; that considered an indication that the clay has been extracted from various places. It can, therefore, be concluded that the two segments of the wall were built by two different groups.

Moreover, above the construction phase 20, the segments of the wall were not recognisable,[1007]

1003 Michael 2014: 5.
1004 Hempelmann 2013: 21.
1005 Falb 2012: IX.
1006 Hempelmann 2013: 29.
1007 Hempelmann 2013: 29.

while a rectangular room consists of three walls (360, 361, 365) has been detected, it was connected with the enclosure wall from the outside (Fig. 50-51-111), those walls were directly built on the ground, it can be assumed that they have been built at the same time as the enclosure wall.

Those walls are 1 m wider than the walls of the houses; it could be clearly said that they have no doors, access must, therefore, be from the top. This room can be interpreted as a defence tower or as a storeroom; where the thick walls were protected crops from moisture and unauthorised access animals; therefore, it could be a storeroom. Also, its location "outside of the enclosure wall" give a sign that it could be a tower. Therefore, it is possible to combine both functions where it was protecting the crops that stored inside it.[1008]

Tell Knedig

Location: Located about 20 km south al-Hasaka, in the western bank of the Khabur River, is part of the salvage zone of the Middle Khabur, in the past, the distance between the Tell and the river was 300 m, today the Tell sunk in the lake and just the top of it appears. The Tell is situated in the border area between the rain field and irrigation field with precipitation of 100-300 mm per year.[1009]

Coordinates: 36°17'55.9" N, 40°46'24.5" E.

Dimensions: It has an elliptical shape and covers an area 3 ha[1010] (Fig. 48); the highest point was about 15.00 m above the level of the plain.[1011]

Expedition: German mission, the Museum of Ancient Near East in Berlin from 1993 to 1998,[1012] the project was under the direction of dr. Evelyn Klengel-Brandt, then director of the house and dr. Lutz. Martin, Research Associate at the Museum, who was responsible for the excavation on site. A significant part of the preparation and execution of the work, as well as the evaluation of the results, had been made by Dr Ing. Sabina Kulemann-Ossen, Freiburg, Katrin Bastert-Lamprichs, M.A, Dresden, as scientific assistants. Ralf-B. Wartke, Oberkusto's at the Museum of the Ancient Near East.

Stratigraphy:[1013]

- Early Bronze Age, layers XVI – VII.

1008 Hempelmann 2013: 30.
1009 Brandt et al. 2005: 2.
1010 Brandt et al. 2005: 1.
1011 Brandt et al. 2005: 2.
1012 Brandt et al. 2005: 1.
1013 Brandt et al. 2005: 9.

- Iron Age, layers VI – III.

- Seleucid – Persian - Roman – Islamic, layers II-I.

Fortifications:

Early Bronze II 2750-2600 BC

Remains of an enclosure wall (M 455), has been detected in Sq 97.7 and traced to a length of about 15 m, the wall had a thickness of approximately 2.40 m and built of mudbricks, in the northern outside, it was protected by a glacis made of sloping mudbricks,[1014] and the fortification wall was parallel to another wall which belongs to building XVI.

This wall clearly was surrounded the entire settlement, which in this instance, was characterised by a densely populated area with multi-room houses and storage facilities.[1015]

Tell Mohamad Diab

Location: Located on north-east Syria,[1016] around 12 km south of the modern village al-Qhtaniya, only 8 km south-east of Tell Leilan,[1017] and 84 km east of al-Hasaka "according to google map" (Fig. 6-7).

Coordinates: 36°55'27" N, 41°33'51" E.

Dimensions: At its base, the main Tell measured 400 m by 300 m[1018] and covers an area around 12 ha (Fig. 87), to the west, (hill A) is the highest hill (20 m above the level of the surrounding plain) and its base measured 190 ×120 m, and covers an area of 2.28 ha. Its slopes have been steeply eroded.

To the east (hill B) represents the second relief of the Tell with a height of 15 m and dimensions of 90 × 100 m (covers an area of more than 0.9 ha).

The rest of the main Tell (hill C), is a long plateau attached to hill B, measured 130 ×130 m with a summit 13 m from the altitude of the surrounding plain, over time, the erosion has profoundly altered the topography of the site, accentuating the separation of the mounds. [1019]

Expedition: From 1987 to 2000, with two years of interruption in 1989 and 1994, twelve

1014 Brandt et al. 2005: 34.
1015 Lebeau et al 2011: 139.
1016 Nicolle 2006: 1.
1017 Weiss 1997: 343.
1018 Bachelot et al. 1990: 9.
1019 Nicolle 2006: 1.

excavation campaigns financed by the Ministry of Foreign Affairs were carried out under the direction of Professor J.-M. Durand (Prof. Collège de France),[1020] Since 2005, the mission under the direction of C. Nicolle (CR - CNRS).

Stratigraphy:[1021]

- MD. XIV Beginning Ninevite 5 - Early Jazirah I.
- MD. XIII Ninevite 5 - Early Jazirah II.
- MD. XII Early Bronze III - Early Jazirah III.
- MD. XI Akkad - Early Jazirah IV.
- MD. X Ur III - Early Jazirah V.
- MD. IX Old Jazirah I.
- MD. VIII a -b Middle Bronze - Old Jazirah II – III.
- MD. VII Late Bronze - Middle Jazirah I.
- MD. VI Late Bronze - Middle Assyrian - Middle Jazirah II.
- MD. V Seleucid.
- MD. IV Roman.
- MD. III Byzantine.
- MD. II Islamic.
- MD. I Contemporary.

Fortifications:

MD III Va -Level 5b.5 in the Top of the hill A[1022]

Middle Bronze Age-old Jazirah II.

During the Middle Bronze Age (OJ II), the top of the hill A, was surrounded by a mudbrick wall and a glacis laid against of it, the circular mudbrick wall (3635), measured 1,20-1,50 m wide, on

1020 Nicolle 2006: 2-3.
1021 Nicolle 2010: 160.
1022 Nicolle 2006: 107.

the assumption of a regular curve, it is possible to restore a diameter of approximately 50 m for the entire enclosure, it is enclosed an area 0.020 ha. Its base elevation is 399.60 m, and its top elevation is 400.49 m, that means the wall is preserved to height 0.89 cm, the outer side of the wall is protected by a glacis (3960), composed of earth compacted slope towards the west.[1023]

MD III Va -Level 2-4 in the lower part of the southern slope of the hill A.[1024]

Middle Bronze Age-old Jazirah II

At this level that the construction of an enclosure structure consists of two walls (4341) and (4344).[1025] The thickness of the wall 4341 is 1.20 m, and its height reached 1.30 m, while wall 4344 is situated 1.85 m south of the wall 4341, it measured 1 m wide and is preserved to the height of 0.40 m. These two walls have operated at the same time (Fig. 88).

A small glacis has been built between of them; it consists of an accumulation of horizontal layers of ash and light land. [1026] If this fortification structure was surrounding the entire hill A; that means its length measured around 450 m.

Tell Brak / Nagar

Location: Located in north-eastern Syria, close to the modern borders of Iraq and Turkey,[1027] in the upper Khabur region, near the modern village of Tell Brak, 50 km north-east of al-Hasaka city, in particular, it controls the pass to the south between Jebel Sinjar and Jebel Jeribe, which provides access to the northern Jazirah and one of the major routes to the east and the Tigris Valley.

Thus, Brak functioned as a Gateway City to the rich agricultural lands of the Khabur, and a major road station on routes to the north and west.[1028]

Coordinates: 36°40′03.42″ N, 41°03′31.12″ E.

Dimensions: It covers an area of over 40 ha,[1029] the main mound is approximately 800 × 600 m, and stands some 40 m in height,[1030] Tell Brak consists of a southern area, rising to a height of over 20 m in area DH, and a much higher northern ridge (Fig. 89).

The high north ridge was occupied throughout the second millennium, at least until the Middle

1023 Nicolle 2006: 118.
1024 Nicolle 2006: 45.
1025 Nicolle 2006: 46.
1026 Nicolle 2006: 46.
1027 Oates et al. 1997: XVII.
1028 Oates et al. 2001: XXV.
1029 Oates et al. 1997: XVII.
1030 Oates et al. 2001: XXVII.

Assyrian times,[1031] it lacks the outer fortification wall which characterises most the third and the second millennium cities in the Khabur area,[1032] the north slope of the Tell is today extremely steep the main mound is surrounded by a corona of small Tells.[1033]

Expedition: Excavated by the British archaeologist Sir Max Mallowan, in 1937 and 1938,[1034] a team from the Institute of Archaeology of the University of London, led by David and Joan Oates, worked in the tell for 14 seasons between 1976 and 1993.[1035]

After 1993, excavations were conducted by a number of filed directors under the general guidance of David until 2004, Roger Matthews (in 1994–1996), or the McDonald Institute for Archaeological Research of the University of Cambridge, Geoff Emberling (in 1998–2002) and Helen McDonald (in 2000–2004), for the British Institute for the Study of Iraq and the Metropolitan Museum of Art, in 2006, Augusta McMahon became field director, also sponsored by the British Institute for the Study of Iraq.

Stratigraphy:[1036]

- Neolithic c.6000 BC.
- Halaf c.5000-4500 BC.
- Ubaid c.4800-4200 BC.
- Terminal Ubaid c.4200 BC.
- Northern early Uruk 4000-3800 BC.
- Middle Uruk c.3500 BC.
- Late Uruk c.3400 BC.
- Early Bronze I /EJ 0/ Post Uruk / pre Ninevite 5, c.3000-2900 BC.
- Early Bronze I /EJ I/ ED I/ early Ninevite 5, c.2800 BC.
- Early Bronze II /EJ II /ED II /late Ninevite 5, c.2600-2800 BC.
- Early Bronze III /EJ IIIA /ED II-III/Post- Ninevite 5 /pre-Akkadian, c.2400-2600 BC.

1031 Oates et al. 2001: XXVII.
1032 Oates et al. 1997: XVII.
1033 Oates et al. 2001: XXVII.
1034 Oates et al. 1997: XIX.
1035 Oates et al. 2001: XXII.
1036 Oates et al. 2001: XXX.

- Early Bronze IVA /EJ IIIB / Late ED III – Early Akkad, [1037] c.2300 -2400 BC.
- Early Bronze IVB / EJ V, c.2300-2100 BC.
- Early Bronze IVB /EJ V, c.2100-2000 BC.
- Middle Bronze / Old Babylonian, c.1850-1600 BC.
- Late Bronze / Mitanni, c.1550-1275 BC.
- Late Bronze / Middle Assyrian, c.1200 BC.
- Iron Age / Late Assyrian, c. 900 -750 BC.
- Roman 3rd -4th AD.

Fortifications:

In the third millennium, there is no evidence for city walls at Tell Brak, but the Tell itself, by then of substantial height, may have served as its own defence, or it is possible that powerful Nagar needed no such protection.

In the second millennium, there is evidence that the city was fortified by the fortification wall: part of a defensive system may have been identified in area TW and a famous battle was fought before the gates of Nagar,[1038] there is unequivocal evidence that Nagar it during the Old Babylonian period was walled, with a massive structure, probably part of the defences of a gate, surmounting the small mound that constitutes our area TW, evidence of a city wall was found also on the ridge below trench D and the ridge west of area FS.[1039]

Area TW

Area TW, level 18, the large walls and gateway excavated in 1997, TW levels 19-20, the initial construction of the Niched building is marked by a distinctive but thin layer of gravel that was laid over the entire area. The structure is built over but seems to incorporate the massive walls that had been tentatively identified as city walls (Locus TW 1 101).

These earlier walls had been built of distinctive large bricks (46×25×8 cm) with an extremely thick layer of mud mortar between them, wall 1101 did not continue straight through the western trench, however, but had extensions both to the north and south that were used as the east wall of the

1037 Akkadian Period c.2350-2150 BC.
1038 Oates et al. 2001: 280.
1039 Oates et al. 1997: 142-143.

courtyard of the niched building.[1040]

Tell Rad Shaqrah

Location: Located in the eastern bank of the Khabur river, about 15 km south-east of al-Hasake in south-eastern Syria.[1041]

Coordinates: 36°28'3" N, 40°49'56" E.

Dimensions: The small elliptical mound (Fig. 17) covers an area 1.3 ha, it measured 140 by120 m and 8 m high, it rises more than 305 m asl.[1042]

Expedition: Excavated by the Polish Centre of Mediterranean Archaeology of Warsaw University, under directed Prof. Piotr Bieliński in 1991-1995,[1043] the expedition was part of an international rescue excavation program necessitated by a dam construction project on the river.

Stratigraphy:

The main period of settlement at the Tell is the Early Dynastic III, that is, the beginning of the second half of the 3rd millennium BC, remains of Akkadian-period settlement were also discovered, followed by a long period of abandonment until Neo-Assyrian times.[1044]

- Layer 1 to 3 dated to ED III.
- Layer 4 to 5 dated to Late ED III.
- Layer 6 to 10 dated to Akkadian period.

Fortifications:

Early Dynastic III

There was on Tell Rad Shaqrah a small settlement, encircled by a massive brick-and-stone wall with an abutting external earth-and-stone escarpment this fortification structure is not homogenous; there were at least two consecutive "city-walls" during the Early Dynastic Period.

The older one, was only 2 m wide, and a much stronger, later one, was 3.90 m to 4.80 m wide and was reinforced by a stone revetment, if the older and later wall were surrounding the entire

1040 Emberling, Mcdonald 2001: 23.
1041 Bielinski 1992: 77.
1042 Bielinski 1992: 77.
1043 Lawecka 1998: 81.
1044 Lawecka 1998: 81.

settlement, that means their length measured about 400 m and they were enclosing an area 1.3 ha, these walls have been excavated in four trenches (A, A2, D-1, B3).

In all these areas the walls were reinforced by steep glacis (rampart), except for trench A-l (renamed D-1) instead, there was a substantial mudbrick platform or terrace about 2 m wide and about 1 m lower than the main rampart, also protected by a stone revetment.[1045]

In **trench A,** which located on eastern slope of the Tell, remains of a large structure were uncovered, a fragment of a substantial mudbrick wall was identified, running from the north-northwest to the south-southeast, the part of it has been exposed within the limits of trench A, was over 8 m long, this wall was constructed of mudbricks of two different sizes. It was c. 3.9 m wide and is preserved to a height of about 3.8 m,[1046] dated to ED III / EB III; it was erected on a foundation of basalt boulders since the base of these foundations was not reached, all that can be said is that they were at least 1.60 m deep.[1047]

The wall was reinforced on its eastern outer side, by a steep rampart has been made of clay, broken mudbricks and basalt boulders; this glacis was in itself a carefully built structure, its outer face was made up of several layers of tightly packed stone boulders.[1048]

At the lowest level which has reached in trench A, the rampart was at least 4.40 m wide. It was reinforced the mudbrick wall to a height of about 5 m, in a later stage, the rampart was additionally covered with a new layer of clay and stones, 1.20 m wide,[1049] it is noteworthy that some 3rd millennium pit burials were dug into the outer face of the rampart, two such burials and part of another one was discovered in trench A, while the fourth one was found in trench A-1.

In **trench A-2**, (which measured 6 × 5 m and was extended by 2 × 1.50 m to the north-east) the substantial rampart with its stone glacis was found, the uncovered fragment has a slightly different orientation than the fragment excavated in trench A which runs along the north-west and the south-east axis, the wall has been investigated in trench A-2 follows basically the north-south axis, meaning that somewhere in the rather restricted area between trenches A and A-2, it changes his direction.

The part of the wall unearthed in trench A-2 reveals new data on its construction; it is not homogenous and does not have a straight facade like the previously discovered fragment.[1050]

About 2 m deep at the junction of two separate wall segments, the stone glacis which follows the facade protected this sensitive spot especially well, to the south of this recess, the wall was 2 m

1045 Bielinski 1993: 124.
1046 Bielinski 1992: 77-80.
1047 Bielinski 1992: 80.
1048 Bielinski 1992: 80.
1049 Bielinski 1992: 80.
1050 Bielinski 1993: 123.

wide dated to ED II-III /EB II-III, much less compared to the northern fragment, which is of the same width as the fragment explored earlier in trench A, that is 3.90,[1051]on the inner side of the narrower segment of the big wall, a fragment of a very narrow room was exposed, this room (locus 4/A) was only about 1 m wide and at least 2 m long.[1052]

All the pottery collected from the floors was of Early Dynastic period, it seems that after a certain period of use the room was abandoned and its interior intentionally filled with bricks and stones, this led to suppose that the "narrower" segment of the big wall with the adjoining locus 4/A may represent an earlier phase of the rampart, while the wider segment should represent a later stage, the older fragment was incorporated into the later structure and then, to make it wider and stronger, locus 4/A was abandoned and filled with bricks.[1053]

Trench A-l (renamed D-1) was enlarged and revealed another section of the substantial mudbrick wall found here earlier, the well-preserved stone glacis did not continue westward, instead, there was a substantial mudbrick platform or terrace about 2 m wide and about 1 m lower than the main rampart, also protected by a stone revetment.[1054]

Trench (B3) (Fig. 62) in the south-eastern corner of the mound was opened along an east-west axis it cut through a part of the defensive wall as well as nearly the whole rampart and glacis. The wall was found to be of mudbricks combined with stone, the mudbrick part was approximately 2.80 m wide, and apparently consisted of three separate segments, the inner one made of large regular bricks, the middle one of large bricks set on end and the outer one, which is in fact a filling consisting of broken bricks. [1055]

Adjoining this last segment was the part of the wall, which was raised of big rough basalt stones, the average width of the stone wall was about 2 m and it was close to 4 m high with at least one meter of regularly set mudbricks extending above that. [1056]

On the outside, the basalt wall was reinforced by the rampart composed of three separate elements, the first of these was approximately 3.50 m high and 3 m wide at the base and consisted of a filling of ashes which was carefully covered by stone. The top of this part of the glacis was situated about 0.5 m below the top of the stone wall, the second part of the rampart was c. 1.20 m higher than the first, is measured 4.70 m and about 1.40 m wide at the base, its filling consisted of several layers of clay, earth and ashes, the stone revetment of this part is sparser than the revetment protecting the inner segment of the glacis.[1057]

1051 Bielinski 1993: 123.
1052 Bielinski 1993: 123.
1053 Bielinski 1993: 124.
1054 Bielinski 1993: 124.
1055 Bielinski 1994: 157.
1056 Bielinski 1994: 157.
1057 Bielinski 1994: 157.

Finally, the third and outer segment of this structure, which was only partly exposed in trench B3, appears to have been approximately 1.70 m wide and as high as the second one around 4.70 m, of particular interest is its stone revetment which is composed of very large basalt boulders, some of them nearly 0.80 m in diameter.

The total width of the two inner segments of the rampart is about 4 m, together with the third, the width approaches 6 m. Consequently, the early Dynastic defence wall could have been over 10 m wide if measured with the rampart and glacis.[1058]

Tell Leilan/ (Šekhna), (Šubat-Enlil)

Location: Located in north-eastern Syria, about 85 km north-east al-Hasakah "according to google map", near the Wadi Jarrah in the Khabur River basin in al-Hasakah Governorate[1059] 30 km south-east of Qamishli and 9 km south of Qahtaniyeh.[1060]

Coordinates: 36°57′26″ N, 41°30′19″ E.

Dimensions: It covers an area 90 ha,[1061] the lower city covers an area ca. 75 ha,[1062] (Fig. 16).

Expedition: Excavated by a team of archaeologists from Yale University, the excavation started in 1979 headed by Harvey Weiss.[1063]

Stratigraphy:

Leilan was founded upon a small ridge alongside Wadi Jarrah, in the late Ubaid (Leilan VI) period, at this time the Leilan was about 20 ha in size, during period Leilan V Late Contemporary Uruk period.

Leilan IV period.

Leilan IIIa (painted Ninevite 5), local settlements were of fewer than 10 ha, Leilan IIId - (2600 - 2400 BCE), Leilan suddenly expanded more than six-fold, growing from an acropolis-based settlement of fewer than 15 ha to the approximately 90- 100 ha.[1064]

The lower city (south) exposure shows that the Leilan settlement in the IIId period was a planned city that is straight streets (4.5 m wide) were laid out with straight street walls providing only

1058 Bielinski 1994: 159.
1059 Weiss 1997: 341.
1060 Weiss et al. 1991: 534.
1061 Weiss 1991: 703.
1062 Weiss et al. 1991: 534.
1063 Weiss 1991: 703.
1064 Weiss 1997: 342.

limited access to cross alleys.[1065]

Leilan IIIc period.

Leilan IIa period (c. 2400-2300 BCE) the tradition of the Ninevite 5 period incising disappeared almost completely, [1066] Leilan period IIb (2300-2200), witnessed the Akkadian conquest and imperialization of Subir by Naram- sin.

Desertification and desertion 2200-1900 BC, characterize the collapse of Akkadian imperialism, only at the end of this desertification period, with the reestablishment of favourable climatic conditions in the nineteenth century BCE, was sedentary settlement reestablished on the Khabur Plains by those previously displaced, Amorite chiefs, acculturated in southern Mesopotamia after decades of sedentary life there, led the resettlement, under the paramountcy of Shamshi-Adad, they selected the abandoned urban centre at Tell Leilan to be the new Khabur Plains regional administrative centre, Shubat Enlil, "the dwelling place of Enlil."[1067]

Stratigraphy of Tell Leilan. [1068]

- Leilan IV - 3300-3000 BC.
- Leilan IIIA - 3000-2900 BC / EB I.
- Leilan IIIB - 2900-2800 BC / EB I.
- Leilan IIIC - 2700 BC / EB II.
- Leilan IIID - 2600 -2400 BC / EB III.
- Leilan IIA - 2400 -2300 BC / EB IVA.
- Leilan IIB - 2300-2200 BC / EB IVB.
- Leilan IIC - 2200 BC / EB IVB.
- Hiatus - 2200-1900 BC.
- Leilan I - 1900-1728 BC / MB I – II.
- Leilan 0 - 1700-1500 BC / MB II.

1065 Weiss 1997: 343.
1066 Weiss 1997: 343.
1067 Weiss 1997: 345.
1068 Weiss 1994: 127.

Fortifications:

Three seasons of excavations at Tell Leilan-Operation 4 (1985), Operation 4 extension (1991) and Operation CG (2002)-have explored the construction of the Leilan city wall and the use of space at the edge of the city, excavation has revealed that the city wall mound was not built at one time, but that it is comprised of a complicated series of mudbrick and pisé walls which were built and rebuilt from 2600 BC to 1700 BC, adjacent to the city wall.

The Excavation has uncovered an administrative area at the city gate dating from 2600-2400 BC (Leilan IIId/IIa), a defensive installation at the city gate dating from 2400-2200 BC (Leilan IIa/IIb), and private houses and burials from 2300-2200 and 1900-1700 BC (Leilan IIb/I).

Upper City

Leilan IIID - IIA periods[1069]

The construction of a defensive wall around the Leilan acropolis (north-west) cultic quarter, it protected and isolated the elite, their wealth, and administrative power from the residents of the Leilan lower city and Leilan-region villages, the acropolis (north-west) cultic quarter wall of mudbricks, was 2.5 m wide,[1070] from (Fig. 16) we can see that the length of the wall measured around 1600 m.

Lower City

A summer 2002 excavation at the northern city gate of Tell Leilan, has revealed that the circumvallation of this city dated to ca. 2600 BC, rather than 2200 BC, as the previous limited excavations adjacent to the eastern city wall had suggested, the construction of this outer fortification was coeval with its six-fold expansion, from a 15-ha settlement to a 90-ha city during Leilan IIId - (2600 - 2400 BC).[1071]

The city's outer fortifications measured at least 10 m wide at the base and rise from 5 to 15 m, above the level of the surrounding plains, extending for 3.7 km, and enclosing an area of 90 ha,[1072] there are four gaps in its surrounding earthen rampart, which are located on the north, south, and east sides could be places for gates.

In spring 2002, road construction resulted in bulldozer damage to the northern outer rampart fortification area where the main entrance to the city was hypothesized to be, that let the expiations study the outer rampart fortification, the initial stage of this defensive system was characterised by a set of earthworks situated on a slight north-south slope, these consist of two artificial mounds,

1069 Weiss 1990: 193.
1070 Weiss 1997: 343.
1071 Ristvet 2007: 185.
1072 Ristvet 2007: 186. / Weiss et al. 1991: 534.

which were constructed from the red virgin soil of the plains in two phases, these earthworks were originally approximately 10 m wide and 3 m high.

Wall A (Fig. 63), a massive mudbrick fortification wall for the city and its gate complex was cut into these mounds, it is assumed that these earthworks were a construction in their own right, used during the period pre-dating Wall A's construction, but they may have been built together with Wall A. In any case, this mound would have served as a glacis in front of this wall.

Wall A was a minimum of 3 m wide and is preserved to a minimum height of 2.5 m and extending for 3.7 km, it was constructed of alternating red and black bricks (33 × 17 × 8),[1073] made from the calcic horizon plain soil and the black mud of the wadi Jarrah respectively. This was the main north wall of the city gate area for approximately three centuries from ca. 2600-2300 BC.[1074]

Wall B, rebuilding and enlargement of Wall A was constructed during the Akkadian rebuilding project period IIb (2300-2200).

Wall B (Fig. 63), partially cuts the southern face of the Wall A. It is built of entirely different bricks and is much smaller, only 1.04 m, wide and is preserved to a height of 1.75 m,[1075] this wall was buttressed by at least one short return, which added another meter to the width of this wall, on the southern side of the mound, a similar type of construction can be observed, which probably reveals the southern limits of these fortifications.

An east-west wall, Wall K is 3 m wide and delimits the apparent southmost extent of the city gate complex, this wall appears stepped to the north in the same way that Wall A is stepped to the south.

The bricks appear to parallel those used in Wall B and can be stratigraphically dated to the Akkadian phase (2300-2200 BC).[1076]

Leilan period IIb (c. 2300-2200 BC)

During the Leilan IIb period, the city wall was greatly enlarged, two concentric walls of mudbrick, each 8 m wide (a casemate wall), with a 1 m wide middle wall-perhaps a walkway-running between them, at the eastern edge of the Leilan lower- city.[1077]

At Op. CG, the space between these two walls was widened to accommodate the administrative quarter situated here, another wall (1 m wide) was built just to the south of Wall A, the northern city wall, with at least one buttress, to strengthen the fortifications here. 9 m, to the south, a second, middle wall (1 m wide) was placed, finally, 15 m south of this, a final wall (3m wide) delimited the

1073 Standard size 33 X17X8 cm bricks used in this wall, Ristvet 2007: 200.
1074 Ristvet 2007: 190.
1075 Ristvet 2007: 190.
1076 Ristvet 2007: 191.
1077 Weiss 1997: 343.

southern end of the city gate district.

As a result of this enlargement, the third millennium city gate area was more than 30 m wide, an operation 4 extension, intended to locate, define, and date the third-millennium city wall, was excavated, a defensive system of three contemporary parallel walls, built within trenches cut into calcic-horizon virgin soil, was uncovered, the wall construction trenches and floors are tied stratigraphically and ceramically to the Leilan IIb period.[1078]

City gate complex

The excavation in city gate complex revealed 9 phases, dating from the mid-third (Leilan IIId period, terminal Ninevite 5 to the early 2nd millennium (Period I, Habur ware),[1079]we can define four major changes in the division of space during phases 1-6, all of which probably reflect changes in the administration of the city and its hinterland as a whole.

These include the use of this area during the construction of the external fortification walls, its use as a series of alternately open-air and roofed offices, its use as an open-air quarter, and finally, its reuse as an administrative area. Individual elements, however, persist through several phases, these include fire-installations, carefully prepared floors, and administrative artefacts, particularly sealings, the latter of which have been found in each of these six phases, which suggests that this area's function was managerial throughout the second half of the 3rd millennium.[1080]

The administrative artefacts retrieved from the office space between the northern and southern fortifications suggest that the city gate was used as a toll point that controlled ingress and egress on a daily basis for the inhabitants of the city, visitors, and their goods.[1081]

That is led to the primary function of gates is control. Gates emphasize the political and economic sovereignty of a city; the city gate was not simply an expression of the power of the city, whether to defend itself or to levy tolls. Two letters of the second millennium from Leilan indicate that the city gate functioned as a public area, where policing and juridical activities took place.[1082]

Leilan I 1900-1728 BC

The 2nd millennium fortification walls were recovered in both city wall soundings, in Operation 4[1083], which investigated the eastern city wall, this wall is composed of very clean dark reddish-brown mudbricks with large lime inclusions, identical in appearance to the bricks used in the Period I temple construction on the acropolis. At least eight courses of the fortification wall are preserved,

1078 Weiss 1994: 126.
1079 Ristvet 2007: 191.
1080 Ristvet 2007: 192.
1081 Ristvet 2007: 203.
1082 Ristvet 2007: 203.
1083 Operation 4 is located in the northeast corner of the lower town of Tell Leilan approximately 0.5 km from the acropolis, the trench was placed on the inner edge of the city wall mound that surrounds the lower town.

the wall was at least 5 m wide.[1084]

Tell Mozan / Urkesh

Location: Located on north-east Syria, in the central section of the northern Khabur triangle near the Wadi Dara,[1085]around 20 km to the west of al-Qamshli city "according to google map" (Fig. 6-7).

Coordinates: 37°3′25″ N, 40°59′50″ E.

Dimensions: It consists of the upper city / acropolis and the lower city (Fig. 42-43), the central upper mound covers area 18 ha and stands 25 m above virgin soil, the outer city much lower than the upper mound, and it extends for 400 m, for a total surface of 135 ha.[1086]

Expedition: American expedition directed by Giorgio Buccellati of UCLA and Marilyn Kelly-Buccellati of California State University, Los Angeles., cooperation with Deutsche Orient-Gesellschaft.[1087]

Stratigraphy:

The stratigraphy of the central upper city of Tell Mozan in areas C2 (residential area in the south-eastern part of the central upper city) and B6 (temple terrace area) stretches uninterruptedly over a long period from the Early Bronze II /Early Jazirah II, (ca. 2700/2800 BC) to the Middle Bronze Age II /Old Jazirah II period (ca. 1650 BC).[1088]

Fortifications:

Third millennium - Early Bronze I- II

Inner fortification wall (upper city).

The construction of the inner fortification wall, around the acropolis, is documented especially in areas; K, KW and in S1,[1089] is an imposing city wall made of mudbricks (32-33×8,5-9 cm),[1090] the excavations on this wall show that it was at least 8 m wide, and more than 6 m -7 m[1091] in height,[1092]

1084 Stein 1991: 554.
1085 Kelly-Buccellati 1990: 119.
1086 Buccellati 1997: 60.
1087 Deckers et al. 2010: 1.
1088 Deckers et al. 2010: 2.
1089 Buccellati 1998: 12.
1090 Buccellati, Kelly-Buccellati 1988: 62.
1091 Buccellati, Kelly-Buccellati 1997: 79.
1092 Kelly-Buccellati 1990: 150.

from (Fig. 42) we can see that the length of the inner wall is 1500 m.

The expedition cannot suggest a stratigraphic date for its construction. Inferentially, however, they assume this date to have been in the early third millennium (EB I) since it appears to have been rendered inoperable by the middle of the same millennium.[1093]

In area K a large number of third millennium sherds near these mudbricks appeared to give a date for its construction,[1094] moreover, in area K at the base of this wall, against the plastered face, a sloping glacis was constructed, thus far the glacis has been followed from the wall out into the surrounding lower city for 10.5 m, at this point the glacis is 3.5 m deep, and its bottom has not yet been reached.[1095]

Mid Third Millennium - Early Bronze III

Inner fortification wall.

By the middle of the third millennium, the inner fortification wall was no longer used for its defensive purposes. This is based primarily on the results of excavations in area KW,[1096] the ditch in front of the wall itself was backfilled in such a way as to render it inoperative: without a ditch, the wall would obviously lose much of its effectiveness.[1097]

The surface of the ditch and the glacis which leads up to the wall was covered by a compact and coherent fill, which included a large quantity of burnt brick and was clearly dumped at once, not as the result of gradual accumulation, the preponderance of items found in this fill were door sealings, fragments of small spouted jars, and fragments of large storage vats and jars. They were contained in a red matrix resulting from burning.[1098]

If the inner fortification wall was indeed deprived of its defensive function somewhere in EB III/ED III, it would seem plausible to assume that an alternative defensive system was created and that what is topographically recognisable as an outer ring might be precisely such a wall.[1099]

Magnetic Survey 2002 in the upper city

Considering the geomagnetic rectilinear wall section and the topography of the valley with its straight slopes in the south-east and west, that the upper city wall also took a polygonal shape, the individual sections having a very different length and meeting each other at different angles.[1100]

1093 Buccellati 1998: 12.
1094 Kelly, Buccellati 1990a: 123.
1095 Kelly, Buccellati 1990a: 123.
1096 Buccellati 1998: 13.
1097 Buccellati 1998: 13.
1098 Buccellati 1998: 13.
1099 Buccellati 1998: 18.
1100 Pfälzner et al. 2004: 51.

Outer fortification wall

The topography of the site reveals a rise which is elliptical in shape, and which surrounds the entire site up to a height of more than 1m, though there are several interruptions, one can clearly follow this rise all around the site.[1101]

Magnetic Survey 2002 in the southeast corner of the lower city[1102]

A negative anomaly is to be observed at the southern edge of the survey area in the form of a thin, exactly the west-east line; the line is approximately straight along a distance of 270 m, this line interpreted as the outer mudbrick wall.

A similar bright line can be seen on the south-east edge of the magnetogram. It is also straight forward and clearly visible over a length of 340 m; from the south-west to the north-east.[1103]

Both limbs meet at an acute angle, in the south-eastern corner for the city, however, the two lines do not connect directly into each other, but bend outside the corner. They protrude approximately 15 to 18 m into the outer surface, in this structure two towers may be suggested, which protrude far into the outer wall between the two limbs.

The approximately 20 m wide area between the towers is connected by an oblique line, the expedition interprets this section as a city gate, flanked by the two towers, at a distance of about 15 m, in front of the bright anomaly, which is interpreted as a city wall, a dark grey, wider, but weaker, anomaly runs. It is not perceptible throughout but is particularly evident in the south-east of the city limits in the central and southern regions. This might indicate a ditch running parallel to the outer wall of the city wall.

This dark grey anomaly ends east of the eastern tower of the city gate, a situation which would be plausible under the above interpretation, thus supporting the proposed interpretation.[1104] In the south, in front of the southern limb of the city limits, the dark grey anomaly is less distinctly pronounced, but still recognisable in places.[1105]

1101 Buccellati 1998: 18.
1102 Pfälzner et al. 2004: 47.
1103 Pfälzner et al. 2004: 47.
1104 Pfälzner et al. 2004: 48.
1105 Pfälzner et al. 2004: 48.

EUPHRATES REGION

Tell el-'Abd

Location: Situated on a limestone cliff on the left bank of the Euphrates River 50 km to the north-west of the Tapqa city[1106] between Jabal sin to the east and Jabal ‘Aruda to the west[1107] around 100 km to the east of Aleppo.[1108]

Coordinates: 36 °14’N, 38 °08’E.[1109]

Dimensions: The Tell is 324 m above sea level,[1110] measured ca.295m at its base, it has a circular shape 210 m north-south by 220 m east-west (around 3.6 ha) and slopes gently to the east and north abruptly to the west (toward the Euphrates).[1111]

Prof Sconzo said “the encircled settlement had a much larger extension (at least 2.50 ha)” [1112] and Prof Uwe said “a diameter of c150 m the extent of the site may have been c. 2 ha owing to the varying level of the lake excavations took place during two periods”[1113] (Fig. 69).

Expedition: Syrian (Directorate -General of Antiquities and Museums – Adnan Bounni) The first excavations on the site had been carried out in 1971 and 1972 under the directorship of A.Bounni, Department of Antiquities of the Syrian Arab Republic.

In the fall of 1992 excavations were begun by the “Altorientalisches” seminar of Tübingen university, directed by Uwe Finkbeiner until 1994.[1114]

Stratigraphy:

- Early Bronze (EB II-III - IV).
- Middle Bronze (MB I).
- Achaemenid.
- Persian Hellenistic.
- Romanian.
-

1106 Bounni 1974: 54.
1107 Bounni 1979: 49.
1108 Weiss 1994: 116.
1109 Finkbeiner et al. 2015: 34.
1110 Finkbeiner et al. 2015: 34.
1111 Bounni 1979: 49.
1112 Sconzo 2013: 15.
1113 Finkbeiner et al. 2015: 34.
1114 Finkbeiner et al. 2015: 34.

Fortifications:

Early Bronze Age

The site was surrounded by a long defence wall encircling the city, it was only possible to investigate the north-eastern and eastern sides, which ran for over 140 m,[1115] a submerged stretch of the same structure was also visible on the southern side under the lake.

From the (Fig. 69) we can say clearly that the city wall protected the city including a public building extent, whose walls (more than 2 m wide) the appear at the north-western edge of the site,[1116] in the east it is not certain whether also walled.

In the north-east specifically in area I (about 1100 m^2),[1117] in the (Sq 18/28 - 19/28 - 19/27, 19/26, and 20/26),[1118] there is the best-preserved sector of the city wall, where at least two major building phases were identified, the earlier (EB III) consisted of a substantial stone foundation, over 2 m high and 2.50 m wide, set above virgin soil and covered by a mudbrick superstructure up to 4 m high,[1119] the later phase (EB IVA) was reinforced on both sides by a mudbrick packing, which broadened the structure up to a thickness of almost 10[1120]-12 m wide[1121] (Fig. 70-71), this wall was found from level 2 (EB III) to level 4 (EB IVA).[1122] In some spots, a 1.20 m wide glacis also abutted at a later time the outer face of the wall.

The defensive system presented a large opening on its north-east corner, namely the north gate in the squares 18/27 and 19/27,[1123] it was connected with the upper city through a ramp leading to a public space,[1124] (Fig. 124) just some foundation stones are preserved from this gate.[1125]

The ramp consisted of a series of four superimposed floor levels, the first three of which ascended to the settlement and were connected to the earlier wall phase. The fourth, set at a higher level and showing traces of burning was laid horizontally and led to a niched room belonging to the re-building of the wall.[1126]

From the stratigraphy that this fortification wall goes back to the foundation which is dated by the accompanying finds to the middle of the third millennium, the wall protected EB III city. [1127]

1115 Sconzo 2013: 15.
1116 Weiss 1994: 117.
1117 Finkbeiner et al. 2015: 35.
1118 Weiss 1994: 116.
1119 Sconzo 2013: 15.
1120 Sconzo 2013: 15.
1121 Weiss 1994: 116.
1122 Finkbeiner et al. 2015: 35.
1123 Finkbeiner 1995: 58.
1124 Sconzo 2013: 15.
1125 Finkbeiner 1995: 58.
1126 Sconzo 2013: 15.
1127 Weiss 1994: 117.

The city wall was exposed on top of the Tell and at the southern edge of the Tell where a broad stone foundation projected 2-3 m into the lake. [1128]

The construction of the fortification is essentially the same as in the north: first, a mudbrick wall about 2.5 m wide was erected on a high stone foundation as the core wall. [1129]

For reasons of stability, reinforcements were soon added from both the outside and inside, broadening the wall to almost 10 m.

In square 21/15 the wall bends distinctly toward the west, reaching the bank of the Euphrates above a wadi running east to west.[1130]

Building Complex A and B Early Bronze III

On the north-east corner of the mound, above a terrace within the city wall, Complex A was revealed to be a large multi-roomed building, the walls of which 2.50 m wide had stone foundations, very similar to the ones used in the construction of the city wall. Only two rooms were brought to light and partially investigated.[1131]

Three building phases could be detected:

The earliest phase, level with the defence line by a passageway, was unfortunately first very fragmentary in the plan, being represented only by three parallel walls, two of which delimited a long room oriented east-west.

As the northernmost wall was only 70 cm apart and the interval in between was (deliberately) filled with pebbles, according to the excavator, they may have formed a sort of double wall unit, possibly the substructure of a rampart.

At an intermediate stage (level 4), mainly detected in square 18-19/25, the complex maintained the same orientation and was probably connected with two inner towers flanking the gate at this time.

The building was again characterised by strong walls, over 2.50 m wide the northern one contained an opening leading to the gate. In the inner room, four floors were retrieved.[1132]

At least two more rooms must have existed further to the east in square 19.20/25 the eastern one was bordered by the northern wall of the later phase and by a city wall.

1128 Weiss 1997a: 100.
1129 Weiss 1997a: 100.
1130 Weiss 1997a: 100.
1131 Sconzo 2013: 15.
1132 Sconzo 2013: 16.

The last phase, level 2, a shift in orientation (east-southeast and west-southwest) was observed. It consisted mainly of a very long wall extending over 30 m, characterised by a passage-way leading to the rampart. Its inner side showed traces of line plaster.[1133]

These buildings referred to by the excavator as Palace, but the building complex was connected with the first phase of the enclosure wall and thus were contemporary with it so maybe they were fort Especially they are close to the northern gate.

Tell Banat

Location: Located on the left bank of the Euphrates River, 50 km[1134] south of Carchemish. It lies in the flood zone of the Tishreen Dam.

Coordinates: 36.42'7356 N, 38.27'5830 E.

Dimensions: It covers an area 25 ha,[1135] the mound of Tell Banat may rise about 10 m above the surrounding flood plain of the Euphrates river,[1136] (Fig. 56).

Expedition:

Stratigraphy:

As a result of the 1994 excavation, the expedition has identified two main periods of occupation at Tell Banat.[1137]

- Third-quarter of the third millennium BC, EB III.[1138]
- Mid third millennium BC, EB IV.

Fortifications:

Mid third millennium, EB IV

During EB IV a city wall was constructed,[1139] also the once-massive walls around the ancient city of Tell Banat have eroded into low earthen ridges.[1140]

1133 Sconzo 2013: 17.
1134 Bevan 1997: 2 / Porter, Mcclellan 1998: 11.
1135 Porter 1995: 125.
1136 Bevan 1997: 3.
1137 Porter, Mcclellan 1998: 12.
1138 Porter, Mcclellan 1998: 13.
1139 Porter, Mcclellan 1998: 34.
1140 Bevan 1997: 4.

Jerablus / Carchemish

Location: Located on the west bank of the Euphrates River, about 60 km south-east of Gaziantep, Turkey, and 100 km north-east of Aleppo, Syria. Stretches a great limestone plateau.[1141]

Coordinates: 36°49′47″N, 38°0′54″E.[1142]

Dimensions: The site covers an area around 90 ha (Fig. 25), 55 ha of which are in Turkey, with the remaining 35 ha, pertaining to the outer city, in Syria.[1143]

Expedition: Some soundings at Jerablus/Carchemish were carried out between 1878 and 1881 by the British Consul in Aleppo, Patrick Henderson.

After that, the British Museum in 1911 restarted excavations at the site, where the direction of the operations for the preliminary campaign of 1911 was entrusted to David George Hogarth, with the co-operation of Reginald Campbell Thompson and Thomas Edward Lawrence.

But for the five intense campaigns from spring 1912 to spring 1914 the main field responsibility passed from Campbell Thompson to Charles Leonard Woolley, again with Lawrence's assistance, another campaign, the sixth, was organised in 1920 under the French occupation, with Woolley, today the excavations at Carchemish by a joint Turco-Italian expedition.[1144]

Stratigraphy:[1145]

- Neolithic period.
- Middle Bronze Age.
- Late Bronze Age.
- Iron Age.
- Hellenistic.
- Roman.
- Byzantine.

Fortifications:

The site has been divided into three sectors: an upper mound, or citadel, an inner-city within the earthen ramparts (MB), still standing as much as 20 m high, and an outer city, delimited by a double defensive wall (about 1200 BC).[1146]

1141 Woolley 1921: 31.
1142 Marchetti 2013: 349.
1143 Marchetti 2012: 133.
1144 Marchetti 2012: 134.
1145 Marchetti 2014: 234-238.
1146 Woolley 1921: 33-48.

It is clear that two factors mainly influenced the plan of the defence: one was the presence of the river and its tributary, which on two sides set necessary limits to the city: the other was the position of the buildings which had to find shelter behind the walls.[1147]

Middle Bronze Age

The upper city during the Middle Bronze Age has been fortified by the earthen ramparts (in places reaching 20 m high),[1148] the earthen rampart has been surrounded by a ditch, was 5 m deep.[1149]

The ramparts were built shortly after 2000 BC but continued to be used as fortifications city to Roman times when a city gate with two semicircular towers was built directly over the south gate of the Iron Age.[1150]

Woolley first assigned the rampart to the middle Hittite period[1151] on the basis of a large quantity of "ring-burnished red and black wares typical of the Tell el-Amarna graves" found at several spots in the fill of the clay embankment. He also used as dating evidence the material from a few graves found near the north wall and in the river wall near the water gate to the east. Over thirty years ago, in a full re-examination of the Bronze Age glacis fortifications at Carchemish, concluded that the dating evidence presented by Woolley is of little value: while the graves (dated to c. 1900–1600 BC).[1152]

The south gate of the upper city (area D), excavated by Woolley, obviously has a very long history as a monument, the ramparts were presumably built at the beginning of the MB but continued to be used as fortifications down to Roman times.[1153]

We have no conclusive evidence for the construction date of the south gate, but in its present state, it dates from the Iron Age.

Tell Meskene / Emar

Location: Located in the east of Aleppo, on the right bank of the Euphrates River, today it is submerged under the Tabqa Dam El-Assad Lake.[1154]

Coordinates : 35°59′12.63″N 38°6′40.95″E.

1147 Woolley 1921: 41.
1148 Woolley 1921: 44.
1149 Woolley 1921: 44.
1150 Marchetti 2012: 133 / Marchetti 2013: 349.
1151 Woolley 1921: 41.
1152 Sconzo, Falsone 2007: 87.
1153 Sconzo, Falsone 2007: 87.
1154 Margueron, Sigrist 1997: 237.

Dimensions: The remains of Tell Meskene/ Emar (Fig. 78) that survived the flooding of Lake Assad it situated on a natural hill extending from west to east, it covers an area 10 to 12 ha.[1155]

Expedition: French team under the direction of Jean- Claude Margueron from 1972 until 1976**,** Syrian Team under the direction Dr Sha'ath in 1992, Syrian-German (University of Tübingen) Team from in1996.[1156]

Stratigraphy:[1157]

- Early Bronze Age.
- Middle Bronze Age.
- Late Bronze Age.
- Hittite period.
- Byzantine period.
- Islamic period.

Fortifications:

Middle Bronze II (Fig. 79)

A part of the fortification wall has been excavated in square 082-085/048-049, is dated to the Middle Bronze Age II, a section through the fortification wall shows us that the wall is rising up to 2.5 m and 3 m wide. Its construction of "mudbricks on a stone foundation" is easily discerned,[1158] the remains of the pottery dated back to the Late Middle Bronze Age and the Late Bronze Age.

Tell Habouba Kabira

Location: Located on the right bank of the Euphrates River, about 85-90 km eastern Aleppo.

Coordinates: 36°15'0278 N, 38°06'0833 E.

Dimensions: It is 14 m above the river the hill covers an area around 36000 square meters[1159] around 3.6 ha (Fig. 64 -65), the highest elevation of the hill is at 303 m above sea level,[1160] the hill rises flatly from the west and south while it falls sharply to the north and east to the Euphrates up to 25% steeply.[1161]

1155 Finkbeiner,Leisten 1999/00: 5-6.
1156 Finkbeiner, Leisten 1999/00: 5-6.
1157 Finkbeiner, Sakal 2003: 11.
1158 Finkbeiner, Leisten 1999/00: 32.
1159 Heinrich et al. 1969: 41.
1160 Heinrich et al. 1969: 41.
1161 Heusch 1979: 159.

Expedition: Syrian -German (Deutsche Orient-Gesellschaft) mission directed prof Einar VON Schuler and Dr Ali Abou Assaf by in 29 of march in 1969.[1162]

Stratigraphy:

From 4000 BC until 2000 BC,[1163] the lowest layer was partly only 4 m, above the current river valley.[1164]

- Layer 1 dated to Uruk period.[1165]
- Layers 2-3 Early Bronze Age.

Apparently, after a certain interruption of settlement continuity, a new building activity took place in the early dynastic period, this stage includes the deepest strata reached so far in the eastern slope.[1166]

Early Bronze Age (Fig. 66)

We can see in the layers 2-3, which dated to the Early Bronze Age I, that the outer wall specifically in the south-eastern part of the city, has been built of large mudbricks,[1167]those layers have been destroyed by a fire, and the outer walls and a part of the inner walls were renovated, with a plaster.

Such improved wall was exposed in layers 5 and 6, they are well preserved;[1168] in layer 5, stronger changes on the outer wall were observed primarily in the southern part of the city, the outer wall was clearly traced westwards, in the south-east corner of the southern complex, a 3 m long from the wall was destroyed near to the old entrance, there a strong pillar was erected, on whose approximately 4 m^2. [1169]

We can notice in layer 6, that the outer wall got wider, by building another wall measured 1 to 1.2 m wide, in front of it. We should say that it is not clear what was the exact purpose of this enlargement if they were changing the defence technique or it was a simple reinforcement and repair.[1170]

In the south-western side, a slight change happened in the direction of the wall) about 4 degrees, that created a wide gap. which was filled with the clay. The new wall was wider (about 2.2 m) by

1162 Heinrich et al. 1969: 39.
1163 Heinrich et al. 1969: 37.
1164 Heusch 1979: 159.
1165 Heusch 1979: 161.
1166 Heinrich et al. 1971: 9.
1167 Heusch 1979: 163.
1168 Heusch 1979: 164.
1169 Heusch 1979: 164.
1170 Heusch 1979: 166.

building a pillar.[1171] Moreover, we can see that the southern entrance, which measured about 1 m wide, was retained and only enlarged by the widening of the opening in the front wall.

In layer 7, the outer wall has been improved and rebuilt and the gates in the south and the east still as they were without changing.[1172] In layer 10, the complete reorganisation of the north-east, probably even the entire central and the north-east area happened, the construction technique has been changed, on the one hand, the foundations were built of stones, and on the other hand they were careful in the production and processing of mudbricks, they took the clay from the river, therefore, the mudbricks have a grey colour, its size was (40×55 cm).[1173]

In the east, towards the Euphrates, a great gate has been built with double buttresses, we can see that the width of the entrance is 1.6 m, it has been built of the mudbricks (24–27 × 45–50 × 9–10 cm).[1174] The way to the entrance was coming from the river, it was a roughly 15% steep, and it crossed the old wall, towards the room gate, the pavement of the gateway has consisted of the large river pebbles, and the doorway was secured with solid limestones.

To the south of this gate, a terrace of about 150 m^2 was placed in front of the old fortress with the eastern entrance, this terrace was surrounded by a mudbrick wall (The mudbricks have a long rectangular format (34-38×48-50×10-12 cm),[1175]it was 1.2 m wide, partly still more than 1.5 m high.[1176] It was featured interior buttresses which are 1.45 m deep and 1.25 m to 1.30 m wide[1177] for additional support; the wall was built on a stone foundation (it was nearly 1.5 m wide) of coarse pebbles and limestones.[1178]

In layer 11, after closing the gateway, the structural character of the eastern hill was changed once again, in the back of the gateway, a massive wall of 3 m wide was erected above a foundation of large limestone stone (to 1 m) wide close to the gate.[1179]

In the northern and southern side, the outer walls are (l.2 and 2 m) wide, while in the east side we can see that the outer wall is just 1 m, they used the strong south wall from the gate room to support the outer wall of the hill

Through the terrace wall, a small door (2.3 to 1.6 m wide) was created right next to the old wall, in order to allow the temporary access to the city.[1180]

1171 Heusch 1979: 166.
1172 Heusch 1979: 168.
1173 Heusch 1979: 168.
1174 Heinrich et al.1969: 44.
1175 Heinrich et al. 1970: 38.
1176 Heinrich et al. 1970: 38.
1177 Heinrich et al. 1970: 38.
1178 Heusch 1979: 171.
1179 Heusch 1979: 172-74.
1180 Heusch 1979: 172-74.

In layer 14, a new wall which dated to the end of the third millennium has been built, it measured 2,8 m wide and at least 5 to 6 m high.[1181] In Sq / T 13, Sq 15 and Sq 16, the wall continues as the straight line, its lower edge is 295.44 m above sea level. It was built without a stone foundation.[1182] The wall has been built as well as the most other structures of this layer with square mudbricks (38 - 40 ×10 -12 cm).[1183]

The new main entrance has been built at the corner on the south side; it was nearly 3.6 m wide. Moreover, we can see that 7 m to the east of the gate a small door approximately 1 m wide have been opened for the people.[1184]

Tell Hadidi

Location: Located in northern Syria, on the west bank of the Euphrates River, approximately 110 km east of Aleppo.

Coordinates : 36°15'54" N, 38°08'56" E.

Dimensions: The size of the Bronze Age settlement at Tell Hadidi changed drastically twice during the somewhat less than 1000 years of its history from 2300 BC until 2000 BC the settlement was 4 ha,[1185]then changed drastically to a smaller area of roughly 1.8 ha,[1186] (Fig. 77).

Expedition: The Tell Hadidi excavations have been sponsored by the Milwaukee Public Museum with cooperation from the University of Michigan and the University of Wisconsin Milwaukee; Professor George Mendenhall and Professor Robert C. Ross represented these two institutions. respectively, and Dr Thomas Maclellan acted as an assistant field director in the third season.[1187]

Table 30: Stratigraphy of Tell Hadidi. [1188]

Period/Dates	Stratum Number	Location of Stratum
Early Bronze I (3050-2900 BC)	1	high and low Tells.
Early Bronze II (2900-2700 BC)	2	high and low Tells.

1181 Heusch 1979: 174.
1182 Heinrich et al. 1971:18.
1183 Heinrich et al. 1971:18.
1184 Heusch 1979: 174-176.
1185 Dornemann 1979b: 216.
1186 Dornemann 1979b: 216.
1187 Dornemann 1979a: 149.
1188 Dornemann 1985: 54.

Early Bronze III (2700-2350 BC)	2	high and low Tells.
Early Bronze IV (2350-2000 BC)	3	high and low Tells.
Middle Bronze I (2000-1900 BC)	4	high Tell only.
Middle Bronze IIA (1900-1775 BC)	5	high Tell only.
Middle Bronze IIB (1775-1650 BC)	5	high Tell only.
Middle Bronze IIC (1650-1550 BC)	5	high Tell only.
Late Bronze IA (1550-1500 BC)	6	high and low Tells.
Late Bronze IB (1500-1400 BC)	6	high and low Tells.
Late Bronze II (1400-1200 BC)	Sparse remains	
Iron (1200- 535 BC)	Sparse remains	
Persian (535-325 BC)	Sparse remains	
Hellenistic (325-60 BC)	Sparse remains	
Roman (60 BC-324 AD)	7	South of high and low Tells.
Byzantine (324-630 AD)	Sparse remains	
Islamic (630 – 1918 AD)	Sparse remains	
Ayyubid (1174-1263 AD)	8	South of high and low Tells.

Fortifications:

Early Bronze Age

We have only fragmentary information on an Early Bronze defence system from the high Tell. In area B, the main area where we have investigated the defensive system little remains of the Early Bronze defences because of the deep ditches cut for the Middle Bronze and Late Bronze defence systems.[1189]

1189 Dornemann 1979a: 116.

Middle Bronze Age

The upper city during the Middle Bronze Age was surrounded by a strong defence system;[1190]this fortification has been detected in area A, B, G and p, from the map (Fig. 77) we can see the length of the fortification wall around 1300-1400 m.

Area B located in the northern edge of the Tell, in level D almost 3 m wide wall at the top of the slope[1191]in the north of the area forms the upper portion of the defence system and follows the orientation of the walls of the underlying phase.

The abutting walls do not join at right angles but conform to a slightly different orientation, closer to that of the walls of later phases, the shift is gradual and consistent, roughly 15 degrees clockwise between phases E through B.[1192]

Area A, located on the west side of the Tell, the plots of area A are located about 14 m, from the slope of the mound which probably also preserved the line of the latest Bronze Age defences, it has been excavated a 17.5-m length[1193] of the MB II wall which was preserved to more than 4 m in width, and again the city was built partially on and outside the line of the earlier city wall.[1194]

Area G, the 7 m, the width of stones, with a good face at the south, this may indicate the location of the foundation of a tower, but our exposure has not been wide enough to prove this.[1195]

All associated building at the north was destroyed by Roman and Islamic buildings. The line of the fortification wall was traced for most of the distance between areas G and P, in area G at the angle could be the location of a gate.[1196]

Most of the area P plots are now underwater, two stonewall phases of the defence system in P apparently correspond to the level D walls of area B, the stone walls of P III, were built against a mudbrick wall, which we traced into the water for minimum thickness of 2 m. We have nothing to associate with this wall, but it is earlier than the stone walls, and the brick size, 36 × 74 × 14 cm differs from that of the level D bricks in area B.[1197]

1190 Dornemann 1979b: 216.
1191 Dornemann 1979b: 225.
1192 Dornemann 1979a: 132.
1193 Dornemann 1979a: 141.
1194 Dornemann 1979b: 225.
1195 Dornemann 1979a: 141.
1196 Dornemann 1979a: 141 -144.
1197 Dornemann 1979a: 144.

Tell Halawa A - B

Location: Located on the left bank of the Euphrates River around 85 km western Raqqa.

Coordinates:

Dimensions : Tell A measured 300 by 400 m, it covers an area 9.5 -12 ha, (Fig. 18) and Tell B measured 100 by 100 m,[1198] it covers an area 1 ha, (Fig. 98).

Expedition: Department of Prehistory and Early History of the University of Saarland in cooperation with the Institute of Building History of the University of Kaiserslautern, Directed by Winfried Orthmann.

Stratigraphy:

- Early Bronze phase A - Phase B in the third layer.
- Middle Bronze in the second layer.
- Roman-Byzantine in the first layer.

Fortifications:

Tell Halawa A

Square Q layer 3 - phases 3c - 3b Early Bronze Age (Fig. 18)

City wall and city gate in layer 3.[1199]

The fortification structure in layer 3 consists of a wall, a defensive corridor, towers/bastion, a retaining wall, a gate with rooms and glacis,[1200] the wall is surrounded all the city except for the south where the river makes a natural border or naturally protection, this structure has been detected in Sq: Q, U, T, P, in layer 3. Two construction phases of the defensive system can be distinguished 3C and 3B they dated to the Early Bronze Age.

The **city gate** has been detected in the Sq Q.7e in the north side of the city (Fig. 128),[1201] only the western part of the city gate could be cleared, but the plan of the entire complex can be reconstructed with certainty, which has already been suspected before excavations due to the course of a wadi the western side is preserved, the gate consisted of entrance flanked by two buttresses, a passage and a chamber, two doorways, one of them led through the chamber towards outside and

1198 Orthmann 1981: 3.
1199 Orthmann 1989: 35.
1200 Orthmann 1989: 50.
1201 Orthmann 1989: 37. / Orthmann, Meyer 1983: 97.

other towards inside of the settled area,[1202] the gate's room measured 6 m long and 8 m wide, the passage is 4.5m long and the entrance was 2.5 m wide.[1203]

Between the fortification walls, and the gate walls, there are some stones foundation have been preserved, which can be interpreted as the foundations of a tower, the floor of this gate consists of the small stone mixed with the clay and made flat layer. Two phases 3C and 3B have been detected of the gate in the later phase 3b, the stones foundation was laid on the casted walls of the gate as a substructure for the newly erected structure,[1204] in layer two they used the same gate.

In the older phase, the width of the **city wall** is almost 2 m, in all sections it consists of a stone foundation with a mudbrick wall built of unburnt mudbricks, the western section, which is almost flat, has a two to three layers of stone foundation consisting of mixed (limestone and fieldstone), while the northern part is more deeply subdivided up to six stone layers in order to compensate for the natural slope, the bottom foundation, as well as the two edge shells, are made of large lightly worked limestones, while the gap between of them is filled with small stones and fieldstones, it has been plastered from inside and outside, the upper layer of this stone foundation consists of a small stones mixed with clay in order to obtain a flat layer, between the stone foundation and the mudbrick wall for connecting between two different materials (stone and mudbricks).

In the recent construction phase 3B, the remains of the older wall (two to three mudbricks layers) have used as foundation for a new stone foundation for the new mudbrick wall, which measured 3- to 4 mudbricks width and the sizes of the mudbricks was different from one area to another, the overall carefully designed edge shells are made of (50× 35×12 cm) large bricks. The open space in front of the city wall was filled with debris and has been built as a defensive corridor (Walkway) which measured about 2.5 m wide (Fig. 67).

Excavations in the squares U and T

The remain of the city wall was erected from the north-east corner in the area U1 b to north-west, To the valley in the Sq T, d.h, that is, to length of 35 m, is preserved to 6 m high, the wall is so strongly eroded there are several layers of the rising brick wall.

The stone foundations were always the same height (3 beds), its substructure, consisting of an outer and an inner shell (shell wall) of coarse-cut limestones, and a fill of small stones and fieldstones, measured about 2.0 to 2.5 m wide, based on the ground soil, the surface of the foundation is covered with a balancing layer of small stones of clay, where the lower bricklayer was placed (Fig. 97).

The mudbricks which have been used to build the fortification wall were varied, they measured (50×30×12 cm, 40×30×12 cm and 40×40×12 cm), broken mudbricks have used in the inner

1202 Finkbeiner et al. 2015: 59.
1203 Orthmann 1989: 37.
1204 Orthmann 1989: 38.

walls,[1205] this wall dated to the Early Bronze Age, it has been built at the same time with privet houses.

Construction phases of the city wall correspond to the two phases (3B and 3C) of the private houses, which are occupied for the settlement of the Early Bronze Age and can be reconstructed or traced by the older building structure (3 C) (3 B).

The wall run from the north-west area (T,9 e) to area (U,1p) turn to the south-east in end corner in Sq P making something like a tower, from the oldest phase 3C, only two layers from mudbricks and 30 cm high stone foundation has been found.

For phase 3B, a sequence of two building sections can be made. The first, the outer facade does not have any reinforcements, the wall measured 2.5 m wide, in Sq (U.1a) and a large corner bastion have erected, the 1.5 m wide stone foundations of the only badly preserved corner bastion (M108 / M109) run about 6 m to the north-east, the inner of this foundation for the bastion filled with the stone and mudbricks (up to 3 layers high now).

This structure has been interpreted as a tower, which belongs to the defence system and the gate has to be more in the north of the tower is not directly in the corner, this tower could be found in all the dangerous points along the wall. In front of this wall, is a flat space measured 2-3 m wide, it has been used as defensive corridor (walkway) and in front of this corridor, is a natural slope was expanded as a rampart.

The excavations in square P[1206]

The corner of the city wall was located in the area P and on the east side of this corner is a massive tower, which protrudes slightly southwards over the course of the wall.

This tower measured 5 ×4.5 m, only 1.80 m high of stone foundation is preserved, which its outer shells consist of the large limestone blocks, and the gap between of them was filled with relatively large limestones and fieldstones, the entire surface was covered with a thin layer of clay, above of this stone the mudbricks wall had erected, but nothing more from it has left.

Therefore, it is impossible to say whether the tower was massive or had an interior room or a staircase,[1207] the remains of a tower (bastion) could be uncovered, it is highly probable that further elevations to the west can be interpreted as remnants of large towers in the course of the walls of the city, while further smaller bastions may have been situated between them, some 10 m apart.

1205 Orthmann 1989: 13.
1206 Orthmann 1989: 16.
1207 Orthmann 1989: 16.

In this area, the city wall runs on the top of a natural rampart, which surrounds the city in the south and east, several layers (up to 6) of the fortification wall has been built of mudbricks (50×30×12 cm).

The stone foundations were placed on the ground without digging a hole, and the foundations of the city wall in this square are the same as the foundations in Sq T and U, the only difference is the gap was filled with broken mudbricks, not with stones.[1208]

A tower measured 5.00 by 2.50 m is situated in the west area PII, with a 1.20 m stone foundation is largely destroyed, in front of the city wall are a 5 m wide defensive corridor (Walkway), and a 0.8 m wide retaining wall without foundations, in front of it is a rampart begins immediately with a canal for water, its surface was reinforced by a layer of clay,[1209] (Fig. 67).

Tell Halawa B

We can see that during the Early Bronze Age, the city has been fortified by the casemate walls, moreover, we can see that a mudbrick wall has been found along the northern slope of the Tell, it has been reinforced by the buttresses, furthermore, 1.5 × 1.5 m square chambers which were filled with the settlement debris have been found.[1210]

Layer 3 A

In the surface of the mound, to the north-south side, there is a wall the outer shell of the wall has been built of yellow sandy mudbricks, the core of the wall has been built of grey mudbricks, to the north, it could follow the wall until square BM.3b.

It is possible to observe that in Sq BM.2b there is a wall with same attitudes as the wall in BM.3b, is directed from north-west to south-east, it has been constructed like this because during the time they have built new walls in front of the older walls.

Moreover, a tower has been excavated in Sq BM 4F in front of the wall has been built of the stones measured 2 m high, we can see in Sq BM 2F that the stone foundation consists of two shells built of the limestone and the gap between of them was filled with the stones mixed with the clay, the outer side of the wall has been reinforced by buttresses the distance between of them is 1 m.[1211]

1208 Orthmann 1989: 16.
1209 Orthmann 1989: 16.
1210 Orthmann 1989: 88.
1211 Orthmann 1982: 146 -147.

Tell Jerablus Tahtani

Location: Located in northern Syria, on the right bank of the Euphrates River.[1212]

Coordinates: 36°80'03 N, 38° 02'78 E.

Dimensions: The site is an elliptical mound with a southern spur, 180 × 220 m, around 0.03 ha, rising some 16 m,[1213] (Fig. 10).

Expedition: Excavated by a team from the University of Edinburgh.

Stratigraphy:[1214]

- Local Late Chalcolithic in layer 1A.
- Late Uruk in layer 1B.
- Early Bronze Age in layer 2.
- Iron Age in layer 3.
- Roman in layer 4.
- Islamic in layer 5.

Fortifications:

Early Bronze Age

The mound largely consists of an imposing fort dated to the 3rd millennium BC,[1215]in layer 2, a series of refurbished defensive walls seems to have enclosed a small, upper part of the mound,[1216]an impressive stone-founded defensive wall was placed over the burnt settlement in areas I and III, probable traces of it were also recovered in area IV.[1217]

It was installed together with a major drain which was placed c. 0.50 m, below floor levels and exited through the wall near its base in area III the drain, which was clearly laid at the same time as the wall foundation, was part of an integrated system, hence fort, settlement shape and drainage were constructed according to a unified plan.[1218]

1212 Peltenburg et al. 1995: 4.
1213 Peltenburg et al. 1995: 4.
1214 Peltenburg et al. 2000: 55.
1215 Peltenburg 2006: 20.
1216 Peltenburg et al. 1995: 6.
1217 Peltenburg et al. 1996: 7.
1218 Peltenburg et al. 1996: 7.

The character of the fortification wall differs slightly in each area, but this may be due to its apparent construction in segments, later alterations and other factors, the defences probably comprise a single entity which may have enclosed roughly 300 m^2.[1219]

Area I

Where it faced the Euphrates, it has a white plastered external face, bricks are laid as full and half sizes, and it may have been thickened to 4.4 m by the precocious use of casemate construction.[1220] The expansion of area I, has revealed a length of the fort wall structure of c. 32.5 m,[1221] it consists of three discrete building phases, termed fort, fort extension and fort annexe, all date to the Early Bronze Age, the three entities run from the north to the south along the length of the operation. The northernmost segment is the earliest stratigraphically and consists of a large mudbrick platform 3 m in height founded on ten courses of carefully laid boulders c. 1.7 m in height.[1222] This platform 1680, made up entirely of mould-made, very compact, yellow bricks. It stands out dramatically from the surrounding architecture. Fragments of thick white plaster were recovered from the around the top course of the stone base.

The stonework may have been exposed in its lifetime, acting more as a bulwark, than a simple foundation for the platform, this may have been necessary since it is oriented towards the Euphrates in the east where it was susceptible to periodic inundation.[1223] Built up against the eastern face of 1680, a small structure of grey-brown and yellow-brown mudbrick, R (=Room) 1789, 1.6 by 1.4 m and extant to 0.4 m in height, appears to have been intended as a bastion or watchtower.[1224] At the southern extreme of the area, abutting the fort wall is a similar structure, R 2495, 3 by 1.7 m, also of grey-brown mudbrick, situated to the immediate south of the postern entrance of the annexe, it appears to have served a similar purpose,[1225]the interior lining of white lime plaster on the internal faces of each wall.

Abutting the southern face of platform 1680 is R 1569, 4.8 by 2.2 m and 2.0 m in height, it seems was built solely as a storage facility when the fort was extended,[1226] the eastern elevation abuts platform 1680 and acts as the face of the fort wall extension at this point. Interestingly there is no stone foundation for the wall,[1227] the room had no entrance during its use period and no installations that might have suggested domestic occupation, two apertures in western wall 647 are aligned with these two pits. One of these led to the adjacent room, R 2638,[1228] the surface that related most closely with R 1569, was composed of limestone and riverine cobble paving, to the east of platform

1219 Peltenburg et al. 1996: 8.
1220 Peltenburg et al. 1996: 7.
1221 Peltenburg et al. 2000: 55.
1222 Peltenburg et al. 2000: 55.
1223 Peltenburg et al. 2000: 55.
1224 Peltenburg et al. 2000: 56.
1225 Peltenburg et al. 2000: 56.
1226 Peltenburg et al. 1997: 7. / Peltenburg et al. 2000: 56.
1227 Peltenburg et al. 2000: 56.
1228 Peltenburg et al. 2000: 56.

1680 and R 1569 excavation to the base of both structures conclusively demonstrated that there had been no glacis emplacement, in contrast to other lengths of the fort wall in areas I, III, and IV, these are not unified structures constructed to serve a simple defensive function at a single point in time but are a series of individual entities designed to serve a variety of functions that change and develop over time,[1229] the fortress annexe with domestic structures lies to the immediate south of R 1569, Its exterior wall exhibits similar construction techniques to the fort wall exposure in area III.[1230]

Here the annexe wall runs 2.8 m before returning at an angle to run a further 8.2 m, it terminates at postern entrance 2746, 1.7 m in width, then continues into the southern baulk, the eastern face of the fort wall north of 2746 has a thick white plaster coating, this is also evident in the internal, western face of the wall, though it has not been as extensively exposed.[1231] The northern jamb of this entrance has a substantial stone wall 2176, built into the face of the fort wall and running perpendicularly from it for a length of 2.6 m; it has been exposed to a height of 1.9 m,[1232]at least three phases of use are associated with the postern entrance to the fort. The earliest use of entrance 2746 is notable for the installation of a substantial boulder passageway 2622, 2.6 by 1.8 m, oriented again to the south-east, stone-lined drain 2688 was constructed as an integral feature of the northern jamb of the fort wall at this level, debouching into the passageway at surface level.[1233]

Area II

The width of the south terrace, from its retaining wall 587 to the annexe entrance 2746, is 12 m, it stood c. 2.4 m above the surrounding landscape and consisted of brick packing revetted by a multi-phase battered stone revetment wall,[1234] the entrance 2658 was recessed 1.6 m from the lip of the terrace edge, the doorway stood at the head of the passage that ascended from the south and it gave access to fragmentary pavings leading to the annexe entrance 2746 to the north. Since the wooden doors were probably protected from the elements, it is likely that the route on the south Terrace was roofed.[1235]

In the area II exposure, therefore, the south Terrace consisted of rows of houses and a passage, probably covered, that extended beyond the base of the fort annexe wall. Probes through the brick packing of the terrace indicate that it lay on top of glacis material. The material is the same as the intact glacis in areas I, III and IV, T. 302 (*Funerary complex*) was constructed over one of the silos, with its long axis parallel to the south Terrace revetment wall. Access from its entrance to the fort was provided by a passage that passed at right angles in front of the tomb over the south terrace.[1236]

1229 Peltenburg et al. 2000: 56.
1230 Peltenburg et al. 2000: 56.
1231 Peltenburg et al. 2000: 57.
1232 Peltenburg et al. 2000: 57.
1233 Peltenburg et al. 2000: 57.
1234 Peltenburg et al. 2000: 69.
1235 Peltenburg et al. 2000: 69.
1236 Peltenburg et al. 2000: 70-71.

It is clear that the tomb was surrounded on at least two sides by temenos-like walls. To its north are retaining walls that separated the mound from a succession of pre-existing buildings founded on a brick platform, to its west, in front of and at right angles to the entrance, is a 20 m long passage, 990, leading towards the upper mound, this narrow, walled passage ascends the mound by a sloping, stone-paved floor and seven stairs.[1237]

Access to the dromos of the tomb was by bent axis through an entrance adjacent to these stairs and opposite another 'gate' leading to a second passage,[1238]passage, 2700, is 3 m wide and is bordered by substantial walls founded on boulders, it led from a southern entrance, 2745, flanked by two towers, 2 × 3.1 m.

Area III

In this area walls curve sharply, the final wall in area III is 2 m wide × 2.7 m high, the brick courses of a transverse wall awkwardly built into the main wall are visible on the right, occupation immediately inside the defences comprises mudbrick platforms, perhaps installed to level up the ground, and casemate-like square rooms. [1239] Casemate with bricky fill has been revealed in excavation, standard mould-made bricks were used, and its interior face was plastered white where it formed the west wall of a room with square hearth associated with two vessel supports,[1240] the largest of these, 4 × 4 m, has floors that roughly coincide with circuit wall rebuilds, and bricky fills suggestive of a casemate. However, the adjacent room has a central hearth with a 0.90 m wide doorway onto a poorly drained passage. Both were cleaned out. Good in situ material is needed to define architectural functions and to date what seems like peaceful desertion.[1241]

The fort was radically altered when an artificial rampart was thrown up against the exterior of the wall, evidence for this new enclosure design is uniform in all three areas, the rampart deeply buried the drain exit in area III, hence blocking a major effluent channel, and it is likely that the primary fort occupation was re-arranged at that time, the most significant was that the occupation was substantially raised above the level of the surrounding plain.[1242] The nature of this rampart is clearest in areas III and IV. It is a tipped fill, at least 12 m. wide, comprised of deep homogeneous bricky deposits and charcoal flecked lenses. Covering this is a relatively thick mantle of coarse white limestone fragments,[1243] the addition of this massive glacis altered the appearance,[1244]The purpose of such exaggerated thickening of the defensive system at Jerablus-Tahtani is unknown, it may have helped in Euphrates erosion control.[1245]

1237 Peltenburg et al. 1996: 14.
1238 Peltenburg et al. 1996: 14.
1239 Peltenburg et al. 1995: 6.
1240 Peltenburg et al. 1996: 7.
1241 Peltenburg et al. 1995: 6.
1242 Peltenburg et al. 1996: 7.
1243 Peltenburg et al. 1996: 7.
1244 Peltenburg et al. 1996: 8.
1245 Peltenburg et al. 1996: 9.

Early Bronze B

Two superimposed rooms, 1098 and 1980, were identified and excavated to the primary occupation of the fortification, the area was defined to the west by a substantial, gently curving, mudbrick wall 358 which ran parallel to the main outer fort wall 177, contiguous with this was a buttress wall 2037. The northern and southern limits were marked by mudbrick walls 2036 and 2038 that formed an area 2 m. wide. Although the limits of the room to the east are unknown, it is likely, given the orientation of architecture in area IIIA to the east, that the rooms were roughly square. Throughout the use of the rooms these walls apparently remained in use, although any rebuilds would need confirming through the excavation of the walls themselves,[1246] the initial construction of the internal fort architecture consisted of an agglomeration of rooms arranged in what appears to be a complex of subdivided concentric rings.[1247]

Area IV

In the northern side of the city, a bastion-like structure seems to have been attached to its exterior wall.[1248]

Tell Kannas

Location: Located in the Middle Euphrates region in Syria, lies on the west bank of the Euphrates River, 2 km south of Tell Habouba[1249]

Coordinates: 36°14'90" N, 38°06'02" E.

Dimensions: It covers only one ha (Fig. 46), that means the diameter around 100 to 110 m.

Expedition: Belgian, "Comité belge de recherches historiques, épigraphiques et archéologiques en Mésopotamie" (1967 - 1974), under the supervision of Pr.André Finet (Université Libre de Bruxelles).

Stratigraphy:

- Middle Uruk period (3500 - 3200 BC).
- Babylonian period EB IVA-B / MB I (2200 – 1900 BC).
- Late Bronze Age.
- Roman.

1246 Peltenburg et al. 2000: 59-60.
1247 Peltenburg et al. 2000: 60.
1248 Peltenburg et al. 1996: 8.
1249 Finet 1979: 79.

- Islamic.

Fortifications:

Babylonian period, end of the 3rd millennium and the First centuries of the 2nd,[1250] **EB IVA-B / MB I.**

The upper part of the Tell was occupied by a square building dated to the second millennium it consists of several rooms reinforced from outside by fortification walls,[1251] These fortification walls, run from (south-west to north-east), 40 m and its width is 1 m, the other run from (north to south) around 35 m and its width is 2 m,[1252] these walls are connected to each other at a point, containing remains of fire and ash ,these walls have been built from mudbrick (40 × 40 × 10 cm) on the stone foundation, reinforced by buttresses.[1253]

These walls were later reinforced, in the north-west, by a tower, its shape as an arc of a circle, has been built of mudbrick,[1254]which was replaced by a rectangular tower of 7.50 × 4 m, which has been built entirely of stones, as another bastion tower to the north during the MB (Fig. 108).

Tell Kazane Höyük

Location: Located in south-eastern Turkey, the hill is situated about 4 km south of the city of Urfa.

Coordinates: 37° 7′ 11″ N, 38° 50′ 46″ E.

Dimensions: From (Fig. 54) we can see the Tell measured 800 by 1250 m, around 100 ha primate capital of a small state in the Harran Plain, consists of an oblong area enclosed by a city wall, with an 8–12 ha, 20 m high multiperiod mound located in the northwest portion of the settlement.[1255]

Expedition: Surface survey and excavations led by Patricia Wattenmaker since 1992,[1256]

Stratigraphy:

- Neolithic.
- Halaf.
- Chalcolithic.
- Early Bronze Age III – IVA, c. 2550– 2250 BC.

1250 Finet 1979: 83.
1251 Finet 1972: 64.
1252 Finet 1972: 64.
1253 Finet 1979: 84.
1254 Finet 1979: 84.
1255 Creekmore 2010: 74.
1256 Creekmore 2010: 74.

- Middle Bronze Age.

Fortifications:

Third millennium – Early Bronze Age

The city was surrounded by a fortification wall was erected above a stone foundation, built of bricks, from the (Fig. 54) we see that the outer wall has been pierced by a several suggested gates,[1257] a wall 50 m long in the centre of the site, just east of the Tell, that is possibly the fortified perimeter of a palace.[1258]

Qala'at Halwanji

Location: Located in northern Syria on the south bank of the Sajour River ca. 15 km west of the Euphrates River junction at Aushariye.[1259]

Coordinates: 36°64'4758 N, 37°90'4548E.

Dimensions: The site lies on a limestone cliff and appears as a roughly square it covers an area 5 has, 200 × 200 m,[1260] (Fig. 37).

Expedition: A Danish-Syrian team conducted brief preliminary investigations at Qala'at Halwanji in 2008 and 2009. This work was generously sponsored by the Augustinus Foundation (Copenhagen) and the Danish Cultural Institute in Damascus. Eidem was Danish co-director and was assisted from the Syrian side by Mr A. Nasser (2008) and Mr M. Fakhru (2009).

Stratigraphy:

- Early Bronze Age IV.
- Middle Bronze Age II.

Is no excavation in this Tell, just soundages (sounding), a total of 21 small sondages (sounding) were opened in 2008 and in2009, in three different dimensions, 16 of the sondages (sounding) were 4.5 × 2 m, 4 (S.11, S.13, S.16, and S.19) 4.5 × 4.5 m and S.21, 9 × 2 m.[1261]

The MB II remains, where preserved, are encountered immediately below the surface and are in all sondages heavily burnt, leaving substantial material in situ, in several of the sondages large

1257 Creekmore 2010: 74.
1258 Creekmore 2010: 74.
1259 Eidem, 2013: 1.
1260 Eidem, 2013: 2.
1261 Eidem, 2013: 3.

amounts of ceramic vessels, the larger crushed by collapsed walls, were found.[1262] Below the burnt MB floors or surfaces, foundations with associated EB IV ceramics were encountered mudbrick foundations cut by MB structures were exposed in S.20, S.03, and S.10 on the south ridge.[1263] In S.8 and S.15 on the north-western slope encountered two sets of stone foundations different in alignments, and the earlier set is presumably dated to the EB IV.[1264]

Fortifications:

This Tell has been fortified by an enclosure is broken by gullies in two sides the east and the south, which could represent ancient gates. Sondages(sounding) on the edges of the site, through the crests of the presumed rampart revealed significant structural remains. In the areas of both S 12/16/20 and S 02-3/14 (Fig. 99), on the south ridge, were two parallel mudbrick walls ca 1.6 m wide bricks ca. 3 m apart, walls in S 02-3/14, built of grey mudbrick,[1265]in the 3 m wide space between the walls filled with the burnt debris, broken bricks and sherds from the bowls, the foundation consists of 4 brick courses on limestone,[1266]a similar set of walls, but 6 m apart, was excavated in S 09/17-18 on the east ridge.[1267]

The 6 m wide space between the walls filled with mixed material with unclear disturbed scatters of limestone, and the largest group of EB IV sherds,[1268] walls in the three areas mentioned may connect with remains in S 10 and the upper stone foundations found in s.08 and S 15 on the north ridge. Inside the presumed perimeter walls in S 16, S 03-4/S, and S 09, were rooms with domestic installations, their walls built of grey mudbrick built on foundation consist of 4 further courses on limestones, provisionally these rooms are interpreted as the “barracks” for the garrison of the fortress,[1269]a lot of pottery in these Sondages(sounding) dated to the MB.

Tell el-Qitar

Location: Located on the west bank of the Euphrates River between Carchemish and Tell Meskene / Emar.

Coordinates: 36°23'N, 38°11'E.[1270]

1262 Eidem, 2013: 3.
1263 Eidem, 2013: 4.
1264 Eidem, 2013: 4.
1265 Eidem, 2013: 5.
1266 Eidem, 2013: 5.
1267 Eidem, 2013: 4.
1268 Eidem, 2013: 7.
1269 Eidem, 2013: 4-5.
1270 Culican, Mcclellan 1983: 289.

Dimensions: It covers an area around 6 ha and rises 76 m above the flood plain[1271] from (Fig. 80) we can see the Tell has an elliptical shape.

Expedition: University of Melbourne (1982 -1986).

Stratigraphy:

- Middle Bronze Age, 2000-1600 BC.
- Late Bronze Age, 1600-1200 BC.

Fortifications:

Middle Bronze Age

The architectural similarity and coherence of the various elements of the defences at el-Qitar indicate that they may be contemporary, representing virtually the entire defensive system of a heavily fortified settlement in the second millennium BC.[1272] The lower settlement in area X was protected on two sides of its triangular shape by walls built of very large rocks. Its main entry point, the river gate, was flanked by two strongly built towers positioned to cover enemy attacks on the gate. Even if the enemy penetrated the lower settlement, they still had to contend with the rugged east face of the mountain, which was surmounted by another defensive wall, also constructed of large blocks.

The natural lie of the land made the citadel of area Y impregnable from its eastern side. Topographically its south-western slope was its weak point. Here the defenders built the large west gate complex and the south tower, this time not only utilising large blocks of rock, but crushed and chipped limestone fills to form wide massive walls for which the large rocks served as retaining walls.[1273]

The Curtain Walls

Large stone blocks of the curtain wall usually stand no more than one course high. In some places, they are laid directly on bedrock and in others, where the natural contours do not favour the defensive position, a long stretch of the city wall is well preserved on the west side of area Y north of the west gate complex, it a solid about 2 m wide, the line of the curtain wall south of the upper west gate is not clear, it appears to be decidedly inferior in size and lacks the large blocks found in the north.[1274] Another wall which could be the main curtain wall joins the west side of the lower west gate and curves to meet the southern tower (4), in this region far runs some distance below the crest of the mountain and continues far below the crest as it runs northeast from the south tower,

1271 Culican, Mcclellan 1983/84: 31.
1272 Culican, Mcclellan 1983/84: 39.
1273 Culican, Mcclellan 1983/84: 39.
1274 Culican, Mcclellan 1983/84: 33.

curtain wall curves back up to the top of the eastern slope whereupon it continues northward along the eastern crest. In the northern half of area Y, the line of the defensive walls is obscure. On the west side, the main defences lie hidden in heavy debris while the wall is eroded in places along the east side down to natural rock.

In area X, the north of the tower (6), traces of the city wall, which was built of large rocks directly on the edge of the cliff, follow its line from the base of the mountain to the tower (8) where the cliff is most vulnerable. In the south-western sector, however, between the tower (9) and the rising mountainside, the defensive wall is obscure.[1275]

The Towers

Six towers are associated to the defensive walls surrounding Tell el-Qitar, two of them are large towers (Structures 6 and 7) are flanked the river gate, the tower (8), a structure in the northern part of area X, is poorly preserved with portions of it being entirely eroded, the tower, which straddles the apparent line of the city wall, could conceivably be part of another city gate. In the southern part of area X, the tower (9) is only half preserved, and two towers guard the northern and southern extremities of area Y.

The northern tower (5), is the best-preserved tower at el-Qitar. It is strategically situated in the saddle between the northern rocky spur and area Y to the south. Only traces of the defensive wall are visible in this area, but the tower is clearly joined to a defensive system. The southern tower (4), is nestled in an outcropping of rock on the precipitous south slope. It is difficult to recognise its outline on foot even though the outer lines of several walls are visible from aerial photographs its basic shape is clear: a square structure protruding from the line of the curtain wall.[1276]

Glacis

Along the south-western corner of area Y, was explored chipped limestone layers one to 2 m deep in places, a large portion of the slope and found an artificial chipped limestone surface extending around the corner of the site to the western edge of the southern tower (4). In H 27 yellowish-white limestone chunks alternating with darker layers of stony fill and patches of fire dark grey ashy soil, some layers have the consistency of a rubble fill rather than a hard-packed and tamped surface. Along the bottom of the glacis a revetment wall (747) runs southward from the south-west corner of the low west gate at point 15 m south of the gate the revetment wall is inset about 2 m, from that point the revetment, (W749), was traced another 15 m southward, following a course roughly parallel to the upper curtain wall W745.[1277]

1275 Culican, Mcclellan 1983/84:35.
1276 Culican, Mcclellan 1983/84: 35.
1277 Mcclellan 1986: 88-90.

The entire defensive system from the upper curtain wall (W745) to the lower revetment wall, (W 747 and W 749), measures 17 to 18 m wide, Dr E. Polak surveyed the area with a magnetometer. Examination of the data shows a major anomaly in the readings along the west side of the revetment. There is a suspicion that it represents the line of a relatively wide and deep ditch, in other words, a human-made dry ditch.[1278]

Gates

Two city gates in the city wall have been detected (the river gate - the west gate complex). The river gate, in area X: Sq WIY-1 s/17, was flanked by two towers.[1279] The soundings verified the Bronze Age date of the gate and revealed several phases of construction during its history. The flanking walls are relatively narrow; the western one is 4.20 m wide and the eastern ranges from 3.80 to 4.40 m wide. The central passageway is 4.50 to 5.00 m wide, in the second millennium BC flanking walls tended to be much wider.

The West Gate Complex

Lower West Gate, in area Y: Squares D/G-30/35. (Fig. 147)

19.5 m beyond the main line of defensive walls, 1982 a pair of orthostats was discovered protruding above ground in the south-western portion of area Y,[1280] northern orthostat is 60 cm wide, 2.90 m long, and at its maximum 1.65 m high. It was made of limestone,[1281]at the east end of both orthostats single dowel holes of about cm diameter and 2 cm depth were found on their top surfaces near the passage side, the orthostats, flanking a passageway 2.20 m wide

The inner face of the northern flanking wall of the lower west gate was barely visible, the top course of that wall is about 75 cm. The platform is also surfaced with chipped limestone on top of small stones, the entire area north of the gate passageway appears to belong to one massive wall or tower whose western face is delineated by the large rocks and whose interior is constructed of deposits of yellowish-white limestone chips, the lower west gate was built after the upper west gate went out of use.[1282]

Upper West Gate, in area Y: squares H/M-30/33. (Fig. 148)

Is located uphill south-east the lower west gate, the two gates were contemporary elements of the same defensive complex, the western portion of the southern flanking wall is plainly visible, being constructed of large rocks and over 5.5 m wide, the passageway itself is between 5 and 5.5 m wide,[1283] no piers or orthostats are visible in the inner gate passageway. The central passageway of

1278 Mcclellan 1986: 90.
1279 Culican, Mcclellan 1983/84: 35.
1280 Culican, Mcclellan 1983/84: 37.
1281 Culican, Mcclellan 1983/84: 37.
1282 Mcclellan 1984/85: 64.
1283 Culican, Mcclellan 1983/84: 39.

the inner gate runs eastward in a straight line for 11.5m whereupon it angles slightly to the right (south) continuing for about another 11.5 m.

Tell Selenkahiye

Location: Located in the right bank of the Euphrates River, 83 eastern Aleppo.[1284]

Coordinates:

Dimensions: Is a large Tell, ca. 600 × 250 × 5 m. It is situated on a natural levee (consisting of a hard concrete-like conglomerate containing pebbles),[1285] from (Fig. 21) we can see the Tell has an elliptical shape.

Expedition: The Oriental Institute Euphrates Valley Expedition excavated at Tell Selenkahiye in 1967, and the excavations were continued under the auspices of the University of Amsterdam in 1972. 1974 and 1975. Dr M. N. van Loon was directing all campaigns.[1286]

Stratigraphy:

- 2400 BC and occupied until 1900 BC (EB IV to MB IA).[1287]
- Hellenistic – Roman remains lie only 10 cm under the surface.[1288]

Fortifications:

Early Bronze IV.

The site during the Early Bronze IV was surrounded by a defensive wall which has a different structure from one part of the city to another, this wall has been detected in two areas B (Sq O-Q 26) – D (Sq SSS07 - Z 07 - Q 21- N 25-26). In area B (central city area) in Sq O-Q 26, four walls have been detected (Wall I-Wall II – Wall III – Wall IV). In Sq O-Q 26, we can see that the wall I, has been built of mudbricks, which only rubble remained to a height of some 40 cm, this wall was built on foundation courses have a total width of 2.50 m and a height of some 1.50 m, there is a 10 cm wide ashy layer topping the rubble, over this rubble the inhabitants built wall II, basing it on a course of pebbles laid on the ash. The new mudbrick wall was as wide as the original stone foundations (2.5 m).[1289]

1284 Van Loon 1968: 21.
1285 Meijer 1979: 117.
1286 Meijer 1979: 117.
1287 Van Loon 2001: 25.
1288 Van Loon 2001: 27.
1289 Van Loon 1979: 97. / Van Loon 2001:51.

Wall III has left an open space between it and the western remnants of its predecessor; the new wall was thus narrower than the original stone foundations. Pebbles deposited against the new wall (wall II) by way of a glacis lay over the stub of wall II and naturally filled the crack,[1290] as the wall was doubled in width (from 180 to 360 cm) on the inside. This was done by partly filling the rooms of the houses built against the wall's eastern face with neatly laid mudbricks and by re-plastering the resulting new eastern face (wall IV).[1291] A glance at the far section shows that massive layers of mudbrick debris overlie the top of the city-wall at this spot: their downward slope to the west suggests an easterly provenance, and it is possible that they are the remnants of a still later phase of fortification works situated more to the east, defending a slightly contracted city. Sq Q26, the entire superstructure of the city wall seems to have been removed and rebuilt city wall ll) after destruction, city wall III served as the western limit of a house (24), (25), (34) and (36).[1292]

Area D

The easternmost part of the defence system of the settlement was revealed in Sq SSS07 (Fig. 68). The top of the eroded wall here appeared at 303.20 m; the regular brickwork only showed at 303.00 m. The wall was 2.25 m wide, it was predominantly reddish in colour, immediately north of it there was a mass of grey mudbrick debris: this represented the debris of the original superstructure.[1293]

The mass of grey debris was contained by a thin retaining wall (D) of which only the northern face was well-defined. It was also plastered. This retaining wall could be followed west into Sq TTT 07, where it also retained the grey mass of debris. This, however, was here overlain by a pebbled surface sloping down to the north, probably by way of a glacis. The city wall itself was based on pebbles and gravel.[1294] Pebbles appeared much closer under the surface in the western end of Sq TTT 07, where they were found to lie against a solid mudbrick wall, this remain represents either a second phase bastion or a second phase city wall built on top of the layer of gravel which lay against the first city wall.[1295]

In Sq YYY 07, a small buttress-like jump in the wall set it forward again by some 90 cm, In Sq Z07 a change of orientation (by some 6 degrees west-southwest) took place at a spot where a 10 × 7 m bastion has been built against the wall's outer face,[1296]that part of the bastion has been built on pebbles which lay against this receding wall face, it indicates that the bastion was an addition built against the earlier city wall, the western corner of the bastion was based on stones. The wall continued west beyond the bastion into Sq T 06, it made a right angle to the north into Sq T 07:

1290 Van Loon 2001:53.
1291 Van Loon 2001:53.
1292 Van Loon 2001:56.
1293 Van Loon 2001: 86.
1294 Van Loon 2001: 86.
1295 Van Loon 2001: 87.
1296 Van Loon 2001: 87.

there it made another right angle westward again,[1297]the wall had an inside buttress, of which only the western face was found in the room (10) in Sq T 06.

In Sq Q3 two squarish towers have been found, flanking a 3 m wide gateway, and 10 m long passage (Fig. 125), remains of the mudbrick superstructure of the northern tower were found, as well as a stone which served as a hole for the presumably wooden gate-doors.[1298] In Sq Q 21, a square bastion (B), measuring some 5×5 m protruded from the city wall (A) and was based on large stones.[1299] Wall A was lying on an ashy layer, some 5 m west of the outer face of wall (A), an 8 m wide gully, was found parallel to the wall, it represents a ditch associated with the earlier defence, which was filled in this latest phase of the wall (A and B) was filled with pebbles that ran up against wall A,[1300] this pebble layer probably served as a glacis. These pebbles were lying on ashes and fill. In Sq N 25-26, a ditch of a depth of at least 3 m was found, it was not investigated whether this ditch surrounded the entire settlement, the width of the moat, which has steep sides, was 9 m.[1301]

Tell es-Sweyhat

Location: Is located 3 km from the east bank of the Euphrates River, ca. 64 km south of Carchemish and about 100.5 km east of Aleppo city. It is situated on the high terrace of the river valley in the centre of a fertile basin which is ringed by high cliffs on the plateau of the Syrian desert.[1302]

Coordinates : 36°16′27″N 38°15′14″E.

Dimensions: Tell es-Sweyhat plain slopes gently from the plateau scarps, (alt. 375 m) to the west where it is cut by the floodplain of the Euphrates (alt. 320 m), it is composed of three distinct morphological zones (Fig. 15).

1. A central high mound covers an area 5-6 ha (measured 300 m north-south by 250 m east-west)[1303] and 15 m high.

2. A lower Tell is surrounding the high mound. It is enclosed by an embankment that approximates a rectangle measured 700 by 600 m.[1304] The lower city covers an area 30 ha.

3. An area to the south of the lower city (hereafter referred to as lower city south) covers an area. 10 ha. Though not visible on the ground, low-level aerial photographs of the site show a dark line

1297 Van Loon 2001: 87.
1298 Van Loon 2001: 89.
1299 Van Loon 2001: 89.
1300 Van Loon 2001: 89.
1301 Van Loon 2001: 93.
1302 Holland 1976: 36.
1303 Holland 1976: 36.
1304 Zettler 1997: 2.

perhaps a rampart or wall-that encloses the area and abuts the south side of the outer embankment,[1305] all these areas cover 45 ha.

Expedition: Excavated by the British rescue excavations, co-operation with UNESCO and the Syrian Department of Antiquities, the excavations were directed by the Holland and under the sponsorship of the Ashmolean Museum, Oxford in 1973,[1306]these excavations were renewed by Holland from the Oriental Institute of Chicago and Richard L. Zettler from the University of Pennsylvania Museum in 1989.

Stratigraphy:

- Tell es-Sweyhat was occupied from the beginning of the third millennium BC.[1307]
- The settlement may have encompassed an area of 15 ha by the mid-third millennium.
- Had tripled in size to become an urban state centre (or an urban node in a larger polity) by the end of the third millennium. The original settlement became a fortified centre or citadel, and a substantial outer (lower) city emerged around it.
- The extensive occupation of the Tell es-Sweyhat plain in the late third millennium peak period of the settlement represents an "exception" rather than the norm for the area.
- Tell es-Sweyhat collapsed probably early in the second millennium, but the site continued to be occupied in the Early Bronze-Middle Bronze transitional period.[1308]
- Tell es-Sweyhat was abandoned certainly no later than 1800 BC.
- Tell es-Sweyhat was reoccupied a thousand years after its collapse, in the Hellenistic and late Roman periods.

Fortifications:

The early third-millennium settlement of Tell es-Sweyhat was probably no larger than the area of the "high mound" and may have included both sedentary and semi-sedentary populations. By the third quarter of the third millennium, the settlement had expanded from the original core area to include much of the northern and eastern lower city, to as far as the late third-millennium outer fortification wall on the east. Late third millennium Tell es-Sweyhat consisted of a walled centre or citadel in the area of the original settlement; a lower city surrounded by a fortification wall; and a walled area to the south, the so-called lower city south.[1309]

1305 Zettler 1997: 3.
1306 Holland 1976: 36.
1307 Zettler 1997: 3.
1308 Zettler 1997: 3.
1309 Zettler 1997: 169.

End of the third millennium BC

Area IV the western side from upper city.

The fortification wall measured 2.5 m wide has been built of mudbricks above stone footings with buttresses or a series of defensive towers dated to the late third millennium,[1310] it was built on rough stone foundations preserved to just over 1'17 m in height in trench D. As the wall located in the western part of trench XA is also 2.5 m wide, this is the northern extension of the city wall.[1311] It has been built with rectangular sun-dried bricks measuring (40×50×10 cm),[1312] from (Fig. 13) we can see that the length of the inner fortification wall is 1100 m, while in trenches B and C, a bastion measured 7 m wide has been detected, it has been built of mudbrick on a stone foundation.[1313]

Many clay sling bullets were found near the wall in trench K, room 2 as well as in the debris overlying the wall. a willow leaf-shaped arrowhead came from trench M, room 7. The great thickness of the wall, the clay sling bullets and arrowhead indicate that the wall was certainly defensive in character whether it belonged to the one building in area IV or surrounded the entire settlement.[1314]

From area VIII, a trench across the northern half of the fortification, it revealed that it was constructed with alternating layers of wadi gravels and *libn* packing,[1315] the presence of an iron knife, glass. while area VI, revealed that there was occupation on the defensive wall later than the Bronze Age, in area IV, a complex has been built against the city wall. Further excavation during 1975 showed that the city wall appears to stop at the line of the southern, wall of room 12, about 1 m south of the southern wall of room 12, a stone pavement was discovered with large flattish stones, a provisional suggestion is that the stone paving might represent part of a gateway or street associated with the secondary use of the building remains after the initial conflagration which may have obliterated the original gate or street.[1316]

Outer Fortification Wall

In the late third millennium the city was fortified by fortification wall, it has been uncovered in 1993 excavations on the north-western side of the lower city (Operations 15 and 18), as well as in a slit trench (Operation 25) across its eastern course, operations 15 and 18, located on a low rise that we assumed represented the settlement's outer fortification wall.[1317]

1310 Zettler 1997: 4.
1311 Holland 1977: 37.
1312 Holland 1976: 49.
1313 Holland 1977: 37.
1314 Holland 1976: 49.
1315 Holland 1976: 62.
1316 Holland 1977: 41.
1317 Zettler 1997: 48-49.

Operation 25

A sequence of three major occupation phases in operation 25, has been discovered, in the second phase included the outer fortification wall, which was built on the levelled-off remains of the earlier buildings, the eastern wall was apparently an earthen rampart 18.50 m wide, it was faced on the outside with a sloping stone revetment and supported on the inside with a 1.15 m wide retaining wall that consisted of mudbricks set on substantial stone footings three to four courses high. The low slope (38°) of the preserved stone revetment and the relatively narrow width of the retaining wall perhaps suggest a low embankment that would probably have carried a higher defensive wall,[1318]the rampart base for the outer fortification wall alone would have required moving more than 170,000 m^3 of earth.[1319]

Operation 15; north-western side

The exterior wall of a building, oriented northeast by south-west; parts of two interior spaces, formed by a wall running perpendicular (and bonded) to the exterior wall (on the south-east side; and the outside space in the north-west corner of the operation,[1320] it was part of a casemate outer fortification wall. The exterior wall was ca. 1.80 m wide and the interior dividing wall ca. 90 cm wide. Both walls consisted of four to five courses of mudbricks, without straw temper, set on a stone foundation, which was two courses high; they were constructed with broad, flat stones perpendicular to the run of the wall and smaller stones in the interior.[1321]

Tell Titriş Höyük

Location: Located some 45 km north of the modern city of Sanlurfa[1322] in southern Turkey.

Coordinates:

Dimensions : Titris was about 43 ha in extent, it consisted of a small acropolis surrounded first by an extensive and contiguous lower city and then by a number of scattered and non-contiguous suburb areas[1323] (Fig. 72).

Area 1: High Mound A, central high mound ca. 3.3 ha in extent and 22 m in height.

Area 2: Lower City, west lobe an elongated area about 8 ha in extent (ca 400 × 200 m).

1318 Zettler 1997: 48-49.
1319 Zettler 1997: 170.
1320 Zettler 1997: 49.
1321 Zettler 1997: 49.
1322 Algaze et al. 1995: 14.
1323 Algaze et al. 1995: 15.

Area 3: Lower City, east lobe an elongated area about 5.4 ha in extent (ca. 300 × m 180).

Area 4: Outer City an oblong-shaped sector (ca 800 m long and 200 m wide 16 ha) directly north of the High Mound and Lower City (areas 1-4).

Area 5: Suburbs A, number of external suburbs existed due north, south, and east of the settlement.

Area 6: Extramural cemetery areas an extramural cemetery area associated with the site has been identified on a knoll some 400 m northwest of the Titris outer city.[1324]

Expedition: Excavated by the Archaeological Museum of Sanliurfa province and the University of California, San Diego.

Stratigraphy: [1325]

- Late early bronze.
- Iron Ages.
- Hellenistic.
- Roman.
- Medieval periods.

Fortifications:

From the hilltop north of Titris, a comprehensive view is had to the distant south, east to Millisaray, north to Lidar, and west to the Euphrates River. The city held a commanding and naturally defensible position because of the natural slope of the Pleistocene ridges on top of which it stood an effect reinforced by the construction of retaining terraces to hold sloping ground within the city and by the external walls of architecture facing the river banks at either side of the city (Fig. 72).

The addition of a massive east-facing fortification wall in the late EB allowed for tight economic control of entrance or egress from the city, and obviously enhanced defensibility in the only side of the settlement without a sharp slope and not surrounded by running water.[1326]

Late Early Bronze Age

The defences that surrounded parts of the outer city portion of the city consisted of a massive fortification wall some 3-3.5 m wide built of mudbricks over stone foundations, some 1.5 m in height, a series of massive buttresses a further 3 m or so to the wall's thickness and create niches at regular intervals on the wall's interior face. Within the exposed areas, these niches served as domestic spaces, the wall had an associated glacis or ditch on its exterior that was at least 3.5 m

1324 Algaze et al. 1995: 16.
1325 Algaze et al. 1995: 17-18.
1326 Algaze et al. 2001: 62.

deep and 14 m long, the magnetometric map of the outer city made in 1994 allows to trace this defensive system for a distance of at least 148 m far.[1327]

In Sq 82/88-111 the late EB wall was itself built over an earlier wall (Mid EB), the bottom stones of the later wall rested directly over the stone foundations of the earlier wall, although in at least one area 2 courses of mudbrick still remained over the earlier wall, perhaps used as a levelling device, this earlier wall appears to have solid stone foundations and was minimally 2 m wide.[1328] A pebbled floor/surface (82/88-112) was traced within the exposed area running up to the preserved top stones of the earlier wall, ceramics from this floor, though only a handful, are homogeneously Late EB in date, because of its relatively massive size and because its alignment parallels that of the overlying wall, we presume that the outer wall also served as a fortification wall.[1329]

In 1999 the expedition took away the mudbrick superstructure of the uppermost late EB fortification wall, in so doing, two constructional details became clear, the wall was not built of solid limestone blocks as were visible in the outside face of the wall foundation. Rather, the wall appears to have been faced with large, well-masoned blocks only on its exterior surface. The interior wall consists of a core made of rubble and smaller limestone chunks.

Additionally, it is very clear within the exposed area of the buttressed wall that it was built in sections, as a clear line can be seen between two such constructional sections within the trench. It is unclear whether the differences in wall construction observed within the relatively small portion of the wall system exposed are characteristic for the wall as a whole.[1330]

Tell Bi'a / Tuttul

Location: Located in the north-eastern of the Raqqa city, and 3 km from Balikh and Euphrates Rivers.[1331]

Coordinates: 35°57'26.6" N, 39°02'49.8" E.

Dimensions: It measured 600 m from the north to the south, and 700 m from the east to the west, (Fig. 20), the highest place of the mound is 12 m above the city.[1332]

1327 Algaze et al. 2001: 33.
1328 Algaze et al. 2001: 34.
1329 Algaze et al. 2001: 34.
1330 Algaze et al. 2001: 34.
1331 Strommenger 1990: 100. / Strommenger 1981/82: 210.
1332 Strommenger 1975: 7.

Expedition: Excavated by a German Team (Deutschen Orient-Gesellschaft).

Stratigraphy:

- Early Bronze Age.
- Meddle Bronze Age.

Fortifications:

The city during the Early Bronze Age was surrounded by a fortification wall, remains of the walls of Bi'a / Tuttul have been found in three places: in the south (area M), in the west (in front of the area A and C and in area C) and in the north (area K).[1333]

Early Bronze (Early Dynastic) Fortifications

Fortifications in the south (area M)

We can see the remains of the main fortification wall in area M specifically in Sq 10-11 / 34-35 and in Sq 8-9 / 34, which measured 6,0-6,30 m wide it has been built out of the grey, brown, orange and reddish mudbricks of varying quality.[1334] The mudbricks were partly brittle (especially the dark brown) and contain small to medium-sized pebbles, sometimes small pieces, and occasionally also crystalline inclusions. They have very different formats: some of them have a rectangular shape; they measured (38×34/ 42×36/ 43×30/ 47×32/ 48×38/ 49×31 cm) and often (50×36 cm), and the others have a square shape, which measured (30, 36, 43, 46, or 48 cm on a side) besides the half brick.[1335]

This variability is probably because the bricks have been made in by many households, we can notice that the inner face (northern side) of the wall was reinforced by buttresses the distance between of them was 0.75-1.05 m, a clearly noticeable inclination of the wall towards the north suggests that it had to be supported in order to withstand the external pressure of the southern massive glacis.[1336]A slanting glacis has been added to the southern outer edge of the wall, it consists of hard mudbricks with Smoothly surface, the glacis was covered with grey-brown, mud mixed with pebbles.[1337] This glacis has been renewed later with pebbles and river debris. We can observe that in Sq 11/34 there were no glacis but only ash and rubble layers as well as mudbricks.

Another outer wall has been built in front and parallel to the main fortification wall and far away around 16 m to the south about, it was 1.8 m wide, and has been built of red square mudbricks which measured (42×42×10 cm),[1338]the older (ED -main fortification wall) wall, also was

1333 Miglus, Strommenger 2002: 9.
1334 Miglus, Strommenger 2002: 9.
1335 Miglus, Strommenger 2002: 9.
1336 Miglus, Strommenger 2002: 10.
1337 Miglus, Strommenger 2002: 10.
1338 Miglus, Strommenger 2002: 10.

excavated in the south of the gate between areas A and C,it is preserved to 2.0 m high and its width was 6.3 m, extended of 25 m, the wall is completely has been built of mudbricks.[1339]It ran from the south-west to the north-east with a deviation of 20 m to the north; the oldest phase of the wall is preserved to six bricks.[1340]

We can see in the second construction phase it was reinforced by a front shell; it has a total thickness of around 28-30 cm and covers the lower mudbrick layers of the old wall on a width of approx. 12 cm,[1341] also, the wall appears in the western slope in area C, specifically in Sq 37/18 and 37/19, which measured 6.4 wide, it has been built of mudbricks of different formats up to a rectangular size of (35×54 cm). The bricks are made of reddish-brown soil which is mixed with chaff.[1342]

It is possible to observe that the wall in the south-east side of the city measured about 6,35-6,40 m wide, and its inner face has been reinforced by three buttresses which measured 1.40-1.50 m wide and the distance between of them was 2.80 m to 3.0-3.10 m.[1343] Moreover, a tower protruding of about 1.75 to 1.80 m on the exterior of this wall, which is preserved in one place up to a height of about 2.0 m.[1344] One can notice that in the northern slope of area C, specifically in Sq 43 -44 / 23 – 24, the wall has been built of red rectangular bricks of various formats with 4.70 m wide,[1345]in this area, the remains of ramp was far away of 1.50-2.0 m from the wall made of gravel and mudbrick fractures.[1346]

Western Gate Early dynastic

The gate has been built of mudbricks and stones, it was poorly preserved, it should be at least 20 × 20 m in size. Neither its northern nor southern boundaries were clarified. The outer doorway was obviously flanked by two buttresses, the northern one has completely disappeared, but the southern buttress has been preserved to 4.40 m which is considered as the minimum width.

The opening side on the street might have been flanked by two buttresses, similarly to the previous buttresses. Only the south-western one has partly been preserved. It was 1.50 m away from the opening edge; its width should have originally been about 6.0 m.[1347] The entire gateway passage lay in one axis, measured about 3.0 m wide, and it was approximately 20 m long, inside this gate a square room measured about 5.0-5.50 m and a 2.90-3.10 m wide corridor with 10 m long. The gate room was originally closed on both sides with two slabs from the inside; each slab was about 1.60 m wide.

1339 Miglus, Strommenger 2002: 12.
1340 Miglus, Strommenger 2002: 12.
1341 Miglus, Strommenger 2002: 12.
1342 Miglus, Strommenger 2002: 17.
1343 Miglus, Strommenger 2002:17.
1344 Miglus, Strommenger 2002:17.
1345 Miglus, Strommenger 2002:17.
1346 Miglus, Strommenger 2002:17.
1347 Miglus, Strommenger 2002:13.

The other two gates are probably had the same plan as the western gate, they dated to the Early Dynastic period, they could be on the north and south sides of the city,[1348] we should mention that the ED wall in the vicinity of the gate in front of the area A and C, was 8,0 m wide.[1349]

Middle Bronze

Fortification wall

A 24 m long from the fortification wall has been detected, which starts about 7 m south of the gateway. It has been built of the rectangular reddish-brown, and grey-brown mudbricks of the size (38-40×31-34×8-9 cm),[1350]it has been erected on ash rubbles and thin red-brown loam layers of about 30 cm wide, it was 3.50 to 3.60 m wide in the Sq 30-31 / 16 and other places (4.70 m as in the area K).[1351]

In the western side of area C, specifically in the Sq 37. 38/16. 17, the MB fortification wall measured 4.70 m wide and has been built of mudbrick without foundation, but it has been erected on older settlements of ash loam with wooden pieces, in this area, it is preserved until 3.70 to 3.80 m height. It is covered with a very thin white plaster, 0.2-0.3 cm wide only on the outside.[1352]

Tell Mumbaqa / Ekalte, Yakaltum

Location: Located on the east bank of the upper course of the Euphrates River[1353] about 85 km east of Aleppo city.

Coordinates: 36°21′78.30″N, 38°12′90.02″E.

Dimensions: From the (Fig. 26), we can see the site has an elliptical shape, the city during the EB was located on top of the mound.[1354]

Expedition: Excavated by a German team, "Mission of Deutsche Orient-Gesellschaft"; at first in 1968, Ernst Heinrich conducted the field research, In the years 1973 and 1974, the mission directed by Winfried Orthmann, since 1978 it has been Dittmar Machule, Technical University of Hamburg-Harburg. Until 1979 the excavations were financed by the foundation "Volkswagenwerk".

1348 Miglus, Strommenger 2002 :13
1349 Miglus, Strommenger 2002 :20
1350 Miglus, Strommenger 2002 :13
1351 Miglus, Strommenger 2002 :13
1352 Miglus, Strommenger 2002 :18
1353 Machule 1983 :123
1354 Werner et al 1998 :38

Stratigraphy:

- Early Bronze Age.
- Middle Bronze Age.
- Late Bronze Age.

Fortifications:

Most the remains of the defensive system (wall- towers- gates) dated to the Late Bronze Age, the evidence of the Early Bronze fortification wall has been detected in Sq 30/30–31/30, while the evidence of the Middle Bronze Age fortification wall has been found in Sq 26-27 / 41 and 30-31 / 39.

Early Bronze Age IV - 2500-2100 BC

The site during the Early Bronze Age was fortified by a 5 m wide casemate wall was built of mudbricks has been found of the top of city, the inner wall of this structure (in Sq 30/30–31/30 on the top of the Tell) was 2.8 m wide with a mudbrick superstructure which measured 50 × 30 × 9 cm, the rectangular rooms of the casemate wall were about 1.2 m wide with an exterior wall less than 1 m wide.[1355] The gaps have mostly been filled with broken mudbricks, although in one instance, a large storage jar had been found inside a gap.[1356]

Middle Bronze Age

Excavations in Sq 26-27 / 41 and 30-31 / 39

The city wall was partially cleared along a length of 62 m,[1357] built of mudbricks, "saw-tooth design" it is preserved to 1.5 m high, this wall is contained only a few fragments of the Early, Middle and Late Bronze. A section was made through the north-east side of the rampart, with 2.5 m wide by 29 m long,[1358] it revealed that the rampart had been built of pebbles, 10 to 20 cm wide, alternating fine and coarse-pebbles, inside the rampart a layer of 10 to 15 cm of large rolling pebbles were found as well as the layer of large clay and clay-bricks. [1359]

Under the apex of the rampart about 3 m below the surface today, subsequent layers consisted of fine-grained gravel could be the core of the rampart. A shattered gravel wall of great thickness was added, on its north-west slope, in the section (5,6) there is a narrow stone wall, parallel to the

1355 Eichler et al: 73.
1356 Cooper 2006: 79.
1357 Machule 1993: 76.
1358 Machule, 1971: 53.
1359 Machule, 1971: 54.

rampart have served to support the rampart,[1360]the rampart's section suggests that it was approximately 10 m high.

Tell Hammam et-Turkman / Zalpah

Location: Located on the left bank of the Balikh River, a tributary of the Euphrates River, 80 km north of Raqqa.[1361]

Coordinates: 36°28'58.7" N, 39°03'26.7" E.

Dimensions: It has a diameter of some 500 m, around 19.5 ha, and is 45 m high,[1362] (Fig. 57).

Expedition: Excavated by The University of Amsterdam in 1982.[1363]

Stratigraphy:[1364]

- Ubaid.
- Late Chalcolithic.
- Early Bronze Age.
- Middle Bronze Age I -II.
- Late Bronze Age I-II.
- Parthian.
- Roman.

Fortifications:

In the Early Bronze Age, the city was surrounded by a high defensive wall with a monumental gateway.

Early Bronze IV

In this period, the city measured approximately 250 by 150 m,[1365] on its western side specifically, in level VI,[1366] it was protected by a tall solid mudbrick structure that was either part of the city wall or a free-standing tower (if a tower its facade at least 18 m wide),[1367] in its superstructure, it

1360 Machule, 1971: 55.
1361 Van Loon 1983: 131.
1362 Van Loon 1983: 131.
1363 Van Loon 1983: 131.
1364 Van Loon 1983: 131-134.
1365 Van Loon 1986/87: 311.
1366 Van Loon 1988: 81.
1367 Van Loon 1986/87: 311.

carried a series of chambers that had their floors 5.5 m above the contemporary surface outside the fortification.[1368]

In their final state, these floors were flush with the floors of rooms built against the inside of the fortification. If the double row of chambers was included in the fortification, its total thickness must have been 8 m;[1369] all the chambers had white plaster on their walls, one was without doors, having been accessible from above only.

Middle Bronze Age I

The city during the Middle Bronze Age was surrounded by a city wall which has been detected in level VII specifically, in Sq O 16-17-18 in the northern slope of the Tell. In Sq O17, a mudbrick wall measured at least 7 m wide has been detected, it was built parallel to the contours of the mound, it stands only 1 m high. It could be the city wall with a flat top.[1370]

Along its outside runs a passage 1 wide, a second mudbrick wall 2 wide, then strips paved with mudbrick and stone respectively and each 1 m wide, then a third mudbrick wall 1.5 m wide and finally a pavement of storage jar sherds.[1371] In level VII, in Sq O 18 a wide wall (Wall V) has been detected, it was built of grey mudbricks which measured (35×35 cm).[1372]

1368 Van Loon 1986/87: 311.
1369 Van Loon 1986/87: 311 / Van Loon, Meijer 1987 :1.
1370 Van Loon 1983a: 300.
1371 Van Loon 1983a: 300.
1372 Van Loon 1988: 80.

UPPER NORTHERN LEVANT

Tell Abou Danne

Location: Located 25 km in the east of Aleppo, around 50-60 km west of the Euphrates River in the Jabbul plain,[1373] this site has so perfect location in the route between Aleppo and Euphrates it has been built as fortress, or as a fortified city which dated to the third millennium BC, it was a military outpost belonging to the Kingdom of Ebla, after that it has been renewed in the Middle Bronze Age and it was associated with the Kingdom of Yamkhd.[1374]

Coordinates: 36°10'44.5" N, 37°27'05.0" E.

Dimensions: Its height about 25 m,[1375] from the (Fig. 45) we can see the Tell has a circular shape, its diameter is 250 m, that means its circumference is about 800 m, and the Tell covers 4.9 ha.

Expedition: Excavated by a Belgian team.

Stratigraphy:

In sounding (I), we can see seven layers: [1376]

- Age I -II, level (VII).
- Middle Bronze Age, level (VI).
- Late Bronze Age, level (V).
- Iron Age I-II, level (III - IV).
- Persian Hellenistic, level (II).
- End of the Achaemend period and beginning of the Hellenistic period, level (II).
- End of the Hellenistic period and beginning of the Romanian period, level (I).

Fortifications:

In the first **sounding (I),** in the northern slope, two mudbrick walls were positioned on top of each other have been detected, the first one dated to the MB and the second dated to the EB.

Level VII: Early Bronze Age I-II

A mudbrick wall was preserved over 7.5 m high and 3 m wide [1377] and has been built from mudbrick (18-20×6-7 cm)[1378] and has been provided with an external wall square buttresses filled with gravel,

1373 Tefnin 1979b: 44. / Tefnin 1978/79: 10.
1374
1375 Tefnin 1983:141.
1376 Tefnin 1979a:184.
1377 Tefnin 1983:142. / Tefnin 1981/82: 201.
1378 Tefnin 1979a:197.

this wall has been found in 20 m deep (the earth in this level was black and mixed with pottery) it is possible that the wall was built directly on the ground without foundation.

Level VI: Middle Bronze Age

During the Middle Bronze Age, the site was surrounded by a mudbrick wall was with a glacis, have been founded in level VI, and this level is divided into three phases.

The first phase (Fig. 90)

A fortification (enclosure) wall has been detected; it built of mudbricks (33×33×7 cm) and its width 2.10 m, was built on a foundation of small stones are situated above the preserved remains of the EB I–II wall.

A packed brick floor, a sort of walkway, separates it from a narrower outer wall (0.85 m) wide, was parallel with the fortification wall build of mudbricks (28×28×7 cm),[1379] beyond which begins the slope of the glacis (that means the fortification structure consists of a fortification (enclosure) wall, a walkway, a narrow exterior wall and a glacis).

In the same time, maybe little bit later, two parallel walls have been built of mudbrick (36×36×8 cm) on a base of small stones on the interior of the original enclosure wall as supporting for the fortification (enclosure) structure, one in the east bank of the wall, the other in the west, between the two walls, the gap has been filled by poorly packed bricks constituted a sort of blockage, [1380] the glacis composed of loose, limestone gravel, and compact earth belonging to this phase has been found, the surface inclined to 40° approximately. [1381]

Second phase

The old fortification wall was destroyed and, in this level, has been rebuild, and a large quadrangular blocks (towers) were added to the wall, has been built from grey square mudbrick (38×38×10 cm), a new glacis has been added to the wall above the old one,[1382] and in this level the no trace for the walkway and the exterior wall.

Third phase

1379 Tefnin 1979a:192.
1380 Tefnin 1979a:192.
1381 Tefnin 1979a:193.
1382 Tefnin 1979a:193.

There is a sign of violent destruction at this phase, where 50 cm wide layers of ash has been found,[1383] perhaps because of this earthquake or because of a military attack, after this destruction a wall 0.70 cm wide has been built of mudbrick (35×35×8 cm).[1384]

Tell Afis

Location: Located north-western Syria, about 11 km north of Tell Mardikh / Ebla, 55 km south of Aleppo.[1385]

Coordinates: 35° 90'5" N, 36° 79'86" E.

Dimensions: The site measures 570 × 500 m,[1386] is a nearly circular mound (Fig. 40) and covers an area 28 ha,[1387] its circumference around 1600 -1700 m, composed of a big lower city and a smaller acropolis located on the northern side of the Tell.

Expedition: In (1970, 1972 and 1978) was excavated by the Mission Archaeological Italian in Syria by the University of Roma La Sapienza, directed by P. Matthiae, also, new excavation program started in 1986 and is still ongoing under the directorship of S. Mazzoni from the University of Firenze and S.M. Cecchini from the University of Bologna.

Stratigraphy:[1388]

- Late Neolithic period (4000-3200 BC).
- Early Bronze Age (3000-2000 BC).
- Middle Bronze Age (2000-1600 BC).
- Late Bronze Age (1350-1200 BC).
- Iron Bronze Age (1200-600 BC).

Fortifications:

The Early Bronze Age

There are no data concerning a defensive system in the Early Bronze Age.[1389]

Middle Bronze Age I-II

1383 Tefnin 1979a:193.
1384 Tefnin 1979a:193.
1385 Mazzoni 2013: 204.
1386 Affanni Michele 2009: 39.
1387 Mazzoni 2013: 204.
1388 Mazzoni 2013: 204.
1389 Affanni, Michele, 2009, :40

In the first centuries of the second millennium during the MB IB-IIA (1850-1700BC) both of the acropolis and the lower city were surrounded by defensive systems,[1390] the lower city was defended by a (casemates)[1391] rectilinear wall and the acropolis was also protected by massive walls,[1392] the construction technique of the structures is similar, consisting of square mudbricks set on a single course of big stones, in some cases completed with a preparation of smaller stones or pebbles.

The remains of fortifications have been detected on both sides of the acropolis, in area E3, on the western side, in area N2, on the eastern slope, and in the northern part of the lower city, in area B1.[1393]

Acropolis (inner fortification); Area E3 in the western side of the acropolis

Excavations have revealed that during the MB II a defensive wall was built over a marginal area dedicated to pottery production, the wall had thickness ranging from 3.5 to 4 m,[1394] built above foundations consisted of one course of large blocks with an upper fill of small stones, pebbles, and sherds as a base for the mudbrick solid structure,[1395] it has been build of a red mudbrick 30 ×30×10 cm,[1396]on the outer side, a second mudbrick wall protected the base of the first one in the lower level.[1397]

Area N2 in the eastern slope of the acropolis

Two east and west trenches have revealed a sequence of fortifications dating from the Middle Bronze to the Iron Age I,[1398] five-building phases of fortification dated to the Middle Bronze Age.

The first phase, the defensive system consisted of a wall built on top of a rampart, the rampart core has not been investigated, it was protected by a hard glacis built with compact red clay, the rampart was 7.30 m long and 2.85 m high, with a 40% gradient, the wall on the summit, which is preserved to a height of 4.50 m and is 3 m wide, had a single layer of foundations built with large stones, found only in a limited sounding. Its superstructure was elevated with red, grey and yellow square mudbricks with a unit size of either 36×36×10 cm or 38×38×12 cm.[1399]

The second phase, an 80-120 cm wide wall, which is preserved to a height of 1 m, and built with red and yellow square mudbricks same size as the previous wall,[1400] was added to the outer face of

1390 Mazzoni 2013: 209.
1391 Affanni, Michele 2009: 42.
1392 Mazzoni, 2013: 209.
1393 Affanni, Michele 2009: 40. / Michele, Pedrosi 2012: 170
1394 Affanni, Michele 2009: 41.
1395 Mazzoni 1994:148.
1396 Affanni, Michele 2009: 41.
1397 Mazzoni 1994:148. / Affanni, Michele 2009: 41.
1398 Affanni Michele, 2009: 41.
1399 Affanni, Michele 2009: 41. / Michele, Pedrosi 2012: 170
1400 Cecchini et al. 2006: 384.

the previous wall, probably in order to strengthen its base,[1401] (The cumulative width of this defensive system was roughly 3.80 m).

The third phase, shows the collapse of the elevation of the wall built in the first phase in an area where only its foundations have been excavated, there may have been a tower here, after the collapse, the defensive system was restored by adding a new wall which had a slightly different direction and was built with a different kind of mudbrick made of red-light clay.

The fourth phase, a new glacis (Slope), was laid down on the previous one. It was made of a very hard layer of yellowish clay mixed with smashed limestone.[1402]

The fifth phase, the defence strategy on the eastern side of the acropolis changed, the old wall pertaining to the first phase, while still standing and quite well preserved, was reused as the core of a supplemental rampart leaning against the wall the rampart, preserved to a height of 2.20 m, was composed of layers arranged in a so-called sandwich-technique in which yellowish earth and reddish clay layers were interspersed with an occasional layer of smashed limestone.[1403]

Lower city; Area B1 in the northern part of the lower city

A Middle Bronze mudbrick fortification wall has been exposed for a wide of 8 m, height of 3 m and length of 30 m,[1404] the wall was laid down on an area previously dedicated to tombs, it has a stone foundation and the fortification structure was planned as a casemate wall.

These casemates were completely filled with mudbricks,[1405] the elevation was built with two layers, probably relative to different chronological phases, the lower layer was made with fine yellowish mudbricks, while the upper one was built with reddish coarse mudbricks, in both elevation layers it was used a mudbrick with the same module of (40×40×9 cm).[1406]

The outer side of the wall was protected by a line of pebbles and few larger stones laid in a sloping position and the fortification structure was planned as a casemate wall, these casemates were completely filled with mudbricks,[1407]pottery from the tombs dates the construction of the fortification wall back to a period between the Middle Bronze I and the beginning of the Middle Bronze II.[1408]

1401 Affanni, Michele 2009: 41.
1402 Affanni, Michele 2009: 41.
1403 Affanni, Michele 2009: 41./ Michele, Pedrosi 2012: 171.
1404 Affanni, Michele 2009: 41. / Mazzoni 2013: 209. / Mazzoni 2002/03: 101.
1405 Affanni, Michele 2009: 42.
1406 Affanni, Michele 2009: 42.
1407 Affanni, Michele 2009: 42.
1408 Affanni, Michele 2009: 42.

Tell 'Acharneh / Tunip

Location: Located in western Syria about 35 Km north-west of Hama city, it rises at the centre of a plain which forms the southern part of the verdant Ghab Valley, it is situated on the right bank of the Orontes River, to the west of Hama.[1409]

Coordinates: 35°17'16.3" N, 36°23'45.4" E.

Dimensions: It covers an area 70 ha, extending roughly 1.2 km from the north to the south, and 500 – 650 m from the east to the west, the north-eastern hill, roughly 200 × 200 m,[1410] which is covered by a modern cemetery, the north-western hill, referred to as the principal tell, which is free of modern constructions; it is 300 × 200 m, at its summit and its height rises more than 40 m, above the surrounding plain,[1411] (Fig. 32).

Expedition: It excavated in the 1970s, by Michel Fortin of the Department of History at Laval University (Quebec), excavations at the site, carried out between 1998 and 2010, were conducted by a joint Canadian expedition comprising team members from Laval University and the University of British Columbia.[1412]

Stratigraphy:

- Early Bronze age.
- Middle Bronze age.
- Late Bronze Age.
- Iron Age.
- Byzantine period.
- Medieval period.
- Ottoman period.

Fortifications:

Middle Bronze Age

Enclosure

1409 Fortin 2006: 3.
1410 Fortin, Cooper 2006: 168.
1411 Fortin 2006: 3.
1412 Fortin 2006: 12-19.

An earthen rampart has been found in the southern side of the Tell; its thickness at its base measured about 50 m and its height about 10 m. This was clearly the enclosure that surrounded the lower city during the Bronze periods.[1413]

The enclosure's remains in the west, are less visible along the bank of the Orontes River. Even though the rampart has largely disappeared, however, the river itself must have provided some defence of the city on this side.[1414]

glacis

The northern part of the city was better defended, owing to the presence of a kind of steep glacis, extending over 30 m. A ditch has been cut at the foot of the glacis.

A depression between the two mounds probably marks the location of the principal gate of the ancient city,[1415] it is logical to suppose that the Iron Age inhabitants of this site deliberately used, to build their glacis, the earth from other sections of their city; which has been occupied during the earlier periods.[1416]

North Gate of the city

This gateway has been blocked and was completely obstructed by an impressive sequence of layers of earth fills systematically placed on either side of transverse mudbrick walls, the earth fill has been brought in from other areas of the site, which contains the pottery dating to all periods of the Bronze Age.

According to the study of the pottery, the expedition is convinced that this process of backfilling the north gate of the city took place during the Iron II period. It was a means of protecting this important city of the Aramaean kingdom of Hamath from the intrusions of the Assyrian army into the Orontes Valley.[1417]

Tell 'Atchana / Alalakh

Location: Located in the western side of the Amq plain**,** a little more than 400 m to the west the Orontes winds,[1418] 20 km to the west is the bustling modern city of Antakya, ancient Antioch; the Syrian border is a short distance to the south.[1419]

1413 Fortin 2006: 12.
1414 Fortin 2006: 130 -133.
1415 Fortin 2006: 12.
1416 Fortin 2006: 117.
1417 Fortin 2006: 117.
1418 Woolley 1955: 5.
1419 Fink 2010: 14.

Coordinates: 36°14′16″N, 36°23′05″E.

Dimensions: It has an irregularly elliptical (Fig. 39), measured about 750 m long by 300 wide,[1420] rise up to 9 m; it covers an area 22 ha,[1421] its circumference is 1650 m.

Expedition: Excavated by the British archaeologist Sir Leonard Woolley from 1936-1939 and 1946-1949.

The Oriental Institute of the University of Chicago resumed work at the site in 2000, directed by K. Aslıhan Yener; David Schloen served as associate director, and the senior field supervisor was Amir Sumaka'i Fink.[1422]

Stratigraphy: [1423]

- Level XV II, about 3400 -3300 BC.
- Level XV I, about 3300 - 3200 BC.
- Level XV, about 3200 - 3100 BC.
- Level XIV, Early Bronze I, about 3100 - 2900 BC.
- Level XIII, Early Bronze II, about 2900 - 2700 BC.
- Level XII, Early Bronze III, about 2700 - 2350 BC.
- Level XI, Early Bronze IVA, about 2350 - 2200 BC.
- Level X, Early Bronze IVB, about 2200 - 2050 BC.
- Level IX, Middle Bronze I, about 2050 - 1900 BC.
- Level VIII, Middle Bronze IIA, about 1900 -1800 BC.
- Level VII, Middle Bronze IIB, about 1800 -1750 BC.
- Level VI, Middle Bronze IIB, Middle Bronze IIC and Late Bronze IA about 1750 -1594 BC, Middle Bronze Age II and Late Bronze Age.
- Level V, Late Bronze IA and Late Bronze IB, 1594 -1483 BC, Late Bronze Age.
- Level IV Phase I, Late Bronze IB, 1483- I459 BC.

Phases II and III, Late Bronze II, about 1450 -1370 BC.

- Level III, Late Bronze II, about 1358 -1285 BC.
- Level II, Late Bronze II, about 1275- 1220 BC.

1420 Woolley 1955: 5.
1421 Yener 2010: 1.
1422 Fink 2010: 14.
1423 Woolley 1955: 378-380.

- Level I, Late Bronze II, about 1220 -1190 BC, this level represented the city just before a regional collapse that put an end to both the Hittite Empire and the city of Alalakh, dated to the late 13th - the early 12th centuries BC.[1424]
- Level 0, Iron Age, about 1140 BC.

Fortifications:

The defensive system was not identical all the way around the city but was adapted to meet changed conditions, at the north end and along the north-east its steep side still present a formidable obstacle to attack, but at the south end and along part of the south-west it slopes down so gently that its limits are not easy to determine, and it would appear to have been to all intents and purposes undefended.[1425]

The city wall consists of a steep-faced rampart of earth revetted with clay along the top of which ran a thick and presumably high wall-at one period a triple wall-of mudbrick; the rampart was the side of the city mound, rising from the level of the plain to that on which the houses stood, and the wall went up above the house-tops, [1426] in 1938 the level VII (Yarim-Lim) gateway in the north-east wall was excavated[1427] and in 1949, a trench cut in the extreme north-west. Corner of the site and subsequently enlarged gave good information about the castle, that information dealing with all the levels from I to VII.[1428]

The city wall

In level VII MB, about 1750 -1800 in trench F in the north-east side of the Tell.

The earthen rampart which must have existed long before was widened by a mass of earth and rubbish piled against its face making a mud-plastered glacis which sloped at an angle of about 35°,[1429] this rose to a height of approximately 8 m and 16 to 20 m wide,[1430] it ran horizontally for about 10 m either to the foot of the brick-built city wall or to a second short glacis slope in front of the wall's foot, that the massive defences of level VII were as far as possible re-used in the two succeeding periods (levels V I or V).

In Sq. KI 2 it was found that the city wall of level IV rested immediately on the brickwork of level VII, the inner faces of the two coincidings, which is additional proof that the walls of levels VI and V were at this point the re-used walls of level VII[1431]

1424 Yener 2010: 3-6.
1425 Woolley 1955: 132.
1426 Woolley 1955: 133.
1427 Woolley 1955: 133.
1428 Woolley 1955: 133.
1429 Woolley 1955: 137.
1430 Woolley 1955: 133.
1431 Woolley 1955: 137.

On the evidence, available all that we can say is that on this section of the defences the outer wall of level VII continued in use, either simply re-used or rebuilt, in the next two periods, although there were innovations on the space behind it.[1432]

Area H gives us evidence about the fortification works. It is worth noting that outside the wall and at a lower level there were remains, walls and floor, which both by position and by character (the wall-faces and floor were cemented) would suit level VII, farther to the north-west, however, the wall was found, aligned with that of level VII. It was a single wall, 2.50 m wide, of mudbrick on a single course of stone rubble foundations.[1433]

As these foundations were 1.65 m, above the level VII floor the earth rampart in front of the footings must have been raised proportionately, and it is clear that it conformed to the level VII model, having a flat or nearly flat berm ending in a glacis, the clay reverted glacis,[1434] the city wall was rebuilt in the level III period, presumably by the Hittites after their capture of the city arid destruction of its monuments.

In 2003 and 2004, Two excavation seasons at Tell Atchana were conducted in three areas (areas 1,2,3), areas 3 was located along the south-east edge of the mound, consisting of squares 45.71, 45.72, and 45.62.

Areas 3, Sq 45.72, phase 4: Middle Bronze Age, the city wall

The earliest phase encountered in the step trench was a northwest-southeast-oriented mudbrick casemate wall complex recovered at ca. 1.25 m of depth from the top of the mound,[1435] the triangular excavation area of Sq 45.72 revealed what appeared to be two mudbrick casemate units in a row constructed with a cross-wall and delimited on both sides by parallel walls.[1436]

The well-preserved cross wall and the back wall of the structure were 0.75-1 m wide, while the original width and the extent of the more substantial outer wall could not be determined with precision due to downslope erosion, these walls were built with (40 ×40 cm) large orange-brown mudbricks, preserved to a height of two courses.[1437]

Two casemate units were 2 m wide and more than 2 m long, the rubble fill in these casemates was ashy loose soil and layers of ash lenses were also encountered,[1438] the fortification wall appears to be at least 4.5 m wide, the fill in the triangular area in the southwest corner of the square was similar to that of the two casemate rooms, it contained a basalt quern fragment (A03-R2078), ceramic

1432 Woolley 1955: 139.
1433 Woolley 1955: 144.
1434 Woolley 1955: 144.
1435 Yener 2010: 25.
1436 Yener 2010: 25.
1437 Yener 2010: 25.
1438 Yener 2010: 25.

fragments, and shells, this area may have been part of a second row of casemates within the body of the fortification wall, in which case the original width of the wall would be more than 8 m.[1439]

The entire casemate wall upon destruction was covered with a collapse deposit composed of mudbrick detritus, fallen burnt mudbrick fragments, and a thin layer of brown silty soil, indicating a phase of destruction followed by a brief phase of abandonment.

Layers of debris and ash overlay the collapsed casemate structure, whether or not they were intentional levelling of the rubble, nevertheless, the site was not abandoned; instead, the area was used for burials (Phase 3). Burials cutting into this destruction level and overlying the casemate wall were dated to the Middle Bronze Age based on the grave assemblages, this suggests that the casemate construction belonged to the early part of the second millennium BC.[1440]

The city gate; in the north-east side of the Tell, (Fig. 139-140).

Level VII (MB IIB), has excavated by Woolley in 1938, contained a six-pier gate, which was situated between the city's fortress and fortification wall and had massive gatehouses, the bottom of the gate passageway was made from well-dressed limestone orthostats that formed shallow chambers with doorways slanting slightly inward, this gate of level VII was the only city gate found by Woolley.[1441]

The level VII six-pier gate, based as it necessarily was upon the ruins of older fortifications, stood high; a fairly steep ramp led up to it on the outside, and in the inside, the clay and brick-earth road through the city sloped up to it at a moderate gradient. The line of the rampart was here pierced by the gate-tower, a massively built rectangle with an overall width of 23 m and a length 17 m.[1442] Set back from the foot of the glacis so that its front wall coincided with or projected, but little from the line of the city wall and the approach to it was between the sloping ends of the rampart. [1443]

The whole tower was built of mudbrick on stone rubble foundations, but the entrance reveals, the door piers and part of the south-west (inner) face were enriched with unusually large orthostats of white limestone or limestone conglomerate; the biggest stones measured 1.65×1.03×0.50 m wide. [1444]

There was a timber course along the top of the orthostats and also above the stone foundations, at floor-level, where the wall was of mudbrick, but the walls were not standing high enough to know

1439 Yener 2010: 25.
1440 Yener 2010: 25.
1441 Woolley 1955: 145.
1442 Woolley 1955: 147.
1443 Woolley 1955: 147.
1444 Woolley 1955: 147.

whether the timbering was limited to this single horizontal course or whether it was repeated throughout the upper brickwork, the brickwork nowhere stood more than 1.50 m high.[1445]

The north-eastern part was a proper building containing a guard-chamber with a door facing on the city, two small chambers or cellars of uncertain use, a flight of stairs leading to the upper part of the tower, to the room or passage above the entrance and, presumably, to the ambulatory of the city wall, and, below the stairs, a small chamber with a door giving directly on the entrance passage between the outer and the central gate piers.[1446]

The guard-chamber had a 2.00 m wide doorway with orthostat jambs 0.60 m high. There was a step up, and then a raised threshold formed of a single stone 1.90×0.60 ×0.27 m,[1447] sentry-room had a narrow doorway one meter wide, [1448]there are two small rooms (3 and 4) located beneath the return of the staircase, they had no doors or visible means of access. In the absence of doors at ground-level one can only suppose that these were not rooms, properly speaking, but store-pits accessible from the upper floor of the gate-tower, the sentry-chamber is located between the first and second piers of the gateway.[1449]

Fortress

Level VII

The fortress or castle which occupied the north-west corner of the city, is erected on an artificial platform dominating the rest of the city,[1450] the only information that we have about the outer defences of that castle is derived from the cross-trench, dug in 1949.

Its outer wall was 2.10 m wide, and the exterior angle was reinforced by a buttress with a double salient, the wall stood just about 1 m high,[1451] its outer face was blackened (not reddened) by fire; against it was a rubbish talus, the lower part consisting of broken bricks, mostly burnt red, the upper of ashes and brick dust which filled the hollows of the rubble,[1452] this fortress consists of rooms, courtyard and gate, it has been re-used later until level IV.

1445 Woolley 1955: 147.
1446 Woolley 1955: 148.
1447 Woolley 1955: 148.
1448 Woolley 1955: 149
1449 Woolley 1955: 150.
1450 Woolley 1955: 151.
1451 Woolley 1955: 153.
1452 Woolley 1955: 153.

Tell Mardikh / Ebla

Location: Located nearly 55 km south of Aleppo.[1453]

Coordinates: 35°79'8" N, 36°79'8" E.

Dimensions: The structure of Tell Mardikh/Ebla is quite regular, with an outer perimeter of city walls and a large ring-shaped lower city the hill of the acropolis lies almost in the middle and covers an area of approximately 56 ha (Fig. 27-28), south-north axis was nearly 900 m long, and the east-west axis approached almost 700 m, the highest point is 13 m,[1454] the acropolis covers an area of approximately 150 × 150 m, almost 3 ha.

Expedition: Excavated by the Italian Expedition by the Sapienza University of Rome directed by Prof Matthiae, between 1964 and 2010.

Stratigraphy:

Mardikh I, of the protohistoric period (ca. 3500–3000 BC) dates back, the true urban development of Ebla probably took place during the Early Dynastic I-III periods of Mesopotamia (corresponding to the age of the Old Kingdom of Egypt) in the still partly obscure phase of Mardikh IIIA (ca. 3000–2400 BC), corresponding to the archaic Early Syrian period (EB I-III).

The first flourishing of Ebla took place during Mardikh IIB1, the age of the Royal Archives (ca. 2400–2300 BC) and the high Early Syrian period (EB IVA), corresponding to the last decades of the Early Dynastic IIIB period and to the first years of the Akkad dynasty in southern Mesopotamia, when Egypt was ruled by the first pharaohs of the 6th dynasty of the Old Kingdom.

After the violent destruction of the first Ebla, quite likely by Sargon of Akkad, the renaissance of the second Ebla during Mardikh IIB2 (ca. 2300–2000 BC), in the late Early Syrian period (EB IVB), took place when Mesopotamia was ruled, in succession, by the Akkad dynasty, the 2nd dynasty of Lagash, and the 3rd dynasty of Ur.

Severe destruction devastated the second Ebla too, perhaps a few years before the end of the late Early Syrian Period. The new settlement of the third great Ebla of Mardikh IIIA (ca. 2000–1800 BC) in the archaic old Syrian period (MB I) followed, and the city was still an important centre during the following classical Old Syrian period (MB II) of Mardikh IIIB (ca. 1800–1600 BC). In those four centuries, Mesopotamia was ruled by the dynasties of Isin, Larsa, and Babylon I, and in Egypt, the glorious 12th dynasty of the Middle Kingdom and the following weaker dynasty were in power, before being finally overcome by the Asiatic Hyksos.

1453 Matthiae And Marchetti, 2013: 35.
1454 Mattiae 1965: 90 -91.

The destruction of the third Ebla around 1600 BC marked the end of the last great city, after which more modest settlements followed in Mardikh IVA and IVB (ca. 1600–1200 BC), in the Middle Syrian period (LB I and II), and during the centuries of fights and checks among the Mitanni empire, the Egyptians of the 18th and 19th dynasties of the New Kingdom, the Hittites of the Imperial age, and the Assyrians of the Middle Assyrian kingdom.

With the end of the Bronze Age, probably also the memory of Ebla was lost, and the small village of Mardikh VA-C (ca. 1200–535 BC) occupied a very limited region of the great older urban settlement in the centuries of the Late Syrian period (IA I-III), during which the Luwian and Aramaean princes of Syria tirelessly and uselessly tried to contrast the expansion of the Assyrian empire first, and of Babylon afterward.

The last two settlements were during Mardikh VIA-B (ca. 535–55 BC) in the Persian-Hellenistic period, which featured a rural renaissance, and Mardikh VIIA-B (ca. 55 BC–600 AD.) in the Roman-Byzantine period. During the latter a small monastic community of Stylite[1455] hermits finally settled down among the ruins and pillaged them, putting an end to the history of the long decadence of one of the most glorious cities of the ancient Orient.[1456]

Table 31: Stratigraphy of Tell Mardikh/Ebla.

Phase of site	**Chronology**	**Archaeological phase**
- Mardikh. I	ca. 3500 – 3000 BC	Late Calcolytic.
-M. IIA	ca. 3000 – 2400 BC	Early Bronze I – III.
-M. IIB1	ca. 2400 – 2300 BC	Early Bronze IVA.
-M. IIB2	ca. 2300 – 2000 BC	Early Bronze IVB.
-M. IIIA	ca. 2000 – 1800 BC	Middle Bronze I.
-M. IIIB	ca. 1800 – 1600 BC	Middle Bronze II.
-M. IVA	ca. 1600 – 1400 BC	Late Bronze I.
-M. IVB	ca. 1400 – 1200 BC	Late Bronze II.
-M. VA	ca. 1200 – 900 BC	Iron I.

1455 Or pillar-saint is a type of Christian ascetic who live on pillars, preaching, fasting and praying. stylites believe that the mortification of their bodies would help ensure the salvation of their souls. stylites were common in the early days of the byzantine empire. the first known stylite was simeon stylites the elder who climbed a pillar in Syria in 423 and remained there until his death 37 years later.

1456 Matthiae 2013: 37 -38.

-M. VB	ca. 900 – 720 BC	Iron II.
-M. VC	ca. 720 - 535 BC	Iron III.
-M. VIA	ca. 535 – 330 BC	Persian.
-M. VIB	ca. 330 – 60 BC	Hellenistic.
-M. VIIA	Centuries III – IV	Late Roman.
-M. VIIB	Centuries V – VII	Byzantine.

Fortifications:

Tell Mardikh/Ebla is quite typical of the great fortified urban settlements of the Bronze Age,[1457]its defensive system consists of MB I-II earthen rampart which surrounded the Tell, four gates, towers, fortresses, gangways which integrate the defence of the ramparts.[1458]

Rampart

The imposing rampart of Tell Mardikh is nearly 2,800 m long, approximately elliptical, has some relevant, the line of the fortification is peculiarly irregular, it may be quite summarily described as a rectangle with the long sides to the East and West, slightly curved outside, and the short sides to the north-south, with a quite evident curve.

As regards the structure of the of ramparts of Ebla they are quite typical, with a huge amount of earth, between 45 and 60 m wide at the base, and still 22 m high over the fields level in some spots and reaching an average height of 18-20 m over the level of the base of the rampart itself outside.[1459]

Aspects of rampart structure

Partial trenches opened in several points of the western rampart allowed to ascertain four basic aspects about rampart structure.[1460]

Firstly, in the central, as well as in the northernmost regions of the western rampart, the core of the structure includes the remains, sometimes extraordinarily well preserved, of a massive mudbrick wall, more than 6 m wide, certainly belonging to an older fortification, built on the same line as the earthen rampart this huge wall is made of rectangular bricks, 0.60 ×0. 40 large, typical of Early Bronze IVA (ca. 2400-2300 BC), the age of the Royal Palace G, the city could be during the EB

1457 Matthiae 2013: 35.
1458 Matthiae 2002: 30.
1459 Matthiae 2002: 30.
1460 Matthiae 2002: 30.

IVA fortified by a mudbrick fortification wall, and if this wall surrounds the entire city from all directions, that means, its length could reach 2800 m.

Secondly, in some segments of the rampart, the soil of which it is made is greyish and brownish with a large amount of ash, frequently rich with pottery fragments, for the largest amount dating from Early Bronze IVB (ca. 2300-2000 BC), with some shards of Early Bronze IVA, while Middle Bronze I (ca. 2000-1800 BC), or later pottery is totally missing: these soils thick with ashes were laid in oblique layers, usually, but not always, with an inclination opposing that of the rampart.

Thirdly, in other segments of the same western rampart the soil includes, on the contrary, almost horizontal layers alternating reddish, quite compact clay, and whitish limestone crumbs, without pottery fragments or, generally speaking, archaeological deposits: clearly, these soils were, at least for a large part, obtained through the excavation of a large ditch, today not deep yet still visible along the outer base of the rampart, possibly on all sides of the fortification, though it is actually more evident along the northern and western sides).

Fourthly, the outer and inner bases of the fortification were protected by a stone escarp, which was at the same time a revetment, and a containing wall for the very crumbly materials of the rampart. There were, of course, basic differences between the inner and the outer walls. The outer escarp, which was found only at the base of the rampart north-west of the south-west gate, or Damascus Gate, in sector A, north-west included large limestone blocks, preserve only for a height of 1.50 m. However, it probably was originally between 4 and 5 m high, and was possibly quite steep, in order to prevent the rampart being climbed too easily.

The inner escarp, clearly singled out in area Z, near the middle of the west rampart, and in sector DD west, in the northern segment of the rampart, west of the north-west gate, or Aleppo gate, includes much more modest stone terraces), moreover, these terraces were probably built at different levels, in two or three rows, creating a sort of flight of steps, which separated the buildings, certainly for the largest part private, of the extreme periphery of the lower city from the rampart, which was certainly felt as a public urban space.[1461]

Describe the rampart shape

The line of the rampart seems to be conceived according to an approximate geometric shape, which may summarily be defined as a trapeze, with two long sides, to the east and west, and two short ones, to the south and north. The long west rampart was probably accomplished in three sectors, from the south to the north.

The first one, slightly less than 250 m long, oriented south-southeast, north -northwest, went from the north-west limit of Damascus Gate, in Sq CIII, to the central region of BV, the second one, slightly more than 280 m long and almost exactly oriented south-north, occupied the central part

1461 Matthiae 2002: 30 -32.

of the western fortified line between BV, and BVIII, where there is the only strong and neat deviation in rampart. The third one, nearly 300 m long and oriented south-southwest, north-northeast between Sq BVIII and CXI, went from this evident deviation to the northernmost limit of the rampart, where the north side begins with an abrupt change in direction.[1462] A long trench was drilled in 1996, approximately in the middle of the western fortified line and across its entire thickness, the dimensions revealed that the rampart had 45 m wide of and an average height of 20 to 22 m.[1463]

The short north rampart of the fortification may be divided into two segments, quite different from each other in planning and accomplishment. The west sector, oriented west-east, was slight than 220 m long between Sq CXI and EX, and had a sensibly arched line, being the most sensitive protrusion in the line of the rampart as a whole, another quite exceptional peculiarity of this segment of the rampart is the location of Aleppo Gate, in a slight indentation of the arch, the east segment almost 340 m long, between Sq EX and the south-east corner of GX, was oriented west-northwest, east-southeast, and at the junction with the previous segment, it formed a soft, but quite neat indentation.

The long east rampart was planned in three sectors, albeit in a less clear way than the opposite west sector. The north part, nearly 260 m long and oriented north-northwest, south-southeast started to the north, in the north-west corner of Sq HIX, and reached to the south limit of HVIII, exactly at its beginning, immediately after the change in direction of the line of the rampart the Euphrates Gate opens, the central sector, nearly 250 m long and oriented almost exactly north-south, like the corresponding sector of the west rampart, stretches between the north part of Sq HVII and central region of HV. The south sector, nearly 280 m long and oriented north-northeast, south-southwest, starts in HV and ends in HII, where the Steppe Gate opens.[1464]

The short south Rampart, like the north one, is planned in two different sectors. The east one, nearly 310 m long, is definitely arched creating a projection similar to the one in the west sector of the North Rampart, albeit longer and less protruding it stretches from the central region of square HII, where the Steppe Gate opens, to the north-east corner of EI, on the contrary, the west sector is slightly incurved, precisely like the east sector of the north rampart it is nearly 300 m long, stretches from south-east corner of Ell to the west region of CIII, where Damascus Gate opens, it is definitely oblique, almost south-east, north-west.[1465]

Chronology of the rampart

1462 Matthiae 2002: 32.
1463 Matthiae 1998: 575.
1464 Matthiae 2002: 32.
1465 Matthiae 2002: 33.

As regards the chronology of the rampart, the elements which can be inferred from the analysis of the with which it was built are clear:

The rampart was built at the very beginning Middle Bronze I, in the first years the destruction of the Early Bronze IVB city, and its building was the occasion to clean the urban area from the ruins and debris of the destroyed city,[1466] there is an amount of Early BronzeIVB materials in the soil dense with ashes of the rampart, the city destroyed by the end of Early Bronze IVB. Again, concerning the chronology of the building of the rampart, however, the most recent excavations gave elements which allow articulating, albeit in a yet very preliminary way, the consideration about the building and use phases of the rampart in different sectors of its.

The first important element is that, at least in the sectors of the rampart close to the east fortifications of Aleppo Gate, the soils include, unlike all the other sections of the rampart, Middle Bronze I pottery, mostly of the oldest phase. This leads to believe that while the overall line of the fortification had been built in the very first years of Middle Bronze I, at least some section related with the city gates was accomplished some years later, though certainly in the first part of the same period.

The second important element does not regard the building, but rather one secondary use of the rampart: the inner slopes of the Old Syrian rampart, at least the west side, but possibly also the south one, were largely used during a large part of Middle Bronze I as cemetery, with depositions of commoners, an employ apparently dismissed during Middle Bronze II.

The third element is that the line of the old Syrian rampart may not descend only from the urban and strategic plan of the builders at the beginning of Middle Bronze I, but it may be the result of a compromise, at least in part descending from the pre-existing ruins of the city wall of Early Bronze IVA, or, less probably, IVB. in some part, as is proved only in the central and northern regions of the West Rampart, it is sure that the mudbrick city wall most probably of Early Bronze IVA, determined the placement and orientation of the earthen rampart, but, there are no elements to maintain that all the peculiarities of the Middle Bronze I rampart were imposed by the line of the older massive mudbrick city wall.[1467]

The Outer Eastern rampart (Fig. 41)

A massive earthen rampart, 527 long and 40-60 m wide at the base, with a slope of ca. 20-25°, running south-north at a distance of ca. 250 m from the outer foot of the eastern fortification wall of the city, it is ca. 10-12 m high on the field to the east side and it is flanked by a wide depression to the west, probably excavated at the same time of the construction of the fortification.[1468]

1466 Matthiae 2002: 33.
1467 Matthiae 2002: 34.
1468 Peyronel 2015: 135.

Prof Matthiae correctly suggested that the rampart was in origin planned to give a greater protection to the city on its east side, in relation with an enlargement outside the fortification of the lower city, a modern trench at the base of the outer slope allows to verify the rampart composition and building technique, the fortification structure (at least in that part) is formed by a thick accumulation of packed limestone crumble, covered by a red clayish earth layer, ca. 40-50 cm wide.

In the exposed section other layers of clay and earth are not detectable, and the reason of an exclusive employ of crushed limestone is difficult to explain, it is possible that the limestone bedrock near the rampart was emerging and particularly friable for the karst erosion, and a large depression to the west probably indicates the place where the limestone was taken for the construction of the fortification,[1469]it cannot be excluded that the outlying rampart was planned in conjunction with an artificial basin, possibly conceived as a water reservoir, at the south edge of the outlying rampart, several limestone and basalt worked blocks were piled up by local people.[1470]

A total number of 679 diagnostic sherds was described and filed. 23 Almost all the pottery fragments (650) can be dated to the MB IB and MB IIA, roughly between 1950/1900 and 1700 BC. The presence of pottery dated from the 3rd Millennium. BC (29 sherds) cannot be considered a sure indication for an earlier occupation, because the fragments were collected on the whole surveyed area, but mainly at a short distance from the base of the eastern rampart, and they might come from the earth used for the construction of the fortification.

The Outer Southern rampart (Fig. 41)

It is located on the south of the city, it is run east-west for ca. 600 m long, at a distance of 200 m from the rampart of the city and it probably curved to join the fortification near the south-west city gate (Damascus gate), the survey in the southern area was carried out according to a general subdivision, into radial transects of ca. 50 × 200/220 m.

The pottery horizon is exactly the same as the eastern outer city, with MB I-IIA diagnostic types and no pieces dating from the EB IV, MB IIB, or later periods,[1471] the area limited by the eastern outer rampart and its southern prosecution is approximately 30 ha.[1472]

Acropolis Fortification (Fig. 27-28)

1469 Peyronel 2015: 136.
1470 Peyronel 2015: 137.
1471 Peyronel 2015: 140.
1472 Peyronel 2015: 140.

To the south of the acropolis, one sector of the massive stone wall of the acropolis fortifications lies at the bottom of the hill,[1473] to the east of the acropolis, there is a well-preserved sector of the mudbrick structure and rampart of the fortification, to the southeast of the acropolis, there is a part of an earthen rampart and to the south a part of the massive stone wall that protected the base of the rampart, the area between the fortification and the outer rampart can be divided into an inner higher part ca. 150 m wide, lying at ca. 405 m a.s.l.[1474]

Gates

There were four city gates in the earthen work rampart of the old Syrian period and they were located to the north-west, north-east, south-east, and south-west, these four city gates have been named from the main ancient cities, or from prevailing geographic features of the regions towards which they were aimed at: Aleppo Gate the north-west one (area DD), Euphrates Gate the north-east one (area BB), Steppe Gate to the south-east (area L), and Damascus Gate to the south-west (area A).[1475]

The entrances to the four city gates had a certain symmetry, as they were located in opposite positions in pairs, but they had not the same radial orientation with respect to the urban passed the ancient city, namely the Citadel, only Damascus Gate and the Steppe Gate were passed through by a radial road, the Euphrates Gate was oriented east-northeast, west-southwest, and Aleppo Gate, whose remains have not yet been brought to light, was apparently oriented south-north.

It is probable that gates of old Ebla had the typical structure with three pairs of buttresses two intermediate rooms, and two entrances) the outer entrance was located at the outer edge of the outer room, and it opened towards the inside, while the inner entrance was at the inner edge of the inner room, and it opened towards the outside, this structure of the city gates, and the location of their entrances are documented for sure and completely only in Damascus Gate and in part in the Euphrates Gate.[1476]

Damascus Gate (Area A) (Fig. 134-135-136)

It has the classical typological pattern of city gates of the old Syrian period included in an enlarged and elongated scheme, in fact Damascus gate includes three planimetric features in sequence, from outside towards the city outside there was an advanced gate with the entrance structure classical, but reduced with only two buttresses, instead of three, and, as a consequence, one intermediate room, instead of two in the middle a trapezoidal court opened, which separated the advanced outer gate from the traditional inner gate: inside, the traditional gate stretched, with the three pairs of buttresses and two intermediate rooms.

1473 Pinnock 2001: 17.
1474 Pinnock 2001: 17.
1475 Matthiae 2002: 34.
1476 Matthiae 2002: 35.

The presence, outside the long classical city gate with three pairs of buttresses of a long wall on the north side of the Euphrates gate (area BB), whose structure is quite similar to that located on the south-east side of the central trapezoidal court of Damascus gate, leads to believe that the Euphrates Gate, too, had a more elongated and articulated structure than the classical type, precisely like Damascus gate, with the inner gate more than 21 m long, the intermediate court 16 m long, and the advanced gate 10 long, had an overall length slightly less than 50 m.[1477]

As the rampart is between 45 and 60 m wide, it is evident that the three planimetric components of the development in length of the city gates at Ebla were imagined for the functional articulation of the unusually long passage created by the huge thickness of the Eblaic rampart.

The classical, or extended typology of the city gates of Ebla was certainly the same in all four entrances, on the contrary, the fortifications on their sides, with powerful defence towers, were apparently different and probably adapted in order to be functional, to the shape of the ramparts, the orientation of the entrances, and to eventual defensive needs of the individual segments of the wall, one peculiarity of these defences connected with the city probably present in all or any way in the majority gates, was that one side was particularly strengthened, while the other side apparently did not have any fortification.

This certainly happens with Damascus gate, most probably with Aleppo gate, and quite likely with the Euphrates gate: in Damascus gate the east side, to right of who entered it, strengthened, in the Euphrates gate the north side also the right of who entered, in Aleppo gate the east side, to the left of who In the two city gates largely brought to light also with the defence systems flanking them, the structures were quite massive and unitarian in Damascus gate, and quite articulated in Aleppo gate, the preservation of the great east tower of Damascus gate is relevant (area A) along the whole of the east side of the inner gate, with three pairs of buttresses, a high square tower stood, as long as the double entrance, namely 21 m, and on the side of the advanced gate, with two pairs of buttresses, a smaller, and independent tower stood, also square in shape, nearly 10 m long.

The huge inner tower, which obviously spoiled at the top, had an imposing masonry of stone blocks, preserved to the highest point of the rampart, on whose top there is also a gangway, protected by a wall with stone base, running along the crest. These elements lead us to believe that, notwithstanding some damages at the top, the east tower of the gate extraordinarily preserved in almost all its basic elements, from the bottom to the top.

The east tower of Aleppo gate (area DD), on the contrary, was much more articulated, and is less preserved, even though its structure and its aspect were most probably more imposing

This tower included three different superimposed structural features: at the bottom, on the possible slope of the outer ditch there was the lowest feature, including a series of long buttresses supporting

1477 Matthiae 2002: 35.

the middle feature, namely a huge terrace including three parallel structures, placed northwest-southeast, on part of which at least two rooms had been built, strangely on the outer the of the fortification.[1478]

On a short segment of the natural slope of the rampart, emerging from the large terrace there was the upper part of the tower, including a massive arched containing wall, preserved for a maximum height of 1.80 m, probably more than 35 m long in origin: it is probable that this huge almost semicircular tower, which probably joined the back part of the city gate with three pairs of buttresses, most likely built outside the tower, was quite high, perhaps even 6 m high, reaching to the top of the rampart,[1479] therefore, from the typological and structural points of view, the east fortifications of Damascus gate and of Aleppo gate were quite different:

The first one had the square and massive tower, and the second one the three superimposed features lower buttresses, middle terrace, upper semicircular tower, in fact, the two towers were probably both built along the whole length of the long city gate with three buttresses and two rooms, though the placement of the two entrances was quite different: in fact, the location of the building with the classical planimetric pattern with three buttresses is quite backward as compared with the line of the ramparts in Damascus gate, while it is quite advanced in Aleppo gate, as compared with the head of the Eastern rampart.[1480]

The top of the square tower of Damascus gate was high, in correspondence with the outer limit of the structure with three buttresses of the gate below, while in Aleppo gate the outer limit of the huge semicircular tower was high correspondence with the inner limit of the structure with three buttresses of the gate below, as the basic difference between the two fortification structures is that the tower of Damascus gate is vertical, and that of Aleppo gate is a fortified slope surrounded by a semicircular tower, only the fortification of the outer slope of the rampart stretched along the whole length of the Aleppo gate, therefore, the tower was located quite backward, as compared with the head of the entrance to the city.[1481]

Euphrates Gate (Area BB) (Fig. 137-138)

During the 1997 campaign, a third excavation site opened in the area BB revealed the Euphrates gate in the north-east sector of the fortifications, this urban gate, oriented (east-northeast, west-southwest).[1482]

Its plan is typical of the Middle Bronze II of Syria and Palestine, with its three pairs of buttresses and its two intermediate chambers (six-pier gate type), its floor was covered with a fine pavement of basalt and limestone, under the floor passed a remarkable canal, very carefully executed, which

1478 Matthiae 2002: 35-36.
1479 Matthiae 2002: 37.
1480 Matthiae 2002: 37.
1481 Matthiae 2002: 39-40.
1482 Matthiae 1998: 584.

carried the wastewater out of the city, its dimensions (approximately 17 m long and 3.20 m wide between the buttresses),[1483] the length of the three pillars is about 3.15 / 3.25 m, while two rooms measured 2.95 to 3.10 m by 4.5 m, the door, which accordingly should be 15.95 meters long, is actually a little over 18 meters long.[1484]

Qatna Gate (Area L)

The least fortified and worst preserved city gate of Ebla[1485]

Fort and Fortresses

The most relevant and original aspect of the rampart of Ebla is undoubtedly the extraordinary integration of the fortified city wall with rampart, with other defence structures, these integrations included, on the one hand, natural complements of the wall gangways, placed on the top, and protected by walls and, on the other hand, military buildings, sometimes quite imposing real fortress-arsenals with towers of limited size or large quite articulated forts with several wings with different functions built in some points of the rampart, sometimes on the top, sometimes on its inner slope.[1486] Certainly, the west rampart was the most powerful one, including at least two large forts, built on the top and on the inner slopes, one completely brought to light and the other one still in course of excavation, and a third building, not yet excavated, most probably belonging to the same typology of quite articulated forts. This presumed fort, not yet excavated, was singled out some scanty surface remains in Sq BV, in the region of the passage between the southern and central sectors.

The western fort (area V), completely explored, is located at the northern border of the central sector in BVII, immediately before the most evident deviation in the line of the wall, the northern fort (area AA) was built at the end of the north sector.

These three forts of the west rampart were largely built on the slope, but also on the top of the rampart, while the two-tower arsenals of the east rampart, conventionally called fortresses, identified for sure and largely excavated, had been built on the high inner slope of the rampart: the eastern fortress (area EE) was built only in the central region of the middle sector between Sq HVI and HVII, and the eastern-south fortress (area M), located near the southern edge of HIV, was also placed in the central part of the south sector, on the slopes and on the top of the east rampart there are no consistent traces on the surface for the presence of other towers or forts,[1487]on the short north and south ramparts there is no trace whatsoever of large forts or arsenals, like on the west and east ramparts, but the defensive integrations are definitely different.

1483 Matthiae 1998: 584-586.
1484 Matthiae 2001: 53.
1485 Pinnock 2001: 21.
1486 Matthiae 2002: 40.
1487 Matthiae 2002: 40.

In fact, strangely on the north rampart there is no surface element, either on the top or on the slopes, which may be related with some complement to the defence system, so, apparently, this sector of the wall had no integration, the South Rampart is completely different: for a long part it was integrated with a wall of some thickness, built on its top, of which several segments of the stone foundation basement are preserved on the surface.[1488]

Two different typologies of the forts and fortresses apparently corresponds also a slightly different topographic location on the rampart, in fact, the large forts were built on the top and on the inner slope of the west rampart, as happens with the northern fort, or even on the top and on the outer and inner slopes, as happens with the western fort.

On the contrary, the fortress-arsenals were either include in the large forts, as happens with fortress (V) in the western fort and with fortress (AA) in the northern Fort or they were built on the high inner slope of the east rampart, as happened with the east-northeast fortress in area EE, as well as with the fortress in area M.

The fortress-arsenals of Ebla had a quite fixed typology and size they were usually rectangular and had six rooms not communicating with each other, built-in pairs, sometimes of degrading size from centre to the periphery and the seventh room in one of the short sides, which occupied the whole width of the building and included the entrance and a four-ramp staircase.[1489]

This staircase led the terrace, whence one could enter, by means of ladders, the six independent rooms, while we cannot rule out the possibility that the staircase was shaped like a tower, higher than the rest of the building.

It is possible to infer that these fortresses had at least two functions, first one hand, they were arsenals where they kept the weapons for the defence of the city in the six rooms, which could be entered only by means of ladders, second one, it is quite likely that the staircase tower was a place for sight and guard and that it played a role of special importance in the control over surrounding territory.[1490]

One third basic function is attested only for the fortress (AA) in the northern fort, in the central, highest region of this fortress a large fireplace is quite well preserved, with the remains of four chimneys, where no remain of food was found, yet ashes were quite thick: the most likely interpretation for this feature is certainly that it was a place for smoke signals, taking also into consideration the fact that the northern fort is one of the highest places in the perimeter of the rampart and the most protruding one.[1491]

1488 Matthiae 2002: 41.
1489 Matthiae 2002: 41.
1490 Matthiae 2002: 42.
1491 Matthiae 2002: 42-43.

The two extended forts of the west rampart are large buildings, stretching along the line of the rampart, quite complex and of relevant size, with some common characteristics:

In the first place, they include several independent wings with different shape, structure and functions.

In the second place, the circulation among these inner quarters is ensured by courts, also rather developed in length, with very irregular plans.

The third basic structural elements are the terracing walls, separating the upper sectors from the middle and from the lower ones, on the inner slope of the rampart.

Of course, these characteristics, even if they are always present, have different relevance in the two buildings: in the western fort, the independent wings with the different plan are more numerous, while in the northern fort the terracing walls are three at least, and are quite imposing structures.[1492]

Western Fort (Area V) (Fig. 152)

The Western Fort in the western rampart (area V), completely excavated between 1995 and 1999,it is built on the top and inner slopes allowing to control the outer foot of the city-wall[1493] is nearly 70 m long on the south-southwest - north-northeast axis, [1494] while it is quite difficult to calculate its width, because the western limit of the building is missing everywhere, eroded by the outer slope of the rampart; it may have been nearly 35 m wide, with an overall area of more than 2,400 sqm.[1495]

The fort included seven independent and adjacent blocks, irregularly placed along the sides of the larger upper, back, and inner court (arranged around an open upper courtyard),[1496] the entrance to the complex was through the central part of the eastern perimetrical wall, not very well preserved, it led from a possible open space, in the western peripheral region of the lower city, immediately to the south of the relevant building, called western residence, into a smaller, lower, and the frontcourt (L.6378) of the fort.

From the south to the north, the first among the seven wings was the south-east one, on the inner top of the rampart, preceded by a small court (L 6427); it was a service quarter for the preparation of food.

The second one, the south-west wing, on the high outer slope of the rampart with two floors and the typical architectural elements of palatial architecture, had the apparent function of a treasury, as well as of a guard tower for the southern sector of the West Rampart.

1492 Matthiae 2002: 43.
1493 Peyronel 2000: 1353.
1494 Matthiae 1998: 575.
1495 Matthiae 2002: 44.
1496 Peyronel 2000: 1354.

The third one, the east wing, on the slope towards the lower city, opened into the court (L6315) through the small vestibule (L,6617) and may have been a place for metalworking.

The fourth one, on the outer top of the rampart, the west wing, was one of the largest ones, with a staircase leading to the second floor, and was the probable residence of the commander of the fort.

The fifth one, in the central region of the slope towards the lower city north of the entrance, the east-northeast wing was probably a small guard quarter, while the sixth one, the north-east wing, with several rooms placed in two rows was probably a quarter for soldiers rather than a deposit quarters opened into the large inner court (L.6315), where a fireplace in the open air was also located between the west and the north-west wings, according to a suggestive hypothesis, the first small opening precisely in front of the entrance to the building, (L.7113), could be chapel the fort.

The north-western corner is occupied by the massive rectangular bastion named fortress (V) opening to the east into an irregular triangular court (L 6525), the original Fortress plan can be easily recognised with all its distinctive elements, in spite of the loss of most of the western side, which collapsed outside the rampart, it is 26 m large and its maximum preserved width is around 10 m, the entrance is located to the south through the eastern wall (M.6503) and led to a broad vestibule 5.5 by 3.3 m large.[1497]

The room (L 6522) was probably completely dressed with large orthostatic slabs which are still in situ in the northern half where the walls are preserved to the first courses of mudbricks, the entrance (L.6536) is 1.5 m large with a monumental northern jamb 2 m large, while the southern jamb and the threshold were pillaged in modem times.

The inner circulation pivoted on the vestibule with differentiated routes: on the northern side, one reaches room (L 6516), from the north-western corner through a stone-flagged staircase to a presumed upper floor or to the terrace and from the south-western corner under stairs now completely missing.

North of this entrance device is a row of three non-communicating chambers 3 by 4 m large (L,6516, L.6515 and L 6504); only the first one is connected with the vestibule,[1498] the presence of a symmetric row of probably smaller rooms also to the west, is made sure by the beginning of east-west walls, and by very damaged fragments of floors.

Consequently, fortress (V) had a southern block formed by vestibule and staircase and a northern one formed by six non-communicating rooms, five of them could be entered from an upper storey through ladders, the perimetric walls are massive structures more than 3 m wide and the inner walls are nearly 2 m wide.

1497 Peyronel 2000: 1355.
1498 Peyronel 2000: 1355 -1356.

The building technique is characterised by irregular unhewn stones partially worked only on the outer face arranged outside on two, and inside on three courses, and by small stones and pebbles which made a regular surface as a base for mudbricks." Only in the vestibule they used orthostatic slabs, rooms were filled with thick layers of ash and burnt bricks from the destruction of the Fort, as a consequence of the fire which spread all over the structure.[1499]

The specific functions of each quarter are not yet ascertained for sure, with some exceptions like the service wing to the south, the residential wing to the west, and the arsenal guard quarter to the north-west, yet it is sure that the western fort was a multi-functional building, including residence an arsenal, a guard quarter, and a working place.

The analogies between the plan of king the western fort, and the distribution functions in the palatial royal buildings of Old Syrian Ebla are clear: so the location of the quarters for services and food preparation in the back region of the building and of the residence, and perhaps of the representation region in the middle and at the upper floor are also typical, in the lower city, of the western palace (area Q) in part of the northern palace (area P), and most probably also of the royal palace (area E) on the citadel.[1500]

The stratigraphy sequence of area V until the End Middle Bronze Age

The stratigraphic sequence of area V has been established as follows: after the construction of the massive earthen rampart at the beginning of Middle Bronze I, 2000-1950 BC, the inner slope of the rampart was used as a cemetery 1950-1850 BC Burials are usually quite poor graves on earth, with a few vessels and one or two bronze or exceptionally silver ornaments.

The fort was probably built around the end of the1850 BC or at the beginning of the 1800 BC, and the complex was used, with smaller architectural changes, until the end of Middle Bronze Age, when strong destruction brought the building to a sudden end.[1501]

Table 32: Stratigraphy sequence of area V in Tell Mardikh / Ebla.

Phase	Mardikh	Period	Chronology (BC)
1	IIIA	MB IA	2000 -1950
2	IIIA	MB IB	1950 -1850
3 A	IIIB	MB IIA	1850/1800 -1700
3 B	IIIB	MB IIB	1700-1650/1600

1499 Peyronel 2000: 1356.
1500 Matthiae 2002: 44 – 46.
1501 Peyronel 2000: 1354.

4	IVA	LB IA	1550-1400
5	VB-C	Iron II-III	900-500
6	/	Modern	/

Northern Fort (Area AA) (Fig. 153)

The northern fort whose exploration started in 1996 and is still in course, has a less irregular and differentiated plan, and is more difficult to evaluate as concerns plan and functions,[1502]only the western perimetrical wall of the complex is thus far known, on the top of the rampart and has the same orientation, while the limits to the north-east and south have not yet been identified, however, the building which is oriented the south-west to the north-east, because it is placed at the junction between the northern sector of the west rampart and the beginning of the north rampart to the west, was explored for a length of nearly 70 m and a width of nearly 25 m.

The most evident characteristics of plan and structure of the fort is its articulation on three parallel, descending terraces from the top of the rampart to the level of the lower city below: the upper one to the west, near the top of the rampart, supported by a strong south terrace wall, (M.7330) which possibly continued with the not less imposing north containing wall (M.7369) the intermediate one was located at the feet of (M.7330) and was supported by (M.7968), at least of the central region of the complex; a lower one, thus far only identified, perhaps at the level of the not yet singled out entrance, at the foot of (M.7868) and of a southern continuation (M.7974) structure not less imposing than the two previous ones.[1503]

In the north-western region of the upper terrace, perhaps near the west edge of the building, there was the imposing fortress (AA), almost certainly including six rooms in pairs and entrance staircase on the short side according to the typology of the fortress-arsenals: in the central part of this quarter there was the fireplace, probably used to make smoke signals (L6906), thus far, three main sectors have been singled out and for a large part excavated, while of the others there are only clear hints.[1504]

The first sector, the south-west wing, included Some rooms the top of the rampart close to the western perimetrical wall (M.6958), which went out of use and were filled up with some layers of bricks shortly before the destruction of the city, by the end of the Middle Bronze Age II.

1502 Matthiae 2002: 46.
1503 Matthiae 2002: 46.
1504 Matthiae 2002: 46.

The second sector, the south-east wing, is particularly well preserved for a long section, with several rooms placed in pairs along the east-west axis, at the foot of the terracing wall (M.7330) this region of the building was most likely used residence for the soldiers living in the fort.

The third sector the north-west wing, is really the fortress (AA) the rectangular fortress-arsenal with staircase and six rooms, where there was the fireplace for smoke signals: as already stated, this wing, in particular, had three functions: storerooms for weapons, burning place for smoke signals, and sight tower,[1505] certainly, another wing stretched west of the lower containing wall, where perhaps the pattern with pairs of rooms was repeated, with a possible residential function.

If these interpretations prove correct, the northern fort will result to be a building with much more homogeneous and limited functions than the western fort, and it should really be most of all a barracks building for the garrisons of the west rampart and possibly for the close by Aleppo Gate, the greatest weakness of the earthen rampart was certainly, on the one hand, the lack of protection for the defenders placed on top of it, and, on the other hand, the impossibility for them observe what the besiegers were organising at its foot: in fact, for the hog backed morphology of the ramparts, a portion of soil near the escarp base of the rampart is completely concealed to those who are on top of it.

In order to eliminate these two weaknesses, namely as a function of the complete effectiveness of the defence system, the architects of Old Syrian Ebla on the one hand, built along some sections of the crest of the rampart, at least to the south and west, a wall of some thickness protecting the garrisons and, on the other hand, created interruptions and deviations, particularly in the long sides of the rampart, while at least a part of the forts built on it protruded outside.

Thanks to these two devices, in fact, as has already been hinted at, it is possible, from the protruding south-west wing and from the tower-arsenal in the north-west wing of the western fort, to easily check respectively nearly 200 m to the south and 250 m the north of the outer foot of the rampart.[1506]

Fortress M (east-southeast Fortress) (Fig. 154)

Is located on the inner slope of the eastern rampart and shows striking analogies with fortress (V) It is 27 by 13 m large with six non-communicating rooms. Organised in three of different sizes progressively smaller from the south to the north but with the same width on the east-west axis, the entrance device includes a staircase with a small square vestibule (L 1906) with a ramp at one end which led upstairs, the thickness of the walls and the building technique are the same as in fortress (V), but orthostatic slabs are not used, and the rooms are paved with mudbricks.[1507]

1505 Matthiae 2002: 48.
1506 Matthiae 2002: 48.
1507 Peyronel 2000: 1356.

If it is self-evident that both fortresses are related to a common general standard typology, it is likewise possible to recognise some differences.

The first and most important is represented by the entrance devices: fortress (V) is certainly more elaborated with its broad rectangular vestibule with the first stone-flagged ramp of the staircase preserved at one end of the eastern side of the central pier and the under stairs at the other end, fortress (M), on the contrary, has a more developed staircase which includes all the southern unit.

Secondly, not all the rooms of fortress (V) are without door: one in fact opened into the vestibule and was part of the entrance wing of the building. Whereas fortress (M) has only rooms entered from above, lastly, the differences in sizes among rooms are strong along the south-north axis in the fortress (M) and probably along the east-west axis in fortress (V), where the chamber's long side is also orthogonal to the perimetric east and west wall.

This different organisation of the inner space might be probably related to the different positions of the buildings on the rampart: fortress (V) is in fact on the top of the defensive city-wall, partially jutted out from it, and cannot extend too much outside.[1508]

Chronology of the earthen rampart

As regards the chronology of the fortified wall, the following elements seem sure.

Firstly, the earthen rampart was built during the very first years of Middle Bronze I, at the beginning of the new foundation of Old Syrian Ebla, perhaps shortly after 2000 BC

Secondly, the four city gates, with the fortifications close by, were built shortly after the first years of Middle Bronze I, around 1950 B C., when, with the erection of the ramparts, the soils of the destroyed city of the EB IVB had been nearly completely removed, in order to make up the rampart itself.

Thirdly, in the region of the western fort as well as in that of the east-northeast fortress there are traces of older defences built on top of the ramparts, but the great forts located on the inner slopes and on top of the ramparts were quite likely built only at the beginning of the Middle Bronze II, perhaps around 1800 BC.

Fourthly, by the end of the MB II, perhaps in the last years before 1600 BC, quite long sections of the northern fort and perhaps limited regions of the western fort were obliterated, and several groups of rooms were filled up with mudbricks.[1509]

1508 Peyronel 2000: 1357.
1509 Matthiae 2002: 49-51.

Tell Gindaris

Location: Located on north-west Syria, west of Aleppo, around 5 km away from the west bank of Afrin River.[1510]

Coordinates : 36 °38'56" N, 36 °68'90" E.

Dimensions: It covers an area around 400 by 500 m, which covers an area around 20 ha, and is up to 20 m in height,[1511] (Fig. 81).

Expedition: Excavated by Syrian - German Team under the Co-directorship of M.Khadour (Directorate General, Damascus), Dr A.Suleiman (The National Museum, Aleppo) and D. Sürenhagen (University of Konstanz) between 1993-1996.[1512]

Stratigraphy:[1513]

- Middle Bronze Age.
- Late Bronze Age.
- Neo-Assyrian, Late Hittite /Aramaic period.
- Late Hellenistic period.
- Late Roman period.
- Early Byzantine period.

Fortifications:

Middle Bronze Age

The settlement of Tell Gindaris was a large fortified city in the 2nd millennium BC, along the steep western slope of the mound and its north-western summit the remains of a strong fortification wall with stone foundations are still visible, it runs approximately 325 m in the northern, and 100 m in the eastern direction,[1514] the main fortification wall being at least 8 m in width, it dated to 2nd millennium BC.

1510 Sürenhagen 1999: 160.
1511 Sürenhagen 1999: 161. / Weiss 1997a: 118.
1512 Sürenhagen 1999: 161.
1513 Sürenhagen 1999: 162-164.
1514 Sürenhagen 1999: 166.

Tell Khan Sheikhoun

Location: Located 40 km northern Hama and 110 km northern Aleppo. On the road between Hama and Aleppo.[1515]

Coordinates: 35°26'36.9" N, 36°38'46.5" E.

Dimensions : The Tell has an elliptical shape (Fig. 82), measured at the top from the east to the west 150 m and from the north to the south nearly 200 m, and at the base respectively 200 and 230 m, perimeter of about 550 m and covers an area 2.40 ha the height between 18 to 25 m.[1516]

Expedition:

Stratigraphy:

- Middle Bronze Age.
- Iron Age.
  a- City 1: 8th century.
  b- City 2: Assyrian, seventh century.
  c- City 3: Neo-Babylonian and Persian, 6th century, beginning of the 5th, century.
  d- City 4: Persian, 5th, 4th. Century.[1517]

Fortifications:

Middle Bronze Age

In trench 4, zone A, there are small massifs of pebbles mixed with ceramic fragments, perhaps remains of walls.[1518]

Zone B, the section in zones A and B reveals a very similar composition; the ceramics shows that these rubbles belong to a city, or rather to an agricultural village which developed in the first centuries of the second millennium.[1519]

Zone C, a terrace made of packed clay and stones has been detected, as a foundation for a city, a retaining wall of mudbricks has been built on a foundation of a large block of stone up to 1 m. 50 wide.[1520]

1515 Du Mesnil Du Buisson 1932: 171.
1516 Du Mesnil Du Buisson 1932: 172.
1517 Du Mesnil Du Buisson 1932: 183.
1518 Du Mesnil Du Buisson 1932: 173.
1519 Du Mesnil Du Buisson 1932: 173.
1520 Du Mesnil Du Buisson 1932: 174.

Although the foot of this wall is at the boundary of zones A and B, the fragments gathered in the foundations well dated to the middle of the second millennium, the city crowning zone C, therefore, had a wall at the foot of the slope and probably another at the upper edge.

To the east is the position of a gate,[1521] the ruins of this Bronze Age city on terrace C seemed to have been destroyed at the time of the construction of the first city of the Iron Age.[1522]

Tell Khirbet al-Qasr

Location: Located in the middle of Syria, near the modern village of es-Saam,[1523]

Coordinates: 35°25'86" N, 37° 35' 29" E.

Dimensions : It has a more or less circular shape[1524] (Fig. 55) it covers an area11.27 ha.[1525]

Expedition: It discovered in 1995 on the occasion of the regional prospection undertaken in the Arid margins (Marges Arides) of Syria under the direction of Bernard Geyer.[1526]

Stratigraphy:

- Early Bronze Age IV.
- Early Middle Bronze Age.
- Byzantine.
- Abbasid.

Fortifications:

Early Bronze Age IV

A surrounding outer wall which was not visible on the ground is visible from aerial photography, and the site presents itself as a double-wall agglomeration[1527] (the defensive system of the city consists of the inner and outer fortification wall), moreover, few points which were possible to identify them as large blocks of the outer enclosure in the east and north of the Tell, suggesting the limits of the fortification wall.[1528]

1521 Du Mesnil Du Buisson 1932: 173.
1522 Du Mesnil Du Buisson 1932: 175.
1523 Castel et al. 2014: 26.
1524 Castel et al. 2014: 27.
1525 Castel et al. 2014: 28.
1526 Castel et al. 2014: 26.
1527 Castel et al. 2014: 27.
1528 Castel et al. 2014: 28.

The length of the outer fortification wall measured 415.3 m in the north-south direction and 353.4 m in the east-west direction. The site, therefore, covers the total intramural area of 11.27 ha, it can be considered that this maximum extension reflects the occupation in the Early Bronze Age IV.

The upper city was fortified during Early Bronze Age IV, the length of the inner fortification wall measured 154.8 m in the north-south direction and 162.8 m in the east-west direction, it enclosed an area of 2 ha.[1529]

Tell Massin

Location: Located in the middle of Syria, 3 km north-western Souran town,[1530] and around 20.5 km Hama city, and 1 km east of Aleppo-Hama road,[1531]

Coordinates: 35°18'37"N, 36°43'14"E.

Dimensions: It approximately measures 185 m from the east to the west by 140 m from the north to the south). It covers an area of 5.35 ha,[1532] (Fig. 82). The Tell rises around 12 m except for the south is only 8-10 m high.[1533]

Expedition: Excavated by Du Mesnil du Buisson in 1930.

Syrian-French mission 2007, directed by Michel Al-Maqdissi DGAM, Damas-Dominique Parayre Université Charles de Gaulle-Lille 3, Lille -Martin Sauvage EPHE, Paris.

Stratigraphy:

- Early Bronze Age IV.[1534]
- Middle Bronze Age I-II.
- Late Bronze Age.[1535]

Fortifications:

Middle Bronze Age

The city during the Middle Bronze Age was fortified by a fortification wall which has been detected in the western side of the Tell in trench 3, this trench revealed that the walls had been built of

1529 Castel et al. 2014: 30.
1530 Du Mesnil du Buisson 1935: 122.
1531 Du Mesnil du Buisson 1935: 121.
1532 Al-Maqdissi et al 2009: 44.
1533 Du Mesnil du Buisson 1935: 123.
1534 Al-Maqdissi et al 2009: 46.
1535 Du Mesnil du Buisson 1935: 133.

mudbricks, which preserved a 1.90 m high, the mudbricks measured 38-40×38-40×12-14 cm, This wall is built on the stone foundations up to 3 m wide.[1536]

Tell Mishrifeh/ Qatna

Location: Located in the middle of Syria about 18.5[1537] km north-east of Homs, in a large fertile plain at the interface between the dry steppe of the Palmyra region and the nearby Orontes valley.[1538]

Coordinates: 34°50′06″N, 36°51′57″E.

Dimensions: The Tell has a rectangle shape measured 1050 by 950 m (Fig. 29-30); it covers an area around one square km[1539] (100) ha.[1540]

Expedition: Excavated by Du Mesnil du Buisson in 1924 and annually between 1927-1929**,** in 1994, a Syrian mission headed by Michel al-Maqdissi conducted several surveys and surface excavations and in 1999, a joint Syrian –Italian–German mission was formed that was headed by al-Maqdissi (Syrian), Daniele Morandi Bonacossi (Italian) and Pfälzner (German).[1541]

Stratigraphy:[1542]

- Early Bronze Age III, 2600-2400 BC.
- Early Bronze Age IV, 2400-2000 BC.
- Middle Bronze Age, 2000-1600 BC.
- Late Bronze Age, 1600-1200 BC.
- Iron Age, 1200-320 BC.

Fortifications:

Middle Bronze Age

Rampart

1536 Du Mesnil du Buisson 1935: 131.
1537 Al-Maqdissi 2010: 31.
1538 Al-Maqdissi 2010: 31.
1539 Du Mesnil du Buisson 1926: 292.
1540 Assaf 1997 a: 35.
1541 Al-Maqdissi 2010: 34.
1542 Al-Maqdissi 2010: 31-33.

The city during Middle Bronze Age was fortified by a rampart, almost square form, it is 13 to 15 m high, and in some places, it reaches nearly 20 m, it length measured around 4100 m; 950 -1000 m, (east-west) and over 1,050 m (north-south) its width measured at the base around 70 m.[1543]

The rampart slope about 60 degrees towards the exterior,[1544] it is composed of chipped limestone and earth extracted in front of the present rampart, probably from the ditch,[1545]

Three different parts in the rampart can be distinguished on the base of different colour and litholigic characteristic, due to the different composition and provenance of the building materials used in the construction.[1546]

- The White Rampart

It is dominant in the eastern part of the defensive system of Tell Mishrifeh, constituting entirely the eastern rampart and the eastern part of northern and southern ramparts, except for the area next to the south-eastern corner of the latter. It is composed of almost pure Eocene limestone (responsible for the white colour), in layers of broken decimetric to metric blocks (up to 40-50 cm) and gravel, separated by thin (centimetric) brown soil levels, containing archaeological material.

- The Pink Rampart

It is present only in the south-eastern comer of Tell Mishrifeh and locally in small areas along the southern rampart. It is made of a huge accumulation of gravel, corresponding petrographically to the Pleistocene gravel and conglomerate of fluvial origin, fragments of the pedogenetic calcareous crust (caliche) and inclusions of red palaeosols which are responsible for the pink colour. The gravel often includes Palaeolithic flint artefacts.

- The Brown Rampart

It dominates the western part of the defensive system of Tell Mishrifeh, constituting the entire western rampart and the western part of the northern and part of the southern rampart.[1547]

It is composed by sediments from several physiographic units of the area: colluviated soils, clayey soil horizons rich in organic matter, peat (from the wadi fill) and limestone fragments (from the bedrock). [1548]

With regard to the stratigraphic relationship between the different rampart types, the white rampart lies at the base of the sequence and was the first to be built; at the northern gate, it is cut by an

1543 Du Mesnil Du Buisson 1926: 293.
1544 Du Mesnil Du Buisson 1926: 292.
1545 Du Mesnil Du Buisson 1926: 293.
1546 Cremaschi et al.2002: 19.
1547 Cremaschi et al.2002: 19.
1548 Cremaschi et al.2002: 19.

artificial unconformity surface and covered by the units of the brown rampart. The stratigraphic position of the pink rampart has not yet been determined.

The ramparts, both the white and (mainly) the brown units, were constructed through the superposition of meter-thick layers, separated by planar decimetric levels. The former show high-angle cross-bedding due to successive accumulations, while the latter result from the spreading and compaction of horizontal sheets.

Some sections of the ramparts are also composed of mud-brick walls, but stratigraphic relationships with the other units are not evident from field evidence and require systematic excavation to be understood.[1549]

This rampart has been surrounded by a long and wide ditch,[1550] its width 70-100 m and 5 m deep, if the ditch encircled the entire site, it would have been approximately 4,560 m long.[1551] Glacis on each side is plain and regular, only on the interior face of the southern rampart are a very ramp.

Gates

Four main gaps, which are located in in the west, the east, the north and the south side of the Tell, provided access to the city, these gaps are the places of the gates, there are also five small gaps in the walls they possible to be places of small five secondary entrances.[1552]

Western gate (Fig. 141)

It is located in the western wall, it is much closer to the south-west corner than to the north-west corner, this gate up to 70 m long in the rampart,[1553] in the western gap, foundations of a large construction (limestone blocks) were found by Du Mesnil in 1926.[1554]

Wall (I), only one block is preserved to 2 m long, 2 m high and 0.98m wide and the wall (II), consists of a large block symmetrical to walls (I), it measures 2.12 m long, 2 m approximately high, and 0.75 m wide.[1555]

Wall (III) situated between walls (II and IV) and the base of the wall (IV) is vertical projection on the wall (III), the wall (V) a continuation of the wall (III) and wall (VI) probably similar as walls (II and IV) and parallel to them and walls (VIII, IX, X and XI) are symmetrical to walls (VI, V, IV and III) but on the opposite side of them.[1556]

1549 Cremaschi et al.2002: 20.
1550 Du Mesnil Du Buisson 1935: 41.
1551 Burke 2004: 442. / Al-Maqdissi 2001: 148.
1552 Du Mesnil Du Buisson 1926: 293.
1553 Du Mesnil Du Buisson 1926: 294.
1554 Du Mesnil Du Buisson 1926: 296.
1555 Du Mesnil Du Buisson 1926: 298.
1556 Du Mesnil Du Buisson 1926: 299.

It should be noted that the distance between walls (I and II) is the same as between the walls (III and IV) around 4.18 m, also, the distance between (II and III) and between (I and IV) is 4 .36 m,[1557] that means the western and gate consists of three pairs of Piers (buttresses),[1558] with two chambers.

Eastern gate (Fig. 142)

It is located about 630 m from the north-east corner of the rampart and about 370 m from the south-east corner,[1559] this gate similar to that of the western gate, it consists of three pairs of Piers (buttresses) (six-pier) type with two chambers, its foundations were constructed of roughly hewn limestone blocks, a few foundations of limestones have been found,[1560] its interior passage measured approximately 22 m long by 3.5 m wide.[1561]

Northern gate

It is located on the northern side of the rampart; Du Mesnil in 1926 found some block and stone belong to the northern gate.[1562]

Southern gate

It is located on the southern side of the rampart.[1563]

Southern complex[1564] (Fig. 158).

It consists of a tower (No. 5), which has two elements, they obviously belong to a gate, the first element, is well preserved, (No. 6), and it has shape of a pilaster of 3.20 m long and 1.80 m wide, the second element is opposite on the first one and it consists of a large flat stone (No. 7) of 1.80 m long and 1 m wide, which is clearly to be interpreted as a part of a massive gate, on the western side of the same tower is a part of another gate (No. 8), which is in the east-west direction and it has 2.80 m long, two steps southern of the door there are two incomplete structures (No. 9-10), parallel to the wall, (No. 8), this installation (9-10) probably belongs to a staircase of at least three steps leading to a higher level, the upper part of the tower.

On the eastern side is a part of a structure (No. 11), which is orientated in east-west direction and is connected in south with the remains of the mudbricks, it can be nothing other than a glacis, exactly opposite the northwest corner of the tower are four large stones (No. 12), which are probably crashed (fall down) by the structures that lie above the tower.

1557 Du Mesnil Du Buisson 1926: 299.
1558 Assaf 1997 a: 35.
1559 Du Mesnil Du Buisson 1927: 279.
1560 Du Mesnil Du Buisson 1927: 281.
1561 Du Mesnil Du Buisson 1935: 42ff.
1562 Du Mesnil Du Buisson 1926: 302.
1563 Du Mesnil Du Buisson 1927: 283.
1564 Al-Maqdissi 2001: 148.

Northern complex[1565] (Fig. 158).

The walls (No. 1- 4) make together form like a box filled with mudbricks, is difficult to determine its function, to the north and the east of the box structure, two partially excavated areas mark the edge of a larger facility connected to the wall.

The structures of the northern complex are not connected with the southern one but besides to it, the external corner of the substructure (No. 1-2) was supported the heavy stones (No. 7), which connected to the pilaster (No. 6), the topographic situation shows that the southern complex is lower and gradient 3 m between the north-west and south-east, the material and size of the stones are different in both complexes, their lengths an average of 40 cm in the northern complex and 70 cm in the southern building complex.

The southern complex is to be understood as part of a gate, the reconstruction proposed here is based on the existence of a few important elements: a massive tower (No. 5), a pilaster (No. 6), a monumental threshold (No. 7), an inner staircase with three steps, (No. 8-10), and finally the glacis (No. 11).

The northern complex, consisting only of the foundations, could be a part of the fortification wall, various specifics of the architecture of structures 1 and 2 with large stone (No. 7) suggest that the older parts of the southern complex have been integrated into the new defence system.

Regarding the chronological classification of both building complexes, there is still uncertainty, but since the southern ensemble seems to be connected with the wall of the city wall, at least this should be connected to the beginning of the 2nd millennium BC.

Tell al-Nasriyah

Location: Is adjacent to the Orontes River, less than 15 km from Hama city[1566].

Coordinates: 35°13'59" N, 36°39'22" E.

Dimensions: It measures 800 m each side; the Tell covers an area around 70 ha,[1567] (Fig. 107).

Expedition: Excavated by a Syrian-French mission in 2007**,** directed by Michel Al-Maqdissi DGAM, Damas and Dominique Parayre Université Charles de Gaulle-Lille 3, Lille -Martin Sauvage EPHE, Paris.

1565 Al-Maqdissi 2001: 148 -150.
1566 Al-Maqdissi et al 2009: 43.
1567 Al-Maqdissi et al 2009: 48.

Stratigraphy:

- Early Bronze Age.
- Middle Bronze Age.
- Iron Age.
- Aramaic period.
- Achaemenid.
- Classical.
- Mameluke, at least in the western areas bordering the Orontes.[1568]

Fortifications:

Middle Bronze Age

The slope of the upper city during the Middle Bronze Age was surrounded by a glacis, that apparently made of successive layers of massive earth measuring on average 40 cm wide and 10-15 cm high, and the lower layers, in Sq 101/86,[1569]in the lower city (area B which is located along the Orontes River), a retaining wall dated to the Middle Bronze Age has been detected, its length 14 m, and built with several types of cut blocks,[1570] the ceramic associated with these constructions dated to Middle Bronze Age.

Tell al-Rawda

Location: Located in the middle of Syria, in the Syrian steppe about 70 km north-east of Tell Mishrifeh/ Qatna and around 50 km north-east of Homes.[1571]

Coordinates: 35°18'1" N, 37°63'3" E,

Dimension: The site appears as a fortified, circular settlement covers an area 12 ha,[1572] 15 to 16 ha with the fortification structure of the city,[1573] (Fig. 14).

Expedition: Excavated by a French–Syrian mission has been excavating the site since 2002, it discovered in 1996 during an archaeological survey of the region east of Hama.[1574]

1568 Al-Maqdissi et al 2009: 46.
1569 Al-Maqdissi et al 2010: 9-10.
1570 Al-Maqdissi et al 2010: 11.
1571 Castel 2008 a: 301.
1572 Castel 2008 a: 301.
1573 Castel 2008: 6.
1574 Castel 2008 a: 301.

Stratigraphy:

The site was occupied during the last third of the third millennium and abandoned before the beginning of the second millennium.

Fortifications:

Tell al-Rawda is a circular city surrounded by a double fortification structure which consists of a rampart and a front-wall and a double ditch,[1575]that means it is protected by four defensive lines, it has been pierced by four, or more probably five, fortified city gates.

The excavations were concentrated on the encircling rampart and two monumental gates (sectors 2a, 2b and 2c).

Early Bronze Age IV 2500 BC

The rampart sector 2a -2b

The rampart is 1.2 km, in circumference. It has been excavated in two different sectors: sector 2a to the west of the Tell (excavations 2002 and 2003) and sector 2b to the north (excavations 2003).[1576] It presents two main periods of construction, the two levels of construction are superimposed, they are built of mudbricks and rests on a foundation of large unworked blocks (fieldstone), the bricks of the latest rampart have disappeared because of the erosion.[1577]

These ramparts are 2.4 m to 2.7 m wide, according to the place and the level of construction in sector 2a, the first rampart appears to be associated with a massive tower, which protrudes out more than four meters in relation to the curtain-wall, the second rampart is associated with a bastion (Fig. 112).

Bastions of the same type appear to be placed regularly along the enclosing wall, according to vestiges which are visible on the surface,[1578] to the west (sector 2a), a third level of the rampart has been discovered, this one is narrower and was added later, for unknown reasons (wall 2009).

Gates

Northern gate (sectors 2b) (Fig. 123)

There is a strong depression in the topography to the northern part of the Tell, where the expedition has suspected that the city gate should exist there (by another word the depression is a location of

1575 Castel 2008: 6.
1576 Castel 2008a: 302.
1577 Castel 2008a: 303.
1578 Castel 2008a: 303.

the city gate), the structure of the northern gate has been detected, this gate opens into R2, which gives access to the city on the north.[1579]

It measured about 7 m wide, and about 30 m from the east to the west, it has complex installations, furthermore, two superimposed constructions have been found, the latest is a base in stone blocks, which measured is 1.8 m wide, reinforced on the inner side by buttresses, beneath the mudbrick rampart rests on a base of large blocks.[1580]

The wall is 2.5 m wide, it is enlarged considerably on the external and internal sides, forming a massive tower, which has a rectangular shape measured 4.2 m wide and 6.3 m long, there is a symmetrical tower to the west. These two towers were flanking the passage which measured 3 m wide.

Moreover, a door socket which is still in place on the west side of the passage shows that a wooden door in one piece was closing the passage.[1581]

Eastern gate (sector 2C)[1582]

This area was divided into six parts (2C1 to 2C6), 2C2 is the east-west transect across the fortifications to the north of the area, while 2C6 is an extension at its north-eastern end and 2C4 forms a wide band extending southward from the eastern end of 2C2 and perpendicular thereto, further to the east, 2C3 and 2C1 are roughly parallel to 2C4. 2C5, the southernmost construction site, connects 2C4 and 2C1.[1583]

The eastern gate complex is organised an almost symmetrically way on both sides of the east-west circulation axis which, extending the radial route (R1), leads from the inside to the outside of the city. Two main phases have been distinguished, the oldest dated to the early period of the city, while the most recent includes phases immediately before the abandonment of the city.

Ancient Phase

The results obtained in 2C2 show that, in this initial phase, four successive elements protect the eastern gate of the city, from east to west, a rampart (E228), a front-wall (E227), a first (E224) and a second ditch (E225),[1584] the rampart (E228), erected on the virgin soil (2272) and its width of 2 m, composed of a rubble base (2285) slightly less than a meter high surmounted by a mudbrick structure (2231 + 2219) preserved at an elevation of 1.30 m. Some 10 m to the east, it is doubled

1579 Castel 2004: 107.
1580 Castel 2008a: 303.
1581 Castel 2008a: 303.
1582 Castel 2008: 28.
1583 Castel 2008: 28.
1584 Castel 2008: 28.

by a front-wall (E227) of the same width (2 m). The latter is in fact made up of two adjacent walls (2259 and 2270) of which only part of the mudbricks has been exposed.[1585]

Against the eastern facade of this front-wall lies the steep escarpment (2280) of a first ditch (E224), which measured 8 m wide and approaching 1.50 m deep. Its counter scarped[1586] (2290) rises in gentle slopes against an artificial massive (2254) which marks the western boundary of the second ditch (E225),[1587] This one has an escarp (2291) and a counterscarp (2279) which slope is comparable to those of the first ditch. However, it is two times wider and deeper than the latter. Its eastern edge lies under the eastern room of building C21, the lining of the ditches, as well as the massif which separates them, consists of a clay mortar mixed with small pebbles.[1588]

The eastern gate of the city (C22) has been detected in 2C4 is flanked by two towers (E238 and E247). These are protruded in front of the eastern facade of the rampart as well as the eastern facade of the gate itself (E242 + E239), which bases (2376, 2377, 2266, 2381 and 2383) were made of blocks, rubble and stones and the upper part of the mudbrick walls have disappeared.[1589] The western facade of the rampart, on the other hand, protrudes towards the interior of the city, an abundance of furniture (broken jars and grinding equipment) was discovered in situ in the E244 space.[1590]

The front-wall E227, was an almost 9 m in 2C3, ends with a tower (E22l),[1591] the space (E229) which separates the rampart from the fore-wall has been undetected.

Recent Phase

The remains of the recent phase have been poorly preserved, because of the erosion,[1592] from this period on, the gate building was on the same level with the circular road C3, the surface was raised twice. Its most recent level (E232) is associated to the west with the intramural building (E231), while the underlying level is associated |with the east with (E220).[1593]

E246 is a section of the enclosure rebuilt in rubble in the recent phase. The foundations of rubble, which are located south of the gate, are bordering the spaces (E235) and (E236) which are partly based on the masonry of the tower (E247) of the previous phase; they are contemporaries of the building that have detected in 2CS (E237 - E240 - E241).[1594]

1585 Castel 2008: 28.
1586 a Scarp and a counterscarp are the inner and outer sides of a ditch or moat used in fortifications.
1587 Castel 2008: 28.
1588 Castel 2008: 29.
1589 Castel 2008: 29.
1590 Castel 2008: 29.
1591 Castel 2008: 29.
1592 Castel 2008: 31.
1593 Castel 2008: 31.
1594 Castel 2008: 31.

In the north, a glacis (2244) is arranged against the eastern faced of the enclosure (E2281/E246) and the tower (E238) filling three-quarters of the intermediate space (E229), the remaining quarter is occupied by what appears to be a slope (2270) rising up against the front-wall (E227) and running into the south against (2260),[1595]the height of (E227) and the rampart can be estimated to be at least 2 or 3 m above the current occupation levels.[1596]C21 is part of a large group of exterior buildings which is located at the outlet of the eastern gate.[1597]

Tower RW241 (Fig. 113)

It was excavated in 2009, is located on the western edge of out of Tell al-Rawda, on a flat limestone plateau that overlooks the Early Bronze city. It was part of the defensive system which surrounding many sites.

The floor area of the tower is 80 m^2, which is the area of the rectangular base of 10 × 8 m (E1), it is oriented approximately north to the south,[1598] its foundation is composed of two seats, are preserved to a maximum height: (40 to 50 cm).

Tower RW 5482

This construction is located south-west of Tell al-Rawda on a height overlooking the Wadi Qastal, the visible remains on the surface are an almost square building measured about 7.5 × 6.4 m. which consists of large blocks.[1599]

Very Long Wall (TLM) (Très Long Mur) (Fig. 157)

It was discovered in 1996 in the Syrian steppe by the (Mission des Marges Arides de Syrie du Nord) led by B. Geyer and R. Jaubert,[1600] this wall has been built of dry stone, it measured only 0.8 m to 1.1 m wide and should not exceed more than 1 m to 1.50 m in size, because of its narrow width, small amount of stones have been collapsed at its foot, even in areas where seem have not been looted,[1601] it has the remarkable peculiarity, where has been traced over more than 220 km along the steppe, however, part of the TLM is located only 10 km east of al-Rawda and various arguments suggest that is dated to the occupation period of the EB IV.[1602]

1595 Castel 2008: 31.
1596 Castel 2008: 31.
1597 Castel 2008: 32.
1598 Castel et al. 2014: 2.
1599 Castel et al. 2014: 4.
1600 Castel et al. 2014: 11.
1601 Castel et al. 2014: 12.
1602 Castel et al. 2014: 12.

The main wall measured 60 to 90 cm wide, and the covering measured 30 to 45 cm wide. However, the width of TLM does not exceed more than 125 cm in total, most often reached 110 cm and does not have a width less than 90 cm.[1603]

Near the Wadi es-Slima, terrace walls structure like Pier such as the (7048) building has been discovered. The latter is a large square solid construction 3 × 5 m, contiguous to the wall and Probably flanked by a large room, this is undoubtedly an important source of information that could be exploited. Other developments may be related to a more defensive function ". Such as two buildings set back a few tens of meters to the west of the wall, which could be towers because of their shape and location.[1604]

Finally, a very large group of buildings (7091) in the alignment of the wall which composed of a platform measured 4 × 25 m.[1605]

Tell Tilbeshar

Location: Located in a humid basin of the Sajur, a western tributary of the Euphrates, it is located 20 km south-east of Gaziantep, near the smaller city of Qguzeli, about 50 km north-west Jerablus/Carchemish, less than 100 km northern Aleppo about 140 km northern Ebla.[1606]

Coordinates: 36° 52′ 26″ N, 37° 33′ 30″ E.

Dimensions: It has an irregular shape (Fig. 44); covers an area 56 ha,[1607] it includes an upper city of about 6 ha, preserved to a height of forty meters and a lower city that expands to the north and the south to a height of 2 to 7 m.

Expedition: Excavated by the Gaziantep Museum and Supported by the French Ministry of Foreign excavations.[1608]

Stratigraphy:

- Neolithic period.
- Early Bronze Age.
    - TILB IIIA1 (3100.2900) and IIIA2 (2900-2700) BC.
    - TILB IIIB1 and B2 (2700-2500) BC.
    - TILB IIIC (ca. 2500-2300) BC.

1603 Castel et al. 2014: 14.
1604 Castel et al. 2014: 17.
1605 Castel et al. 2014: 17.
1606 Kepinski 2005: 145.
1607 Kepinski 2010: 303.
1608 Kepinski 2005: 145.

    - TILB IIID (ca. 2300-2100) BC.
- Middle Bronze Age.
    - TILB IVA (2000-1800) BC.
    - TILB IVB (1800-1600) BC.
- Achaemenid period.
- Byzantine period.

Fortifications:

TILB A1 (3100.2900 and III A2 2900-2700) BC.

Early Bronze I

The settlement was limited to the citadel (upper city - ca. 6 ha), which was surrounded by enclosure wall, the oldest levels which have been excavated until now at Tilbeshar date from the second half of the fourth millennium and are only attested in a deep sounding carried out on the citadel, above them, the stratigraphic trench allowed us to unearth a rather well-preserved level of occupation, IIIA1[1609]

Several parallel walls including a buttressed one were excavated. They all consist of large rectangular mudbricks (50 × 30 × 10 cm) arranged in headers and stretchers. To the south of the trench, a much larger wall corresponds to an enclosure wall, has been excavated to a height of 3,5 m and a width of over 4 m, without even reaching its southern limit.[1610]

Above the collapsed level from the transition between the fourth and the third millennium BC, the expedition reached what seems to be a more modest level IIIA2, also belonging to the Early Bronze I and dating between 2900 and 2800/ 2700, the citadel involved in this occupation, the enclosure wall does not exist anymore, and the construction techniques are quite different: there are no more mudbricks arranged in headers and stretchers and buttressed walls.[1611]

TILB III B1 and B2 (2700-2500)

The citadel and the northern lower city (ca. 30 ha)

In the second quarter of the third millennium BC, Tilbeshar's citadel saw the construction of a terrace or platform that covered the previous levels; it consists of several mudbrick layers which are preserved to a height of at least 7 m,[1612] this terraced construction is limited to the western end of the citadel.

1609 Kepinski 2005: 147.
1610 Kepinski 2005: 147.
1611 Kepinski 2005: 148.
1612 Kepinski 2005: 148.

TILB IIIC (ca. 2500-2300)

The citadel, the northern and the southern lower city (ca. 56 ha).

Around the mid-third millennium, the settlement extended from the citadel to the north and, for the first time, to the south as well, and Tilbeshar reached its largest expansion.

Area L in the south-western lower city - level IIIC, it is a very flat surface, is situated in a depression relative to the entirety of the site and the Early Bronze surface sherds suggested that the ancient levels were quite shallow, in 2006 the excavators opened three new squares each 10 by 10 m. The architectural remains comprised walls of two different kinds, on the one hand, walls 50 cm wide and on the other, massive walls 1m wide.

They seem to have been in use together, at least for some time, but because of a lack of clear dating elements, we were unable to determine if these two types of construction were in fact exactly contemporary, these walls defined several spaces and some installations (hearths, floors, pebbled surface, jar emplacement which allowed their basically domestic function to be identified.

The more imposing walls no doubt had a defensive function, which seems to be confirmed by the presence of an angle tower with an interior area of 4 m^2.[1613]

Tell Touqan

Location: Located about 45 km south-east of Aleppo and 14 km east of Saraqeb, on the modern road that from the major north-south route Damascus-Aleppo leads towards the steppe. On the western limit of the Matkh depression, in which the Nahr el-Quweiq flows, the site is situated a short distance from Tell Mardikh /Ebla (ca. 14 km) and Tell Afis (ca. 17 km).[1614]

Coordinates: 35°82'68" N, 36° 95'72" E.

Dimensions: The Tell covers an area 26 ha,[1615] it includes a lower and an upper city (Fig. 31), the latter considerably off centred towards the south-west, each of these two urban sectors was surrounded by fortification walls, pierced by at least three gates.

Expedition: The site attracted the attention of W.F Albright, who visited it on two different occasions in 1925 (Albright and Dougherty 1926, 9) and 1932 (Albright 1933, 1).

Between 1978 and 1993, four campaigns of soundings were carried out by the archaeological expedition of the Sapienza University of Rome, under the direction of Paolo Matthiae, regular

1613 Kepinski 2010: 306.
1614 Baffi, Peyronel 2013: 195.
1615 Baffi, Peyronel 2013: 195.

excavations by the archaeological expedition of the University of Salento have restarted the exploration of the site since 2006, under the direction of Francesca Baffi.[1616]

Stratigraphy:

- Early Bronze III – Tuqan IC, ca. 2650–2450 BC.
- Early Bronze IVA – Tuqan IIA, ca. 2450–2300 BC.
- Early Bronze IVB – Tuqan IIB, ca. 2300–2000 BC.[1617]
- Middle Bronze I- Tuqan IIIA, ca 2000-1800 BC.
- Middle Bronze II- Tuqan IIIB, ca 1800 -1600 BC.
- Late Bronze II – Tuqan IV, ca 1400 -1200 BC.
- Iron I – Tuqan VA, ca 1200-900 BC.
- Iron II – Tuqan VB, ca 900 – 720 BC.
- Iron III – Tuqan VC, ca 720 – 535 BC.
- Persian – Tuqan VIA, ca 535 -325 BC.
- Hellenistic – Tuqan VIB, ca 325 -60 BC.
- Roman/Byzantine – Tuqan VII, ca III-VI AD.

Fortifications:

The settlement during the Middle Bronze Age I-II was surrounded by a rampart which featured strongly fortified gates of the 'triple-gate' (six-pier gate) in (northeast) (south-east) (south-west).[1618]

Middle Bronze Age I -II

The lower city, the rampart in area G

Several soundings carried out in the northern sector (area G) have brought to light a massive earthwork that has built at the end of Middle Bronze I, which sharply separated the inhabited area from the countryside without earth used in this construction contained large quantities of pottery fragments dating to Early Bronze IVB.[1619]

Gates

Gate A (north-east) Middle Bronze I (Fig. 143 -144)

1616 Baffi, Peyronel 2013: 195.
1617 Baffi, Peyronel 2013: 196.
1618 Baffi 1990: 64.
1619 Baffi 2013: 165.

At the same time as the earthwork was built, the passageway of gate A was also constructed at Tell Tuqan, gate A was a triple-gate with a 14 m long and its passage was 2.6 m wide, 4 m high,[1620] this gate consists of three pairs of buttresses and two rooms, and was closed by basalt slabs from inside,[1621] it featured a mudbrick superstructure preserved to a height of 4.5 m, which was built with bricks measuring (38×38×12 cm), and faced with limestone blocks.[1622]

The width of the internal and external buttresses is 3.25 m, while that of the central buttress is 3.75 m, this gate which repeats the standard model of entrances passages of the time in Syria and Palestine, was created by using enormous limestone blocks,[1623] what is very clear, instead, is that the foundations of the gate were sunk in the previous levels of the Early Bronze IVB.

Gate F (south-east) Middle Bronze I (Fig. 145 -146)

It similar to gate A, this gate gave direct access to the upper city, and appears to be formed by two separate blocks, one of which protrudes notably towards the exterior the two blocks relate to the entrance into the city (the inner one) and to the pier that served to contain the waters of the lake,[1624]it also consists of three pairs of buttresses and two rooms, and was closed by basalt slabs from inside,[1625] the passageway of the Gate was 14.60 m long[1626] and 2.7 m wide, the dimensions of the inner rooms are 8 m by 1.9 m[1627] The width of the internal and external buttresses is 3.50 m, while that of the central buttress is 3.90 m.[1628]

Circular towers (Fig. 118 -119-120)

Middle Bronze Age II

Circular towers were erected in the northern sector, associated by straight walls which followed the line of the rampart,[1629]the circular shape of the towers is not immediately comprehensible if one considers their function as being mere that of providing lookout points over the surrounding area; three circular towers have been built of mudbricks are away from each other 16 m or 14.5 m,[1630] their diameters of 9.4 m, thickness of their walls 2.80 m and the dimensions of mudbrick (40×40 cm).[1631]

1620 Baffi 1990: 65.
1621 Baffi 1990: 65.
1622 Matthiae 1979: 8.
1623 Baffi 2013: 166.
1624 Baffi 2013: 167.
1625 Baffi 1990: 65.
1626 Matthiae 1982: 323.
1627 Baffi 1990: 65.
1628 Matthiae 1982: 323.
1629 Baffi 2013: 167.
1630 Baffi 1990: 66.
1631 Baffi 1990: 66.

These towers were built directly on the ground without stone foundations, the width of the wall which connecting these towers is 2 m, it has been built from the same mudbricks as the towers, this kind of fortification was high on the western wall, between the gate A and the western gate[1632]

Upper City (Fig. 31)

Middle Bronze II

It was clearly fortified, to the south by its natural position on the shores of the ancient lake and, to the north, as far as has been determined to date, by an integrated system consisting of thick mudbrick wall that rested on modest limestone foundations, in area E in the north and north-west sections of the high citadel mound, a 4.50 m wide mudbrick fortification wall built on an irregular foundation of medium-sized limestones,[1633] to the north this wall is preserved to a height of 5.40 m, in some areas preserved to a height 0.50/0, 80 m just.[1634]

In final phase, the mudbrick wall of the Tell Touqan citadel was integrated, to a large rampart, this rampart has been built against the wall and was deeply extended: in the area where a long trench was made, (area E), towards the lower city, it had a thickness of 19,50 m,[1635] the rampart is preserved to a height of 4.90 m.[1636]The upper surface of the rampart is formed of a coarsely equalised plane of compacted clay, which is arranged on a very slight slope towards the north, that is to say towards the lower city.

There must have been a gateway in this wall, though no traces of this remain, possibly because the material used in its construction has been removed, the brick wall was apparently designed specifically to defend an urban space to which a precise, physical role had been assigned, the dimensions of which were such as to be able to hold part of the population, possibly the élite. In order to surround the acropolis. The wall did not take a straight path but covered short, straight stretches that led to the winding outline of the citadel, at least to the north.[1637]

Tower (Fig. 116-117)

The inner fortification wall was broken an interval by square towers of unbaked brick which protruded towards the lower city, one of these has been brought to light, was 7.50 ×5.85 m,[1638] inside the tower there was a staircase with three terraces (ramps) and each one is composed of three rows of mudbrick because there was, inside the body of the tower, a corridor of 0.90 - 1.00 m wide

1632 Matthiae 1989/90: 337.
1633 Matthiae 1982: 316.
1634 Matthiae 1982: 316.
1635 Baffi 1990: 66. / Matthiae 1982: 319.
1636 Matthiae 1982: 319.
1637 Baffi 2013: 169.
1638 Matthiae 1982: 321.

to the coated walls which were subsequently entirely walled by rows of mudbricks,[1639] from this towers about 17 m to the east, another tower has been found.[1640]

These towers were result of additions to the original plan and stood out, without any foundations not from the level on which the wall had been built, but from an escarpment face had been created by various layers of earth piled up against the outer of the wall, some of the lower layers containing small quantities of stone.[1641]

The development of the defensive system over time can be traced via pottery evidence, which includes fragments dating to the Middle Bronze II, from the internal level of the upper city from the space between the wall and the tower, and from the Early Bronze IVA -B mist with pottery from Middle Bronze the of earth on which the tower that had been taken from the Lower City.

We can, therefore, conclude that the enclosure of the citadel occurred in a late phase of the Middle Bronze II.[1642]

Tell Umm el-Marra

Location: Located in northern Syria about 48 km eastern Aleppo, in the Jabbul plain [1643] 3 km south of Deir Hafer.[1644] Maybe it is the site of ancient Tuba.[1645]

Coordinates: 36°8'2.86" N, 37°41'35.12" E.[1646]

Dimensions: It covers an area 25 ha,[1647] and it has an acropolis of modest height at its centre maximum height c. 8–9 m,[1648] in (Fig. 12) we can see the Tell has a circular shape, its diameter 500 m and its perimeter measured around 1570 m. Tell of Umm el-Marra is situated next to the Nahr Deir Hafer stream, near the 250 mm annual rainfall.[1649]

Expedition: The Expedition began in 1994 under the direction of Dr Hans Curvers of the University of Amsterdam and Glenn Schwartz of the Johns Hopkins University.[1650]

1639 Matthiae 1982: 321.
1640 Baffi 1990: 67.
1641 Baffi 2013:169.
1642 Baffi 2013:169.
1643 The Jabbul plain is located between Aleppo and the Euphrates valley, controls the south-east route from Aleppo to Mesopotamia via Tell Meskene/Emar on the Euphrates (Curvers, Schwartz 1997: 203).
1644 Tefnin1979c: 71.
1645 Ernest 2011: 1.
1646 Ernest 2011: 1.
1647 Ernest 2011: 1. / Schwartz et al. 2000: 420.
1648 Schwartz 2013: 497.
1649 Curvers, Schwartz. 1997: 204.
1650 Ernest 2011: 1.

Stratigraphy:[1651]

- Early Bronze IVA ca. 2500-2300 BC.
- Early Bronze IVB ca. 2300-2000 BC.
- Middle Bronze I ca. 2000-1800 BC.
- Middle Bronze II ca. 1800-1600 BC.
- Late Bronze Age ca. 1600-1200 BC.
- Hellenistic period ca. 400-50 BC.
- Roman period ca. 50 BC-400 AD.

Fortifications:

The Tell surrounded by an enclosure wall with three discernible gates the north-west Gate is directed to the Aleppo, the north-east Gate is directed to the Euphrates River, and the south gate is directed to the Jabbul, bordering the site on three sides are traces of a ditch cut into the bedrock.

Early Bronze Age

The rampart and glacis in the west area A, there are two earth and pebble glacis, constructions built against what appears to be an earthen rampart dating to the EB period, it consisted of brown soil with pebbles and regularly spaced lenses of ash sloping down from the east to the west at a 45° angle and the upper surface is smooth,[1652] the evidence of this rampart may suggest that the site became a large and circumvallated centre early in its history, considering that Umm el-Marra was founded in the Mid-EB period.[1653]

Glacis EB IV

The earlier of the two glacis constructions, designated the red glacis because of its reddish-brown soil, was built up against the outer face of the EB rampart, there is a revetment structure consist of stone under the base of glacis standing 1.4 m high and 1.6 m wide and horizontal "tongues" of grey clay were noted inside the exterior face of the glacis above the revetment wall.[1654]

The white glacis, because of its lenses of white limestone fragments and pebbles, was constructed against the red glacis, the white glacis had a revetment structure, consist of stone measuring ca. 1.5-2.3 m high and 5.3 m wide, but the outer face of the revetment was not battered or sloping.[1655]

1651 Schwartz et al. 2000: 422.
1652 Schwartz et al. 2000: 426.
1653 Schwartz et al. 2000: 426.
1654 Schwartz et al. 2000: 427.
1655 Schwartz et al. 2000: 427.

Excavation on the inside of both revetments indicated that they consisted of boulders and cobbles heaped up against the earth and pebble material of the glacis and were not walls with flush interior faces,[1656] the reddish, chalky soil or white limestone materials in the glacis constructions were probably dug just outside of the Tell, resulting in the ditch or moat now encircling the site[1657]

the two glacis constructions contained only EB sherds (EB IV, without any evidence of IVB types), the soil from the constructions might have been removed from elsewhere in the Tell and need not signify an EB date.[1658]

Middle Bronze Age II

It is clear that MB II (Umm el-Marra IIIA-C) was an era of major occupation and activity at Umm el-Marra. Major features include a city wall has been built above two glacis constructions identified in the west area A and north-west area A, houses built against the city wall in the north-west area A, the north-west city gate with several phases, one of which was burned has been excavated in the north-west area B, and mudbrick fortifications and a glacis associated with the north-east gate in north a-rea B.[1659]

City wall in the west area A measured 7 m wide during the MB II.[1660] It was consisting of alternate courses of flat-lying grey bricks and vertically standing red bricks, a technique attested from a diversity of the third and the second-millennium contexts elsewhere.[1661]

In the north-west area, there are remains of a mudbrick wall measured of a 4.5-6 bricks wide (1.5-2 m wide) built above a stone substructure which is preserved up to 1.4 m. It has been built atop an earlier red-brown earthen glacis or rampart, with thick exterior buttresses or towers at fairly regular intervals.[1662]

This wall dated to the late MB II (late Umm el-Marra IIIA-C), also, in the north-west area there is an earth and pebble glacis faced with a battered stone revetment.[1663]

The north-east city gate

1656 Schwartz et al. 2000: 427.
1657 Schwartz et al. 2000: 427.
1658 Schwartz et al. 2000: 427.
1659 Schwartz, Miller 2007: 190.
1660 Curvers, Schwartz 1997: 215.
1661 Schwartz et al. 2000: 426.
1662 Schwartz et al. 2003: 342.
1663 Schwartz et al. 2003: 341.

It opens to the Euphrates River, had been identified in area SF, with several phases dated tentatively to the MB and the EB,[1664] the gate's structure was preserved to about 2 m in height with a passageway about 3 m wide and 7 m long.

North-west Area B: **A Burned city gate**

It opens to the Aleppo, in north-west area B (trench 972/3960), a Middle Bronze city gate with several phases of use was identified. The structure consists of a chambered gate with two sets of piers or buttresses exposed thus far, separated by a passage 3 m wide.[1665] The stone substructures of the outermost piers or buttresses belonging to the gate were sometimes faced with ashlar orthostates, while the superstructures were made of mudbrick (Fig. 150), in a later phase of use, a set of wide walls was added to the west, blocking the previous gateway passage and functioning as part of a new phase of construction.

The expedition presume that a new gateway was built in a location outside the excavation area, perhaps to the southwest, after this modification, the entire complex was burned,[1666] four skeletons were found fairly high in the brick collapse between the gate piers, indicating that these persons had fallen from the roof or a second story during the catastrophe and were crushed by the falling bricks.[1667]

During the Middle Bronze Age II, the **upper city (acropolis)** was surrounded by an enclosure wall,[1668] this wall used as restriction of access to cultic or ceremonial activities and architecture argues for control by a central authority or elite over ritual practices and contact with the divine, such behaviour could have been part of the legitimizing activities of the new authorities of the Middle Bronze Age, as part of a claim to privileged communication with the spiritual realm.[1669]

The acropolis enclosure wall had only a brief period of use restricted to early MB II, in the east of the acropolis in unit 1302/ 3858, the inner wall measured four bricks wide (Ca- 1.5-1.6 m), [1670] reinforced by two square interior buttresses.

A narrow gate has been detected in unit 1270/3936, in the northern side of the acropolis, it has been flanked by two towers are measured ca. 3.8 m wide (Fig. 149). It faced with stone blocks, it is possible to see that its passageway measured 1.2-1.4 m wide, it contains a threshold of stone slabs between the two piers,[1671] to the west of the gate (in unit 1258/3936) was the extension of the

1664 Schwartz et al. 2000: 429.
1665 Schwartz et al. 2012: 179.
1666 Schwartz et al. 2012: 180.
1667 Schwartz et al. 2012: 180.
1668 Curvers, Schwartz 1997: 227. / Schwartz et al. 2012: 179.
1669 Schwartz et al. 2012: 179.
1670 Schwartz et al. 2003: 341.
1671 Schwartz et al. 2003: 341.

enclosure wall, consisting of a foundation of cobbles,[1672] the northern gate in the enclosure wall, whose narrow dimensions allowed for a tight control of who went in and out.

A small rectangular construction (a tower) was integrated into this structure, [1673]outside of the wall there is a brown clay glacis sloping down from south to north in the northern side of the wall. [1674]

1672 Schwartz et al. 2003: 341-342.
1673 Schwartz et al. 2003: 342.
1674 Schwartz et al. 2003: 342.

LOWER NORTHERN LEVANT

Tell 'Arqa

Location: Located in the southern edge of the Akkar plain north of Lebanon near to the Mediterranean Sea.[1675]

Coordinates: 34° 31′ 50″ N, 36° 2′ 45″ E.

Dimensions: The Tell covers an area 4.5 ha and 250 ×150 m at the top, and covers an area 7 ha and 300×400 at the base (Fig. 105), it has an elliptical shape with a slight slope from the east to the west and very steep flanks without intermediate terraces, its highest point at an altitude of 147 m to the east dominates the surrounding plain and commands a clear view towards Tripoli south-west and across the Akkar plain to the Tartous, to the north, its western extremity is at an altitude of only 135 m.[1676]

Expedition: Excavated by a French Mission, directed by Jean-Paul Thalmann.[1677]

Stratigraphy: [1678]

- Level 17: Early Bronze Age III, ca 2700 BC.
- Level 15 -16: Early Bronze Age IV.
- Level 14: Middle Bronze Age I.
- Level 13: Middle Bronze Age II.
- Level 12: Late Bronze Age I.
- Level 11: Late Bronze Age II-III.
- Level 10: Iron II.
- Level 9: Iron III.
- Level 7-8: Hellenist.
- Level 5-6: Byzantine.
- Level 3-4: Crusade.
- Level 1-2: Mameluke.

Fortifications:

Early Bronze Age IV, level 16

1675 Thalmann 2006: 7.
1676 Thalmann 2006: 7.
1677 Thalmann 1978: 61. / Thalmann 1991: 21.
1678 Thalmann 2006: 15.

The city during the Early Bronze Age was defended by the outer wall of the rooms of zone A and the other buildings adjacent to the north and south, the Tell is nearly 30 m high and the steep slope, certainly formed at least in this place sufficient protection.[1679]

One can restore a general plan organised according to a circular pattern with a peripheral street bordered by a crown of buildings of 6 to 7 m wide, which formed a continuous front towards the exterior.

Middle Bronze Age II, level 13 (Fig. 104-106)

In level 13, several walls measured 1.70 to 2 m wide, have been detected indicate that they belong to a defensive system, we can say the site was truly fortified as the first time.[1680]

Area (AK 21, AJ / AK 20)

The buildings which have been built at level 13 on the edge of the Tell are marked by their monumental character, all the walls are constructed identically, there are remains of mudbrick walls (13.01. 13.02 and 13.20) measured 1.70 to 1.90 m wide and walls (13.18 and 13.19) measured 1.40 m wide.[1681] They have been built above a stone foundation. Wall 13.01 was preserved five to six courses high, the angle between the walls 13.01 and 13.02 is marked by a large cut block. The foundations are shallow, one or two layers to the maximum. Walls (13.20. 13.18 and 13.19), are even more damaged, are only preserved as foundations on three and one or two seats respectively.

All these walls belong to the large building has a rectangular plan the remains of the walls (13.01 and 13.02) makes it is possible to estimate external dimensions 15 or 16 m long,[1682] wall (13.19) is retained on 7.50 m long and its return towards the west. Wall (13.20) is preserved for 9 m in length and there is no indication that it was also returning towards the west at its ends.

It is impossible to decide on the current state of the excavation whether these buildings were leaning against a continuous outer wall, thus a real rampart they would have Formed of the vast casemates, or if they were simply juxtaposed on the ledge of the Tell. The dimensions of this building leave little doubt as to their defensive character.[1683]

Tell al-Ash‘ari

Location: Located in 15 km north-west of Daraa city (Southern Syria).

Coordinates: 32°44'36.9" N, 36°00'53.5" E.

1679 Thalmann 2006: 19.
1680 Thalmann 2006: 51.
1681 Thalmann 2006: 56.
1682 Thalmann 2006: 56.
1683 Thalmann 2006: 56.

Dimension: The Tell has an elliptical shape measured about 400 m by 250 m at its base and its height about 30 m,[1684] (Fig. 84).

Expedition: Excavated by a Syrian team from 1943 - 1992 – 1998.

Stratigraphy:

- Middle Bronze Age.
- Late Bronze Age.
- Iron Age.
- Roman period.
- Hellenistic period.
- Islamic period.

Fortifications:

Middle Bronze Age

This vast circumference is formed by the city walls of the Middle Bronze Age settlement whose outlines are for the most part still visible,[1685] the most conspicuous feature of the Tell al-Ash'ari is the massive fortification wall of roughly hewn blocks that is visible at the north-eastern, eastern and southern side, the western and northern sides have no walls,[1686] their limits are defined by a very steep cliff overlooking the gorge the creates a formidable natural fortification.

From the south-eastern corner, the remains of a tower protrude along the fortification,[1687] traces of further towers can be detected also to the north-eastern and south-western side, a ramp leads up along the southern side of the tell and ends in a city gate and entrance area paved with large slabs.[1688]

The architecture of the gate with three portal frames (six-pier gate) resembles in size and shape that of Middle Bronze Age Tell Ashtara and generally represents a highly standardized type of structure throughout the Levant in the second millennium (Ebla, Alalakh, Qatna and Tell Tuqan) for this reason the cyclopic walls of Tell al-Ash'ari are dated from the Middle Bronze Age, thought without further qualification thus far.

It is noteworthy that, with regard to its walled-in surface Tell al-Ash'ari apparently reached its maximum proportions at this early stage, during the first half of the second millennium BC, the western Hauran plain saw a remarkable demographic development then as now the population

1684 Kropp, Mohammad 2006: 130.
1685 Kropp, Mohammad 2006: 130.
1686 Kropp, Mohammad 2006: 131.
1687 Kropp, Mohammad 2006: 131.
1688 Kropp, Mohammad 2006: 131.

mostly lived in village communities and there were only a small number of strongly fortified urban centres, such as tell Ashtara Tell Dibbeh and Tell al-Ash'ari.[1689]

Beirut / Biruta

Location: Located in Lebanon in the sea coast, it is situated at elevation 102 m a.s.l, the Bronze Age remains have been found in area Bey 003, 020, 013 and 032.

Area of Bey 003 lies in the heart of the ancient Tell of Beirut, To the north it overlooks the "Bassin I of the modern harbour of Beirut, it is bordered by modern roads: to the south by rue Weygand and rue Cadmus, to the north by Rue de Trieste, to the east by rue Georges Haddad and to the west by rue Argentine

Area of Bey 020 is located south and south-west of the former Byblos warehouse, on Cadmus and Azmi Bey streets, between excavation areas Bey 003 and Bey 013,[1690] (Fig. 91-92).

Coordinates: 33° 53′ 23″ N, 35° 30′ 01″ E.

Dimensions: Bey 003 (Fig. 93) measures about 110×70 m around 0.77 ha and rise about 14 m.[1691]

Expedition: American University of Beirut Museum team was one of the first three teams to launch the urban exploration program in the Beirut city centre, along with the Lebanese University I and the French Institute of Archaeology, in October 1993.

Stratigraphy: [1692]

- Level I: The Paleolithic period (….. – 10000 BC).
- Level II: The pre-pottery Neolithic period (10000 -6000 BC).
- Level III: The pottery Neolithic period (6000 - 4500 BC).
- Level IV: The Chalcolithic (4500 -3000 BC).
- Level V: The Bronze Age period (3000 -1200 BC).
- Level VI: The Iron Age period (1200 – 300 BC).
- Level VII: The Classical period (300 BC -800 AD).
- Level VIII: The Medieval period (800 -1700 AD).
- Level IX: The great reconstruction of Beirut in the 19th century (1840 -1920 AD).
- Level X: The remains of pre-war Beirut (1920 -1975 AD).

Fortifications:

1689 Kropp, Mohammad 2006: 131.
1690 Finkbeiner, Sader 1997: 114.
1691 Badre 1997: 22.
1692 Curvers, Stuart 1997: 174.

The investigations in areas Bey (003, 013, 020 and 032) addressed in the discovery of the acropolis of the pre-Hellenistic city. In other words, the site of the Bronze and the Iron Age Beirut was located with precision when successful fortification walls dating to these periods were uncovered.[1693]

Area Bey 003 (Fig. 93).

The Middle Bronze Age I -IIA

This period of the Middle Bronze Age appeared in several complexes as the excavations progressed in different areas of the site following the developers schedule, these have been described according to their topographical distribution as follows.

Complex I (110/260-130/260) [1694]

The earliest Middle Bronze Age occupation of the site is represented by Complex (I), which includes a fortification wall and an urban settlement, the complex (I) consists of three walls, (W 351), which was running to the west, (W 909) is running north-east, south-west[1695] and a third wall (W 571), parallel to the wall (W 909).[1696]

The First Fortification Wall, (**W 353)**[1697] (Fig. 91-92-93).

About 3.50 m to the south of the wall (W 351) and parallel to it, one-meter wide wall (W 353), a length of 15 m of this wall are preserved at an average height of 1.70 m, its stone foundations lie directly on bedrock, the regular horizontal razing of the stones at the elevation of 10.70 m, plus the fact that a layer of disintegrated black clay was found on top of the stones, indicate that there was almost certainly a mudbrick wall at its crest, the outside southern face of the wall was coated with a layer of grey clay which has completely deteriorated but which only shows in section.

The wall (W 353) simply a retaining wall with an irregular and clumsy interior face, which retained the fill between the two walls (W 351 and W 353). This interior face shows a construction by section rather than horizontal courses, the first section, 5 m long, begins in the eastern extremity, where the concrete wall of the modern Byblos building cut through it, it is built with irregular, medium size rubble stones, the second section, 2 m long is built with large blocks.

The third section, the excavation of which has not been completed to the west, is built with irregular rubble stones joined with a clay mortar of brown/red colour, this mortar is the same as one of the filling layers between the two walls, the outside face of (W 353), on the contrary, is carefully built with a coated finish as noted above,[1698] in its final stage (W 353) was certainly a defensive wall to a city who northern limit being the sea: it would only be 70 m Wide.

1693 Finkbeiner, Sader 1997: 116.
1694 Badre 1997: 22.
1695 Badre 1997: 24.
1696 Badre 1997: 24.
1697 Badre 1997: 26.
1698 Badre 1997: 26.

Glacis

A thick sloping of rammed clay embankment was added against the wall (W 353), the fact that (W 353) was originally covered with a layer of clay from the outside face makes it clear that the earthen artificial glacis was a later addition. This earthen glacis is sloping away at an angle of about 30°.

It is founded on the sloping bedrock (elevation between 9.00 and 7.95m.) in order to reinforce this wall; it is not clear whether the slope of the bedrock is natural or was created intentionally to serve as a foundation for the clay glacis.[1699]

Complex II (130 / 235-135 / 230) [1700] (Fig. 91-92 -93-94-95).

The second fortification wall and the monumental entrance in a second phase, the city expanded some 13 m towards the south, where a second fortification wall (W329-398) was excavated, this wall was founded on courses of large stones at an elevation of 5.60 m. and it preserved to the highest Point to an elevation of 11.94 m; it was built with limestone blocks of irregular size joined together with small flat stones without mortar.

These blocks were extracted from their natural beds in the rocky hill of the Tell, they were kept in their original thickness and length without any additional crafting or dressing, their length varies between 0.15 m and 2.85 m, and their width is generally around 0.20 m, on its southern side, the wall shows a carefully designed facade where long blocks alternate with smaller stones, this device is most likely to be basically of aspectual significance.

The wall was reinforced by pilasters 0.80 m wide at the top, increasing to one meter towards the base of the wall, three pillars appeared at regular intervals of 5 m, the sequence of these pilasters give an aesthetic appearance, in addition to reinforcing the wall.[1701]

A gateway 2.10 m wide was opened, the pilasters were not centred in relation to the gate, a pair of piers (1.97 × 0.35m) built of the heavy masonry on either side of the gate, forms the doorway, the top of the western pier must have served as a foundation for a "guardroom" of which we can observe the southwestern angle built in large blocks, to the north of the doorway, a corridor is slightly wider than the entrance (2.90 m wide is demarcated by the addition of narrow lateral walls enclosing the steps that lead to the upper gallery).

In the entrance, three steps were set up at the successful elevations 8.97-8.87-8.64 other blocks protruding from the lateral walls indicate more steps at the elevations of 9.15, 9.27, 9.45, 9.85 and 10.21 m under the threshold, the wall 329-398 is continuous, with its two parts meeting on either side of the gate, at a later stage, an L-shaped wall (chicane) was added to the plastered city wall, this is very clear from the vertical joining line of the chicane with the pier wall of the gate, this

1699 Badre 1997: 28.
1700 Badre 1997: 28.
1701 Badre 1997: 28.

chicane was introduced to prevent a straight-through entrance by making access to the city indirect and therefore more difficult.

The wall (W 320) of the chicane, which is parallel to the wall (W 329), is 7m Long, the point where it stops is marked at its base by a small north-south wall (W 910), that seems to bridge the two walls, either to strengthen the deep gap between them or to serve as a terrace for the ramp that leads into the monumental gate.[1702]

Large walls (W 329-398), which are 3.75 m wide and built with rubble stones, reinforcement the pilaster wall from its northern face and all the way to its foundation, it is not yet clear whether they served as retaining walls were used as borders to a canalization-sewage system, on the eastern side of the doorway, a canalization covered with large slabs and with a manhole opening, runs over wall W 389 in a slope directed north-south, dropping from the elevation 11.61 to 8.86 m.

Its northern end has disappeared with the modern infrastructure works which make its originating point unknown, but it is evident that it is later than the plaster wall. The fill that covered it is similar to that inside the entranceway (mixed EB and MB materials) with no later intrusions mixed with it, the Monumental Gate may be dated with certainty to the Middle Bronze Age. More analysis of the floor material should be made in order to give a more accurate date within that period.[1703]

Glacis I (120/230)[1704] (Fig. 94).

After its construction, the chicane entrance of the monumental gate was blocked at a later stage by the building of a glacis against (W 320) and on top of the wall (W 329), this glacis has been excavated to 2.60 m high, its highest point was discovered at the elevation of 12.27 m, under a grey layer which is about 15 cm wide. The glacis is built with pebble stones and large rubble limestone 30 cm long, bonded with a brown soil mortar, it has a slope of 20°.

In its excavated part, the glacis I, shows a curve going from the south-east to the north in a funnel shape facing south: it is wide at the top and narrower towards the base, it is difficult at this stage to predict the rest of its orientation, one clear argument, however, is that glacis I was built in this curved shape intentionally because it was the best form to fit the entranceway and block it, it is very likely that Glacis I, begins at its junction point with (W 320) and that it does not go further south beyond (W 320).

This is, however, impossible to check because of the modern sewage system. On the other hand, it is very possible that glacis I, after blocking the entranceway, straights its east-west orientation to align with the small section of glacis built on top of (W 329). So, thus glacis I, would have been built in two stages, it was first built on top of (W 329) and top of the fill retained by a north-south wall added between the two walls, (W 329 and W 320_ in order to retain this fill, in a second stage

1702 Badre 1997: 30.
1703 Badre 1997: 30.
1704 Badre 1997: 48.

the curved part of the glacis would have been added to block the entranceway and would then continue in the original southeast-northwest orientation merging with the small glacis section.

The date of this glacis is derived from the two levels between which it is located, the lowest level, underneath the glacis, is represented by MB II materials of the last phase of the chicane entranceway, while this sherd may suggest an approximate date in the 18th century BC. to the building phase of the glacis I. [1705]

Second fortification wall in Bey 20 [1706] (Fig. 91-92).

The earliest finding is a two-phased wall in square area 09/11, the wall runs for about 12.5 m from the north-west to the south-east and turns then towards the east, its northern side is not excavated, the modern foundation-trench of the "Byblos" building damaged the eastern face of the wall and completely destroyed its continuity towards the east.

In its first phase, the wall was constructed of large, almost square, dressed limestone ashlars, some of them longer than 1m,[1707] in a second phase, the remains of this wall were integrated into a wall which is much better preserved.

The lower part of the later wall stands next to the earlier one. Its uppermost layers are, however, partly made up of the ashlars of the earlier all. The later wall runs parallel to the existing one using its remains as reinforcement and as a prop against the slope. It is piled up of limestone slabs, at its upper edge, it is 1.2 m wide. The outer face of the northern part is perpendicular toward the west, rounded toward the east, at places, the wall is still more than 5 m high, its lower edge was only ascertained at the eastern end, where the earlier phase rises from bedrock.[1708]

Second fortification wall in Bey 013 (Fig. 91-92).

The wall runs for about 35 m to the east, its height between 4 to 7 m.[1709]

Tell el-Burak

Location: Located in the Lebanese shore, 9 km south of Sidon[1710] in southern Lebanon.

Coordinates: 33° 48’24” N, 35° 32’24” E.

Dimensions: It measures ca 115 × 115 m,[1711] and it rises ca 19 m a.s.l, and it covers around 1.3 ha.[1712] We can see from the (Fig. 155) it has a roughly square shape.

1705 Badre 1997: 50.
1706 Finkbeiner, Sader 1997: 124.
1707 Finkbeiner, Sader 1997: 124.
1708 Finkbeiner, Sader 1997: 124-126.
1709 Karam 1997: 107.
1710 Kamlah, Sader 2003: 145.
1711 Kamlah, Sader 2003: 147.
1712 Peltenburg 2008: 149.

Expedition: Excavated by the American University of Beirut, the Eberhard-Karl University of Tübingen, and the German Archaeological Institute-Berlin (hereafter DAI).

The excavations are co-directed by Uwe Finkbeiner (Tübingen), Jens Kamlah (University of Kiel), and Helen Sader (AUB).

Stratigraphy:[1713]

- Middle Bronze Age (ca. 2000-1700 BC.).
- The second half of the Iron Age (late 8th to mid-4th BC).
- Ottoman Period.

Fortifications:

Middle Bronze Age

Retaining Wall in Area 2

Underneath the Iron Age fortification wall, there appeared remains of the Middle Bronze Age retaining wall, the steep slope on the coastal side of the hill was strengthened by an imposing plastered stone-glacis, the inner face of the Iron Age wall was set on a hard layer of reddish soil, this layer is a filling, which was deliberately set against the massive Middle Bronze Age wall, at the same time as the wall was built,[1714] in fact, the cyclopean Middle Bronze Age wall most probably had no inner face and consisted merely of one row of massive blocks which surrounded the hill and kept the red filling in place.

Occupants moved these immense masses of red earth and pebbles in the Middle Bronze Age because, in area 1, a large rectangular mudbrick structure was uncovered there, and it became obvious that an artificial earth and pebbles mound was created for the purpose of providing an elevated position for this mudbrick structure,[1715] the artificial mound was built during the Middle Bronze Age IIB.[1716]

Palace or fortress? Area 1 (Fig. 156)

The 2001-2003 excavations on the Tell summit had brought to light sectors of a Middle Bronze Age rectangular building[1717] with defensive character has been detected in area I, it could be fortress? In the 2005- 2009 seasons the almost complete ground plan of the building was revealed, at the end of the sixth excavation season 19 rooms, one of them is a courtyard and 52 walls have been entirely or partly uncovered, the building measures ca. 31.5 × 41.6 m.

The building was erected on two different levels, the south-eastern rooms (2 and 7) were built on the same level as the courtyard, while the north-western rooms (10 and 17) were constructed on a

1713 Kamlah, Sader 2008: 19.
1714 Kamlah, Sader 2003: 159.
1715 Kamlah, Sader 2003: 159.
1716 Kamlah, Sader 2003: 156.
1717 Kamlah, Sader 2008: 21.

much lower level, with rooms (8 and 19) serving as stairwells, in the centre of the palace is a 16,0 × 19,5 m inner courtyard room (1) and its floor lies 17,70 m a.s.l.[1718]

Room (8), was hence a stairwell which linked the rooms of the higher-level rooms (2 and 7) with those of the lower one rooms (9 and 17). All the corner rooms (3, 6, 11, and 16) protrude beyond the outer walls and thus seems to be towers, this feature gives the building the appearance of a fortress.[1719]

Room (6), was corner room has a square plan measured 4 × 4 m, interior measurements its outer walls are situated ca. 0.5 m further the outside than the other outer walls of the building the corner room turns out to be a square tower which is set off from the outer facade of the building.[1720]

Rooms (11 and 16), were two rectangular corner rooms in the north-western side both of them 2,5 m wide, in the north-west wall of room (11) a small door opened to the outside,[1721] room (10) measured 6,5 × 14 m, its inner walls were covered with paintings,[1722] room (14) measured 6,5 × 6,5 m, followed by room (17), which measured 6,5 × 4,0 m, room (12 and 15) were two rectangular rooms, room (13) was 9,0 m long and 2,5 m wide, between rooms (12 -15), the upper floor of room (13) had a pavement made of circular cobble stones room (7) had the same type of floor.[1723]

Six such blocked doors have been uncovered so far in rooms (10-13), two of them opened to the outside: one was in the north-west wall of the room (11) and in the south-west wall of the room (10), both of them allowed access to the building from the outside. However, because of their small size, it is unlikely that they formed the main entrance to the palace,[1724] the oblong room (4) contained four ovens aligned in one row, these ovens have preserved some remains of the original floor.[1725]

Room (9) to the north-west, was a small, square room measured 4 × 4 m, the substructure of the courtyard consisted of loose sand and pebbles. In contrast, the fill underneath the floors of roofed rooms, was systematically made of a rock-hard black clay earth.

The black fill is so durable that it prevented the building from further erosion. This fact allows for a reconstruction of the building's ground plan; the walls have an average width of 1.20 m with exterior walls measuring sometimes up to 2 m, the module of the mudbricks is 40 × 40 × 12 cm.[1726]

1718 Kamlah, Sader 2008: 21.
1719 Kamlah, Sader 2003: 163.
1720 Finkbeiner, Sader 2001: 181.
1721 Kamlah, Sader 2008: 21.
1722 Kamlah, Sader 2008: 21.
1723 Kamlah, Sader 2008: 21.
1724 Kamlah, Sader 2008: 21.
1725 Kamlah, Sader 2003: 163.
1726 Kamlah, Sader 2003: 163.

Byblos / Gubla

Location: Located about 42 km north of Beirut on the eastern coast of the Mediterranean.[1727]

Coordinates: 34°11'92" N, 35°64'59" E.

Dimensions: The site is widely open on the sea (4 km from the north to the south and about 1500 m on the average width),[1728] from the (Fig. 22), we can see the site measured around 300 by 350 m and covers an area around 8 ha and it has an elliptical shape during the Early Bronze Age.

Expedition: French archaeologist Pierre Montet undertook four campaigns (1921-1924), in 1926 the commissioner of France in Syria reopened the excavations, sponsored by the Lebanese government and the French Academy of Inscriptions and under the direction of French archaeologist Maurice Dunand. Dunand excavated from 1928 until the Lebanese civil war in the 1970S, under the auspices of the Lebanese government and the Louvre.[1729]

Stratigraphy (Chronology):[1730]

- I. Period of Settlement.
    1. Mesolithic no constructions found.
    2. Neolithic.
    3. Aneolithic A and B (3900 to 3300 BC).
    4. The proto-urban transition between the Aneolithic B and the Bronze I (3300 BC)
- II. Birth of urban life (3200 to 2700 BC) duration of 500 years; (Djemdet-Nasr) Early Bronze I, construction of the first rampart walls.
    1. Period of the style called Epi (about 3300 to 3000 BC).
    2. Period of the style called Sandy (Sableux) (about 3200 to 2700 BC).
    3. Period of transition between the Sandy (Sableux) style and the dotted (piqueté) style, pre-Amorite (around 2700 BC).
- III. Development of urban life Pre-amorous (2700 to 2150 BC), 550 years, Early Bronze II-III, Period pre-Amorite known as dotted (piqueté) style (2700 to 2150 BC).
- IV. Amorite (2150 to 1730) duration 420 years; Middle Bronze I.
- V. Hyksos (1730 to 1580) duration of 150 years; Middle Bronze II.
- VI. Egyptian hegemony (colonization) (1580 to 1100 BC) duration 480 years; Middle Bronze III and Late Bronze.
- VII. Tyrian hegemony (1100 to 850 BC) duration of 250 years.
- VIII. Foreign hegemony (850-60 BC).
    1. 790 years; Assyrian (850-610 BC).
    2. Persian (610-323 BC).
    3. Greek (323-60 BC).

1727 Joukowsy 1997: 390.
1728 Lauffray 2008: 25.
1729 Joukowsy 1997: 391.
1730 Lauffray 2008: 13.

- Early Arab period (Banu Ammar).[1731]

Fortifications

It is possible to see that the city is protected by the sea cliffs in the west.[1732]By 2800 BC, Byblos was a planned city with massive walls and two preserved gates, one on the land side and other at the seaport, the city wall had a sloping glacis with cobblestones on the north exterior surface and square buttresses on the interior.[1733]

The MB fortification works at Byblos were traced during M. Dunand's excavations on both the north side of the site (from the north-western gate to the north-western corner of the Crusader Castle), in some probes carried out underneath the latter, and on the eastern side (between the Castle and the north-eastern gate).

They followed the elliptical contour of the preceding EB III city-wall and glacis on the northern, eastern and southern side, with two main city-gates: The North-Western Gate (so-called "Port Gate"), and the North-Eastern Gate (so-called "Land Gate").[1734]

Early Bronze fortifications

The northern rampart [1735] (Fig. 73 -74 -75-76)

It consists of eight defensive elements follow each other between the Castle of the Crusaders until the marine cliff; the findings allow to attribute the first Wall A to the (Sableux) sandy period (about 3200 to 2700 BC) and to attribute the wall E to the Hyksos period (1730 to 1580 BC).

First wall (A), (Sableux) sandy period (about 3200 to 2700 BC– EB II)

The wall (A) is kept continuously for a length of 33 m from the castle to 0/21, where a short return to the north beside a gate, which is an extension of a street, beyond that, the wall is destroyed, but 20 m to the west, in 1/20 a part of the same wall, only 2 m long, shows that it changed its direction slightly to join the road that is leading to the harbour.

Its foundations rest on the proto-urban stratum and, in places, rest directly on the rock, which allows attributing wall (A) to the (Sandy II).

From the north-west gate of the sea cliff, the wall is entirely conserved, it has been built directly on the rock its thickness is 2.00 m and it has been reinforced by a rectangular buttress "Redan",[1736] 1.75 m wide and protrusion 1.40 m. To the south-east of the castle wall (A), is partly covered by later works and It does not seem to have had any external glacis, at least in the recognised parts.[1737]

1731 Joukowsy 1997: 393.
1732 Lauffray 2008: 281.
1733 Joukowsy 1997: 391.
1734 Sala 2013:179.
1735 Lauffray 2008: 291.
1736 Term related to fortifications. it is a work in a U, V-shaped salient angle toward an expected attack, it can be made from earthworks or other material.
1737 Lauffray 2008: 291.

Second rampart (B) EB III[1738]

It includes wall (B) with buttresses "Redans' and glacis (C); perhaps there is a ditch between them.

A. wall (B) with Buttresses (redans) EB III[1739]

Is 4.75 m wide and has been built of limestone which cut into pieces (the average size 35 cm), its internal side has been reinforced by 13 buttresses, its height, in the best-preserved parts, reaches 7.25 m from the bottom of the foundation which rests on the Neolithic layers until the highest point in the slope. In Sq 5/20, the wall turns to the right and extends 18.00 m to the south near the north-west gate which descends towards the harbour.

The foundations rest on the rock, which slopes steeply towards the valley, all buttresses (redans) have a protrusion of 2,70 m, their width varies between 3.00 m and 3.50 m and the distance between of them reaches 10.00 m.[1740]

B. The glacis (C) EB III

The highest preserved level is 13.00 m, laid against the wall (B), has been made of small blocks of Calcareous mixed with sandy stones, is sloping away at an angle of about less than 40°.[1741]

Middle Bronze glacis in the northern fortification structure

Glacis (D)

The earliest MB (MB I) fortification work at Byblos was a cobblestone glacis, laid against the outer face of the previous EB III rampart, thus maintaining the original elliptical shape of the EB city. The MB I glacis (D) consisted of a less than 1 m wide earthen fill, with a stone cap roughly constructed with limestone and sandstone cobbles and stones, and a moderate slope less than 40°, larger blocks were used in the lower part of the glacis (up to 3 m high to the north-west), while cobbles were employed in its upper mantle.[1742]

"**Hyksos" glacis (E)**[1743] has been made during the MB II within a further refurbishing and reinforcement of the city defences, it consisted of an earthen fill of intermingled dark brown earth and sand layers, laid against the outer face of the preceding cobblestone glacis, and covered with a renewed glacis made of big kurkar (calcareous sandstone) blocks, more than 1 m wide, to form a 60°slope at the foot of the rampart, while smaller blocks should be employed in the upper courses.

The "Hyksos" glacis again followed the contour of preceding fortification lines, but it neatly differed from them in its building material (huge sandstone blocks) and technique (up to a steep

1738 Lauffray 2008: 291.
1739 Lauffray 2008: 291.
1740 Lauffray 2008: 293.
1741 Lauffray 2008: 293.
1742 Sala 2013: 181.
1743 Sala 2013: 183.

60° slope), it was at least 8 m high, and it reached an overall thickness of ca. 25 m at its base on the northern side, and 45 m on the eastern side, incorporating the pre-existing EB II-III ramparts.[1744]

To understand better the northern fortification structure, the expedition has made two sections, section (Z-Y) and (W-X). We can see in section Z-Y[1745] (Fig. 75), from left to right: two Buttresses (redans), wall B in which is based on the rock, the glacis D which is covered the massive yellow earth (its width at the base of 15.00 m) and glacis E "Hyksos".

In section W-X[1746] (Fig. 76), we can see the profile of a buttress (redan), wall B and in front of wall B is a reddish mass of earth, glacis C which is made of mixed sandy and calcareous stones (maximum size 30 cm) and the glacis E which dated to the Hyksos period.

The gates in the northern side of the Tell[1747]

Northern gate, this gate has pierced in the first wall A.

The north-western gate "Port Gate" EB III–IVA (Fig. 130)

We can see in the first phase that the path which connected the central zone to the port must have existed since the Proto-urban. At the site of the north-west gate, an anterior passage is suggested on the axis of the gate by a cut carved in the rock near the water hole of the hypogeum (tomb) of Ipshemouabi.[1748] It was 4.8 m wide and 18 m long,[1749] this cut reduces the slope of the ground and connects between the wall B and a cut rock wall, during the construction of the rampart B, this passage became a gate which is crossed through a canal. The base of its western side is well preserved. It opens on an S-shaped path.

The second phase,[1750]at the end of the S-path, the first gate was replaced by a new gate, two stairs have been converged. The first one is perpendicular to the axis of the door, descends towards the hollow of the valley, and the other is with the axis of the gate and leads towards the port, this gate continued to provide access to the city during the MB.

The eastern rampart - the northern part

Located between the castle and the Persian podium, under the castle, the rampart begins an arc of the circle towards the south of nearly 145.00 m, then it follows a level curve of the natural elevation, where there are rare remains of the first sandy rampart. This route will be preserved throughout the

1744 Sala 2013: 183.
1745 Lauffray 2008: 293.
1746 Lauffray 2008: 294.
1747 Lauffray 2008: 295.
1748 In the necropolis of Byblos, a tomb, attributed to Abishemu I, was found untouched. it contained some obsidian vases with the name of Amenemhat III. the title of "mayor of Byblos" appears on an Egyptian cylindrical seal awarded to Abishemu I. the tomb of his son, Ipshemouabi, was also unearthed. it is contemporary of Amenemhat IV. he wears the Egyptian title of "Hati-in-a-kepen" ie "mayor of Byblos." it is thanks to these discoveries we know that Byblos was designated Kbn, or Kpn Kupna by the Egyptians. six beetles confirm the use of this title by the rulers of Byblos, on one of these is mentioned "Hathor, lady of Byblos"
1749 Dunand 1961: 84.
1750 Lauffray 2008: 296.

history of the city, walls and glacis have been added together on the slopes of the mound, Contemporary structures have been found at different levels. [1751]

The north-eastern gate, state C "Land Gate" (Fig. 129)

It is a well-preserved and considered as the most monumental of all the gates of the city, it is 4.80 m wide and extends from 10/26 to 10/29, a distance of nearly 30 m, corresponding of the width of the rampart and its glacis, it is framed by two huge structures (19-3 and 4), measured 5.50 m wide, a kind of chambers. It is surrounded by walls and filled with a very compact red earth, all the shards of the furniture which have been collected in the ashes that covered the corridor of this gate dated to the Early Bronze. It continued to provide access to the city during the MB.[1752]

This gate consists of five parts, from left to right, a porch (Courtyard) 19-a (in 26/10), measured 4.80 m wide, 4.00 m deep, pavement at Z 27,45 it opens on the access stairs 19-32, has been built of large hard limestones and the pavement floor was built on a limestone block.

A first door 19-b in 26/10,[1753] at the end of the porch, stands a powerful pillar of nearly a meter of projection, 1.30 m wide and connected with the wall of corridor C, the end of the porch to beyond the pillar the floor is not paved. Two transverse channels measured (50 cm and 30 cm wide - 30 cm deep), were filled with ashes and charcoal. They have a circular base and bordered by calcined stones.

The passage 19-c (in 10/27, 28), it has the same width as the porch (Courtyard). It extends over 18.00 m long; several pillars had to carry the beams of a roof, the four sides of the passage, walls, floor and roof have been built of the wood. The second door 19 d in 10/28, has closed the end of the passage, it is similar to the first door 19 b. In the Middle Bronze, during the reconstruction of the rampart, two walls have been added to the gate; between 19-11, in 19-e, in front of the second door in 10/29, there are three steps descend from Z 27.94 to Z 27.41.[1754]

The eastern rampart - the southern part[1755]

Located between the Persian podium and the southern ravine

First (piqueté) dotted, states I and II around 2700 BC

The internal side (to the south of the Persian podium), measured 68.00 m long, it extends to the south valley, it has been built of calcareous stones, resembles that of the wall of the north rampart. The length of the outside wall measured 21.00 m, extends from 15/28 to 17/2, its width 2.00 m, it would be connected by turning over parallel to the axis of the access ramp to the old south-east gate which may not yet have been removed.

1751 Lauffray 2008: 301.
1752 Lauffray 2008: 306.
1753 Lauffray 2008: 306.
1754 Lauffray 2008: 308.
1755 Lauffray 2008: 313.

A glacis could be observed, it is made of limestone and homogeneous texture, it extends to the south for a length of 18.00 m, then turns to the west. Its height is preserved to 2.00 m. This massif is perhaps the basement of a complementary defence work built on the base of the rampart.[1756]

The south-east gate

It was covered by the pre-Amorite buildings, then by the Persian podium, a street from the pond and the temple area leads to this gate. The axis of this street was clear for 14.00 m, along the ramp, this ramp was the foundation of a staircase whose three lower steps remained in their place. This staircase was partially destroyed by the foundations of the basilica-style building, was adjacent to the wall of the rampart, the staircase measured around 8,50 m long and has 24 steps were required to reach the wall of the gate. [1757]

During the Middle Bronze, after the great fire, two coarse walls were erected on debris across the passage.

The southern rampart[1758]

In area 39 (22/23), the eastern rampart begins by a curve and becomes parallel to the southern valley, the abrupt cliff constitutes a natural defence in this region, but its height is lower than the waterfront.

These structures are less powerful than those, which has described above in the north and east, they have been restored and doubled many times as a result of landslides and then cut by the foundations of buildings have been built on unsteady embankments clad against the cliff.

Chronology of defensive elements

First wall (A), Sandy period[1759]

A simple wall without glacis has been recognised to the north-west and rarely remains to the east to the south and the west, where the defence of the city was probably assured by the verticality of the cliff more or less regularised. Wall (A) is constructed of large, rough-sized blocks similar to those used in the building foundations at the end of the sandy period. Its existence was briefly.

Second wall (B)[1760]

Wall A has been levelled and has been replaced by wall B, which was powerful and reinforced by buttresses, is dated to 2700 BC, the end of the urban development.

Glacis (C) dotted (**Piqueté- dotted I)**[1761]

1756 Lauffray 2008: 313.
1757 Lauffray 2008: 316.
1758 Lauffray 2008: 319.
1759 Lauffray 2008: 323.
1760 Lauffray 2008: 323.
1761 Lauffray 2008: 323.

It has been built in front of the wall B, perhaps between them was a ditch, the north-west gate has been refitted, the north-east gate has been constructed to replace the south-east gate, which has been disappeared. From the south, the construction of the wall and the glacis were completing the natural defence of the cliff.

Fortifications (**Piqueté- dotted II)**

The rampart reaches, at the east, 30 m wide, from the foot of the inner wall to the foot of the outer glacis. The north-east gate at this period covers the two previous phases; in this phase was extended until around 2150 BC, when it was burnt at the same time as the entire city was destroyed after the reign of Pepi II. [1762]

Tell Debbeh

Location: Located in southern Syria.

Coordinates: 32°49'35"N, 36°34'25"E.

Dimensions: It is an elliptical shape (Fig. 36) and measured 320 × 150 m,[1763] it covers an area about 4 ha,[1764] the Tell is an irregular surface, generally sloping from south to north-west, the northern edge, rises up about 10 m above the plain.[1765]

Expedition: Excavated by a Syrian team directed by Ali Abou Assaf.

Stratigraphy:

- Middle Bronze.
- Aramean.
- Hellenistic.
- Romanian.
- Byzantine.

Fortifications:

Meddle Bronze Age [1766]

Rampart

1762 Lauffray 2008: 323.
1763 Braemer 1984: 242.
1764 Braemer 1993: 158.
1765 Braemer 1984: 242.
1766 Braemer 1993: 170.

The city was surrounded by a rampart, which is pierced by a gate at the north-east side.[1767] It is erected on an artificial terrace that is 5 to 15 m wide, [1768] it is supported by a retaining wall, almost vertical to the east, more oblique to the south and to the west, where you can observe remains of the glacis, the wall has been built of uncut blocks (0.60 m). [1769]

Gate

The north-east gate has been built in the wall at the edge of a ramp, from the east to the west, its passage measured 4.20 m wide and 14 m long,[1770] among the surface materials, there are several cut flints and pottery of the Middle Bronze[1771] so probably the rampart be dated to the MB.

Tell es-Salihiyeh -Firzat

Location: Located 15 Km east of Damascus, on the north bank of the Barada River.[1772]

Coordinates: 33° 30′ 31″ N, 36° 28′ 11″ E.

Dimensions: The Tell has an elliptical shape (Fig. 38), it covers an area around 10 ha (250 × 300 m), the longitudinal axis is directed to the west. The south side of the hill is situated against the Barada Valley, it raises up 20 m above the plain.[1773]

Expedition: Excavated by Hans Henning in 1953.

Stratigraphy:

From 3000 BC until the Roman period, 12 layers have been detected.

Fortifications:

Middle Bronze Age

Level XII dated to the first half of the second millennium, the few pottery fragments have been found in these layers; they dated from the 19th century BC to the end of the 17th century BC. Moreover, remains of a surrounding mudbrick wall (P1) has been detected, it had already been erected on an older wall (P2). Between of them there is a pebble bed (Pa) up to 0.15 m wide,[1774] (P2) the older wall is 0.50 m height, built on a 0.25 to 0.35 m wide gravel at 18.50 m depth,[1775]

1767 Braemer 1984: 244.
1768 Braemer 1984: 244.
1769 Braemer 1984: 244.
1770 Braemer 1984: 244.
1771 Braemer 1984: 246.
1772 Von der Osten 1956: 1-2.
1773 Von der Osten 1956: 15-16.
1774 Von der Osten 1956: 36.
1775 Von der Osten 1956: 37.

(P1) still up to a height of 0.40 to 0.70 m, Partially of the wall (P1) was covered by a ramp (earthen rampart) (XII b1) which measured 3 m high, has been made by grey clayey soil.

The eastern profile of the rampart had been enlarged at least once (XIIb1a) to reach 2.20 to 2.30 m wide, behind the earthen rampart, a 1.20 m wide wall (XII b2) had been erected on terrace, which seems parallel to the rampart,[1776] the area between the wall (XIIb2) and the inner of the earthen rampart (XIIb1a) had been covered with an irregularly distributed thin layer of gravel, 0.40 to 0.20 m wide (XIIB).

On the gravel the wall (XIIa1), which had been not vertical on its outer facade, had been erected, this wall (XIIa1) identified as a revetment wall, which has been preserved to 5 layers (rows) of mudbrick and 1.90 m wide, was built of alternately yellowish and grey mudbricks measuring 43-44×10-11 cm.[1777] A 1.90 m wide wall (XIIa2) has been erected at a distance of 2.10 m parallel to the revetment wall on the earthen rampart; this wall is preserved to 0.90 m high, has been built of 36-39×10-12 cm mudbricks.[1778]

Behind this wall, specifically in the eastern side of the trench, there is another wall (XIIa3), also is preserved to 0.90 m high, has been found, at a distance of 1.7 to 1.8 m, which apparently ran parallel to wall (XIIa2), the large enclosing wall (XIIa2) showed all traces of a violent destruction, the entire space between it and wall (XIIa3) was filled with a powerful burning remains up to 1.20 m wide.[1779]

The same destruction features could also be identified in the space between the wall (XIIa2) and the revetment wall (XIIa1). All these walls have been destroyed at the same time. Furthermore, we can observe that in level XI another wall (XI1) has been built; it measured 2.5 m wide, was built of mudbricks; the mudbricks sizes were varying between 44-57×11-15 cm, the wall was erected on the debris of the settlement of XII,[1780] where the wall (XIIa1) in level (XII) has been used as the foundation for an outer perimeter wall of the settlement XI.

Tell Nebi Mend / Kadesh

Location: Located 25 km south-west of Homs,[1781] near to the crossing of the Orontes valley by the east-west route from central inland Syria to the Mediterranean through the Homes- Tripoli gap.[1782]

Coordinates: 34° 33′ 28.12″ N, 36° 31′ 10.56″ E.

1776 Von der Osten 1956: 38.
1777 Von der Osten 1956: 38.
1778 Von der Osten 1956: 38.
1779 Von der Osten 1956: 39.
1780 Von der Osten 1956: 35.
1781 Parr 1997: 114.
1782 Parr 1983: 100.

Dimensions: From (Fig. 35) we can see that the site has an elliptical shape, the main mound is 450 by 200 m, in extent at its base and is approximately 30 m high, it covers an area 10 ha.[1783] The slopes are generally very steep, the lower mound is a southern extension to the main, measuring approximately 450 by 300 m, and covers an area around 12 ha, it consists of two distinct parts, a northern and a southern, separated by a kind of "waist". The northern part is some 7 m high, the southern a little lower,[1784] the upper and lower city cover an area around 22 ha.

Expedition: Excavated by a French Mandatory government expedition under Maurice Pezard (1921-1922),[1785] University of London Institute of Archaeological under the direction of Peter J. Parr in 1975.[1786]

Stratigraphy:[1787]

- The Neolithic period in trench VIII, 32 m below the summit of the mound.[1788]
- Early Bronze Age.
- Middle Bronze Age.
- Late Bronze Age in trench II.
- Iron Age in trench V.[1789]
- Byzantine period.

Fortifications:

The site has a massive artificial sloping rampart with a massive casemate massive wall dated to the Middle Bronze Age.[1790] The excavations on the main mound have been concentrated in two main areas, one comprising four trenches (I, II, V, and VIII), is located on the north-eastern slopes of the mound. The other main area of excavation on the mound (trench III) is located on the previously untouched western slopes.[1791]

Middle Bronze Age

Trench I (the western extension to trench VIII),[1792]area 200; it covers a maximum area of some 15 m (east-west) by 4 m (north-south), from the exposed sections of Pézard's trench I, where a series of superimposed white plaster floors associated with substantial mudbrick walls can be seen, these clearly testify to the existence of good quality architecture, these plastered floors run, beneath the wall (Wall 1).

1783 Parr 1983: 101.
1784 Parr 1983: 101.
1785 Parr 1997: 114.
1786 Parr 1983: 99.
1787 Parr 1997: 114.
1788 Parr 1983: 105.
1789 Parr 1983: 107.
1790 Parr 1997: 114.
1791 Bourke 1993: 157.
1792 Parr 1991: 83.

(Wall 1 – Mauer X),[1793] dated to 17th century BC, was built of mudbricks on small, medium and large fieldstone foundations,[1794] it is part of a much larger structural complex (casemate) which can best be interpreted as a defensive system.[1795]

In its final state (Fig. 103), this complex (casemate) was comprised of three parallel walls (1, 2 and 8) joined by cross walls (walls 7, 9 and Y). The outermost wall is 2.50 m wide[1796] and is solidly constructed of unbaked mudbricks on a low foundation of rough stones; it is strengthened on the inside by a series of shallow buttresses, the two inner walls (2 and 8) are only 0.80 m wide, and do not normally have stone footings, the destruction or abandonment that ended occupation seems likely to have occurred late in the seventeenth or early in the 16th century.[1797]

The Enclosure

It comprises, in its present form, a flattish area of about 40 ha, about four times the size of the main mound, is situated to the south and west of the ancient city, is represented today by the Main and Lower Mounds,[1798] it is protected by a ditch some 40 m wide, adjacent to it on its inner side an earthen embankment about 18 m wide and 4 m high,[1799] two trenches have been made, (trench IX and trench VI).

Trench VI has two parts; the eastern part being (Section IA) and the western part (Section IB). From section IA, we can say the enclosure is composed of compressed reddish soil (natural lacustrine marlstone has an irregular indurated crust frequently penetrated by solution holes and root channels filled with reddish-brown soil. clay and ravel) that sometimes contains sherds of pottery dated to the Middle Bronze Age and different periods[1800]

In trench IX, is not able to distinguish natural from human-made deposits in the almost total absence of artefacts, at the eastern end between a horizontal distance of 6 and 11 m, and in the centre between c 19 and 22 m. What appears to be the indurated natural marl is sealed by a thin horizontal layer of red-brown soil sometimes mixed with pieces of marl,[1801] the inner slope of the embankment was then constructed. In the same manner, as in trench VI, with a succession of marl/clay, gravel and occasional red soil layers lying at an angle of about 30°.[1802]

1793 Parr 1983: 106.
1794 Bourke 1993: 162.
1795 Parr 1983: 106.
1796 Parr 1991: 83.
1797 Bourke 1993: 162.
1798 Parr 2015: 353.
1799 Parr 2015: 353.
1800 Parr 2015: 348-349.
1801 Parr 2015: 351.
1802 Parr 2015: 351.

Tell Kamid el-Loz

Location: It situated in the south-eastern edge of the Biqa, in Lebanon.

Coordinates: 33°37'24.8" N, 35°49'15.8" E.

Dimensions: It has a roughly elliptical shape, its slopes are flat towards the south-west and southeast, steeper in the northwest, north and north-east, from north to south the Tell has a maximal length of about 300 m and about 240 m from east to west[1803] around 5.5 ha (Fig. 96), The top of the Tell is situated at 949.8 m above sea level and ca. 26 m above the level of the Biqa'.[1804]

Expedition: Excavated by the University of Mainz, represented by Amulf Kuschke, and the University of the Saarland, represented by Rolf Hachmann, received the official permission to excavate the Tell in the spring of 1963,[1805]a German team from the University of Freiburg has conducted more recent excavations and studies.

Stratigraphy:

- Chalcolithic period.
- Early Bronze Age.
- Middle Bronze Age (MB IIA) levels 21-22.
- Middle Bronze Age (MB IIB) levels 14 to 20.
- Late Bronze Age.
- Iron Age.
- Cemetery during the Persian and Hellenistic period.
- Roman period.
- Byzantine period.

Fortifications:

The Middle Bronze II-III

In the north slope, the excavations have cleared the fortification areas (IC16, IC17, and IC18) and an area (IC14, ID14, and ID16) with Middle Bronze buildings older than the fortifications.[1806] In ID14-15, IC15- 16, IC18, IIC1 and IID1, a massive fortification wall has been detected, it measured over 2 m wide and in places is standing to over 2 m, with towers, the walls built on a foundation which is preserved up to 2 m and a compact mud (Stampflehm- Compressed clay) superstructure several times renewed, which, however, was only preserved up to a height of 0.80 m in the eastern areas, substantial collapse levels in the eastern sections of IC16 and IC17 testify to the once

1803 Marfoe 1995: 99.
1804 Marfoe 1995: 100. / Hachmann 1989: 13.
1805 Marfoe 1995: 100.
1806 Marfoe 1995: 104.

extraordinary height of this superstructure, a part of this fortification which easily could be pursued from ID 15 through IC16-18 to IIC1 and IID1.[1807]

In ID15, four levels from 20 to 17 are documented, all of them connected with the city-wall which has been disappeared in the western part of ID 15 but reappears in ID 14 confirming its continuation toward the south-west. In the east section of ID15 we can see the northern wall which was part of the building level 15 together with other walls, they represent a connected unit of rectangular rooms continuing in a slight curve until IIC1, the thickness of the walls varies between 0.70 m and 1 m, the rooms between front and back wall were 2.30-3.50 m wide,[1808] the wall built in the level 15 was preserved through level 14.

We can see on the eastern and north-east slopes of the Tell Kamid el-Loz, there is a road leads from the village to the newly built school north of the mound. In 1976, it was expanded and concreted in its southern part, the old road, which had previously followed the contours of the Tell, was straightened and moved a little farther east.

On the western edge of the road, a 4 m wide section was created on a length of 40 m, at the edge of the Tell a 4 to 5 m high drop (hole) has existed. In 1977, mudbrick or stone walls could be seen in the area between the street and the section, in the autumn of 1978, an emergency excavation was to save and documented these walls.[1809]

Excavation in squares E6, F6, F7, and G7 and from S1 to S6. (Fig. 100 -101-102)

We can see that the wall (1) is directed (north-south) and has been excavated in Sq S1, it runs approximately parallel to the profile ridge, it has been built of yellow mudbricks which measured (36×36×10 cm), this wall erected above fieldstone of fist-sized and it becomes wider and stronger towards the north, moreover, we can notice that the width of wall (2), which is directed (east-west) was 1.42 m; it has been excavated in Sq S1 and has been built of the same mudbrick as wall (1), but its foundation consists of a 25 cm wide layer of fieldstone.[1810]

Wall (3) is directed (east-west), has been excavated in Sq S2, it connects with the right angle to the wall (1) in the south, it has a stone foundation of head-sized stone, and has been built of the same mudbrick as wall (1). Also, we can observe that the width of wall (4) which is directed (east-west) was 1.50 m; it has been excavated in Sq S2, was built on stone foundation, while the wall (5), which is directed (north-south) has been excavated in Sq S2 S3 and S4, is similar to wall (4) it measured 1.50 m wide.

A stone plastered (6) has been detected in Sq S2, while the wall (7) which is directed (east-west), has been detected in Sq S4, was measured 1.50 m wide, and only its stone foundations have been preserved, which consist of shells. It is possible to notice that the shells of the foundation of wall

1807 Marfoe 1995: 104.
1808 Marfoe 1995: 107.
1809 Bertemes 1986: 77.
1810 Bertemes 1986: 80.

(8) which is directed (north-south) in the Sq S4, S5 and S6, are filled with stones mixture of medium-sized and small stones,[1811] it measured 1.30 m wide, and two layers of mudbricks are still preserved, we can see in the lower part of these layers consist of two long rectangular bricks in the format 54×36 cm, while the upper one consists of three square bricks in the format (36×36 cm).

Also, we can observe that the wall (9) is directed (north-south), has been excavated in Sq S4 and it is situated on the north of the wall (10), which in its turn has been excavated in Sq S5 and S6. Furthermore, we can notice that the area bounded by walls (7, 8 and 11) was originally built of plaster yellow mudbricks measured (36×36 cm), and the wall (11), which is directed (east-west) has been detected in Sq S6, as well as wall (12), which is directed (east-west) and it measured 1.30 m wide.

These walls have been interpreted as the outer face of the MB casemate structure as a part of the defensive system of the city,[1812] this casemate consists of long-rectangular chambers.

Tell Kazel

Location: Located in the Syrian coast, 3.5 km from the shore, 8 km north of Nahr-al Kabir al-Ganubi (ancient Eleutheros), and 18 km south of Tartous, it overlooks the al-Abrash River to the south.[1813]

Coordinates: 34° 70’80” N, 35°98’61” E.

Dimensions: It has an elliptical shape with a surface of 350 × 325 m at its base, and 200 × 200 m at its top,[1814] the Tell covers an area about 8.7 ha,[1815] (Fig. 85). Its height reaches 25 m above the level of the surrounding Akkar Plain, and 50 m above sea level,[1816] it has a flat top and sharp edges which mark the presence of fortifications around the city.[1817]

Expedition: In 1956 the Tell was surveyed under auspices of the Syrian Directorate General of Antiquities and museums by M. Dunand A.Bounni and N. Saliby, and in 1960-1962 the large excavations start in the Tell by M. Dunand A.Bounni and N. Saliby[1818] and after a lapse of 23 years, a joint expedition from the Syrian Department of Antiquities and the Museum of the American University of Beirut (AUB) resumed work at Tell Kazel in 1985. Starting with the second season, the entire concession to the site was granted to the American University of Beirut Museum under the directorship of Leila Badre.[1819]

1811 Bertemes 1986: 81.
1812 Bertemes 1986: 92.
1813 Badre 2006: 65.
1814 Badre 2006: 65. / Badre et al. 1990: 87.
1815 Bounni 1997: 275.
1816 Bounni 1997: 275.
1817 Badre 2006: 65.
1818 Bounni 1997: 276.
1819 Badre 2006: 65.

Stratigraphy:

- Middle Bronze Age.
- Late Bronze Age.
- Iron Age.
- Persian.
- Hellenistic period.

Fortifications:

Middle Bronze Age – Area III

The city was fortified by a fortification wall during the Middle Bronze Age, this wall has been detected in area III, it has been built of the stone rubble,[1820] its width is 0,80 m,[1821] and has been reinforced by a glacis is sloping away at an angle of about 45°, was made of a hard-yellow clay.[1822]

Tell Deir Khabiye

Location: Located in southern Syria, 18 km south of Damascus.

Coordinates: 33°21'37.1" N, 36°09'43.0" E.

Dimensions: It has an elliptical shape measured 310 × 220 m (Fig. 86), the highest elevation on its western edge, between 14 and 12 m high.[1823]

Expedition:

Stratigraphy:

- Prehistoric period: the oldest human settlement in this place, which dated to prehistoric period, lies below the highest elevation on the west side of the Tell.
- Middle Bronze Age: at the beginning of the 2nd quarter of the 2nd millennium BC, a strongly fortified city has been built.
- Aramaic states: a strongly fortified palace was erected on the western part of the Tell.
- From the Hellenistic, Roman, Byzantine, and Arab periods no architectural remains have been detected.[1824]

Fortifications:

During the Middle Bronze Age, the site was fortified by a fortification wall, this wall has been detected in area A, in the south side of the Tell, is preserved to 5 m high and its width measured 3-

1820 Bounni 1997: 276.
1821 Badre et al. 1990: 87.
1822 Badre et al. 1990: 87.
1823 Von der Osten 1956: 13.
1824 Von der Osten 1956: 14.

3.5 m wide, it has been built of mudbricks, also in the same area a cylinder seal has been found which dated to the first dynasty of Babylon,[1825] it is possible to see several gaps which are the position of gates in the north, east, west and south side of the Tell.[1826]

Tell Labwe

Location: Located in the south-east corner of Leja plain[1827] in southern Syria.

Coordinates:

Dimensions: It almost covers an area around 3.5 ha[1828] (Fig. 24), its altitude of 846 m, its height 8 to 10 m above the surrounding area, it is bordered on all sides by a steep with a slope of 40 to 60 degrees, this slope is a little softer on the north face of the south-east side of the mound. [1829]

Expedition: Excavated by a Syrian - French archaeological mission for the Atlas of Southern Syria.

Stratigraphy:

Early Bronze Age II -III.

Fortifications:

Early Bronze Age II-III

A general outline of the rampart can be retained: it consists of a continuous wall with an average thickness of 1.40 to 2 m has been pierced by three gates, in the south-west, in the north and in the south-east.[1830] It has been reinforced by towers and bastions, their width between 2 to 10 m. The wall is situated on the gradient line to the south, west, north-west, and most of the east side; To the north and to the northern part of the south-east sector, the wall is set back a few meters (2 to 5 m) from gradient line, the natural slope of the rock is used as a glacis, without any specific shape.[1831]

The southern wall is the most important part of the fortification, is preserved to an average height of 3 to 4 m above the surface of the site, its outer face has been reinforced by four bastions were protruded of 2 to 3,50 m and their length was between 12 to 32 m,[1832] while a series of 8 (or 9?) small massifs solid blocks were associated to the inner face of the wall, these massifs could be bases of towers with 3 to 3.5 m wide.

1825 Von der Osten 1956: 14.
1826 Von der Osten 1956: 14.
1827 Al-Maqdissi, Braemer 2006:115. Is a subset of the basaltic region which has a triangular shape (30 km on its three sides) it is formed by series of volcanic flows.
1828 Al-Maqdissi, Braemer 2006: 116.
1829 Al-Maqdissi, Braemer 2006: 116.
1830 Al-Maqdissi, Braemer 2006: 116.
1831 Al-Maqdissi, Braemer 2006: 116.
1832 Al-Maqdissi, Braemer 2006: 116.

This southern wall is doubled along its entire length by a front-wall,[1833]it is a continuous structure of terrace surmounted by a wall, it preserved of 3 to 4 m height. In the middle of the wall, there are two quadrangular constructions could be towers.[1834] To the south-east, the rampart was built around the sacred or palatial area, there are two tower bases mark the wall to the east; moreover, a bastion borders this angle to the south and partly to the east, and the north part of this wall is doubled. besides, a monumental gate gives access to this area, and to the north, near the gate, there are two large walls, which kept up to 3 m high.

Everywhere else the structure of the wall is simpler; the continuous wall is reinforced by elongated bastions at the corners of the north-west and north-east sides and on the east side of the north gate. The tower bases were erected in the middle of the west wall and the north of the east wall.[1835]

Gates

Two gates to the north and south-west give access to the residential area, while the third gate in the east seems to give access to the monumental quarter, quite distinctly separated from the rest of the urban fabric.[1836]

Northern gate (Fig. 132), its passage measured 1.90 m wide, which pass through the wall of the rampart, this gate leads to a room measured 3.60 × 2 m, then we have to turn left to reach the city.[1837] This gate opens to a street leading to the heart of the northern district.

South-western gate (Fig. 132), is more complex, it consists of a 1.5 m wide entrance, which leads to the first part of the gate (like a small room or a passage), then we have to turn left, then right and again left through a massive tower measured 15 m long and protruding 2 to 5 m on the beside the internal wall.[1838]

Eastern gate (Fig. 133), passing in the right angle through a tower, which measured 13 × 8 m, the two doors reduce the passage to 2.50 m wide, which leads to the hall measured 7.50 m long by 3.50 m wide, this hall leads to an open space of 15 ×5 m is situated opposite the rampart.[1839]

Tell Sefinat-Nouh

Location: Located about 5.5[1840] km northern Tell al-Nabi mend[1841] and about 25 km southern Homes.

1833 Al-Maqdissi, Braemer 2006: 117.
1834 Al-Maqdissi, Braemer 2006: 117.
1835 Al-Maqdissi, Braemer 2006: 118.
1836 Al-Maqdissi, Braemer 2006: 119.
1837 Al-Maqdissi, Braemer 2006: 119.
1838 Al-Maqdissi, Braemer 2006: 119.
1839 Al-Maqdissi, Braemer 2006: 119.
1840 Mousli 1986/87: 73.

Coordinates: 34°34’39.9” N, 36°32’35.6” E. [1842]

Dimensions: It has a rectangular shape 470 m by 390 m (Fig. 34), covers an area 18 ha, it rises up in the south-east 7 m.[1843]

Expedition: Excavated by the Syrian Directorate General of Antiquities and museums (DAMG) under directed Majed Mousli.

Stratigraphy:

- Middle Bronze Age.
- Late Bronze Age.
- Iron Age.

Fortifications:

Middle Bronze Age

The city during the Middle Bronze Age was fortified by an earthen rampart,[1844]it has two gates located in the north-eastern and north-western sides, the site is surrounded by a ditch;[1845] unfortunately, there is no excavation works in the fortification structure have yet been done.

Tell Sh'airat

Location: Located 34 km south-east of Homs and 40 km east of Tell Nabi-Mand, is situated at the western edge of the Syrian steppe (Badiyat al-Sham), in a marginal zone beyond the limit of rainfed cultivation.[1846]

Coordinates: 34°29'19"N, 36°56'53" E.

Dimensions: The settlement consists of the upper and lower city which has a circular shape, covers an area 25 ha (Fig. 11); the diameter of the upper city is 225 m, while the diameter of the lower city is 580 m.[1847]

During EB IVB, the city has been extended two times, during the first extension the circular city became larger, to covers an area of about 96 ha its diameter 1100 m, that make it, the largest city in the western part of Syria during EB IVB.

1842 Mousli 1989/90: 300.
1843 Mousli 1989/90: 300.
1844 Mousli 1986/87: 73.
1845 Mousli 1986/87: 74.
1846 Mouamar 2016: 71.
1847 Mouamar 2016: 74.

In the second extension, the city has been extended toward the east; many buildings foundations are visible up to a distance of 355 m to the east of the rampart IV, they dated to the EB IVB.[1848] The city with this extension could cover an area of 130 ha.[1849]

Expedition: It was first introduced in 1928 by Comte du Mesnil du Buisson, then was excavated by the Syrian mission of Mishrifeh-Qatna under directed Mr Al-Maqdissi 1992. 2004 and 2006 Syrian mission of 2007.[1850]

Stratigraphy:[1851]

- EB III-IVA - Sh'airat IV.
- EB IVA1 - Sh'airat III A.
- EB IVA2 - Sh'airat III B.
- EB IVB1 - Sh'airat II A.
- EB IVB2 - Sh'airat II B.
- Byzantine - Sh'airat I.
- 19th century - Sh'airat 0.

Fortifications:

Both of the upper and lower city have been fortified by a rampart, where the upper city was fortified by 3 m wide rampart is pierced by 8 gates at least their width is 3 m,[1852] the lower city was fortified by 4 m wide rampart, which is built directly on virgin soil, its circumference 1784 m,[1853] it was built of large blocks, sometimes exceeding 1 m long and 5 m wide, the rampart has been reinforced by at least 47 buttresses (redans), distributed in a regular distances about 30 m, moreover, two buttresses were flanked the gates, they have a rectangular shape measured 7 to 8 m long and 2.50 m wide.[1854]

10 gates have been recognised, they are regularly spaced all around the rampart II, with an average distance 180 m between them, the remains of some gates are very clearly visible on the surface of the site.

The city has been extended two times, we can see that to the east and to the south of the city, where have been revealed the existence of two walls that protect the extension of the city, the third rampart is located 100-120 m to the east of the second rampart, it follows a circular path parallel to that of first and second ramparts is visible only to the east and the north-east of the city, it is built of large

1848 Mouamar 2016: 76.
1849 Mouamar 2016: 77.
1850 Mouamar 2016: 72.
1851 Mouamar 2016: 81.
1852 Mouamar 2016: 74.
1853 Mouamar 2016: 75.
1854 Mouamar 2016: 75.

stone blocks,[1855] this rampart is preserved to 482 m long and its average width is 4 m, dated to EB IVB.[1856]

The fourth rampart measured 5 m wide, is located to the east of the third rampart and south-west of the city, it fallowed a circular line, and it has never been completed,[1857] its radius about 550 m, dated to EB IVB.[1858]

Tell al-Sür

Location: Located on the western edge of the Syrian steppe, about 42 km north-east of Homs, 27 km east of Tell Mishrifeh/Qatna and 2 km from the small village of al-Sankari.[1859]

Coordinates: 34°48'53.9" N, 37°09'47.0" E.

Dimensions : The first city dated to the 3ed millennium BC, it has an almost elliptical shape, is located in the northern part of the site, measuring about 380 m from the east to the west and 280 m from the north to the south. It covers an area of approximately 9.5 ha (94,822 m^2) (Fig. 13).

The second city dated to the 2nd millennium BC (Fig. 33), it covers the entire area of the site 29 ha, it has a rectangular shape, measured 617 m in length and 525 m in width.[1860]

Expedition: It was first introduced in 1944 by Mr L. Burkhalter, who gave a brief description of it. Then, in 1953, Father M. Tallon visited the site several times and resumed the study: he made a precise description of it and published a general topographical plan. In 1978, Mr Al-Moussli, Former director of the Homs Antiquities Department, visited the site and did a rough survey by collecting fragments of ceramic on the surface of the Tell, which allowed him to give an approximate dating of the site.

Then, in 1984, a search was carried out by a Syrian mission under the leadership of Mr al-Moussli during three campaigns from 1984 to 1986, in 2005, the Syrian mission of Mishrifeh/Qatna carried out an archaeological survey of the site as part of the prospecting of the Mishrifeh/Qatna region.

In 2007, according to an aerial photograph taken, Mr al-Maqdissi succeeded in distinguishing the existence of two cities on the Site of Tell Al-Sür.

The Syrian mission 2009-2010 based on this important data which have collected on the general organisation of the site, a Syrian mission was formed to study the Tell al-Sür site under the leadership of Mr al-Maqdissi and Mr Mouamar.[1861]

Stratigraphy:

1855 Mouamar 2016: 75.
1856 Mouamar 2016: 76.
1857 Mouamar 2016: 77.
1858 Mouamar 2016: 76.
1859 Mouamar 2013: 95.
1860 Mouamar 2013: 97.
1861 Mouamar 2013: 96.

The excavations and archaeological surveys carried out on the site have confirmed the presence of a first settlement which dated to the middle of the 3rd millennium BC, two major phases of urbanisation have been distinguished; they dated respectively from the Early Bronze IV and the Middle Bronze.

The site also witnessed limited occupations in the Late Bronze, Iron II and a small agglomeration of agricultural character in the Byzantine period.[1862]

The Stratigraphy of Tell al-Sür:[1863]

- al-Sür VIII, Early Bronze III-IV.
- al-Sür VII A, Early Bronze IV A1.
- al-Sür VII B, Early Bronze IV A2.
- al-Sür VI, Early Bronze IV B.
- al-Sür V, Middle Bronze I.
- al-Sür IV, Middle Bronze II.
- al-Sür III, Late Bronze.
- al-Sür II, Iron II.
- al-Sür I, Byzantine.

Fortifications:

Tell al-Sür presents an exceptional case to study the transition between the circular city of the third millennium and the rectangular city of the second millennium BC.[1864]

The first city Early Bronze Age (Fig. 13)

The city of the 3rd millennium BC is surrounded by a stone rampart; its remains are visible on the surface of the site. According to the topographical plan, it is possible to notice there are four gaps have pierced the rampart; they are the location of gates. This city probably has lasted throughout the second half of the third millennium, like the other identical settlements on the edge of the Syrian steppe.

Sondage (Sounding) B, was made in the south-western part of on the rampart, this survey uncovered part of the rampart of the elliptical city of the Early Bronze Age, which is built directly on virgin soil, and has been built of large blocks of stone, sometimes exceeding 1 m long and 40 cm wide. It is preserved over seven courses of 2.60 m high, the width of this rampart exceeds 4 m, a layer of 0.60 m is directly on the virgin soil and contains typical shards which allow us to date this rampart to the Early Bronze IVA.

That means the city of the third millennium is characterised by a rampart built of stone and probably surmounted by raw of mudbricks that have disappeared: this rampart is very similar to that of Tell

1862 Mouamar 2013: 100.
1863 Mouamar 2013: 113.
1864 Mouamar 2013: 99.

Sh'airat (located 41 km south-west of Tell al-Sür). By the type of blocks used, the technique of construction, and by the width.[1865]

The second city, **Middle Bronze Age** (Fig. 33)

The entire city of the Middle Bronze Age was fortified by several elements: where it was surrounded by ramparts, usually composed of enormous earth-levees reinforced by several external ditches, from 8 m to 35 m wide, there are also several gates have pierced the ramparts, we can see that the western gate is the largest one. The interior topography of the site is dominated by a high city which is situated in the northern part of the Tell, around to it there is a fortified structure has a rectangular shape which measured (100 × 90 m), the remains of several large walls of blocks are observable at the surface of the site.[1866]

In addition, a huge fortified structure was built at the south-east corner of the site, which has a rectangular shape measured (100 × 75 m), which raises up 10 m above the bottom of the ditch, its walls are visible, which are preserved over several meters. This structure is characterised by its strategic position in the south-east corner, which allows of the perfect control of the entire plain. Because of its elevation, the structure had to serve not only as a defence or command centre but as an observatory.[1867]

According to the sounding B, which has been made in the south-western part of on the rampart, we can say that the Middle Bronze rampart was built above the Early Bronze city, which served as the foundation for the 2nd millennium city.

Khirbet el-Umbashi

Location: Located in southern Syria, about 80-83 km south-east of Damascus. [1868]

Coordinates: 33°3′7″ N, 36°57′36″ E.

Dimensions: It covers an area about 10 km,^{2} it is divided to three distinct and adjacent sectors called: the northern sector, southern sector and western sector,[1869] from (Fig. 23) we can see that the walled city covers an area 4 ha.

Expedition: The site was discovered in 1857 by C. Graham, and studied by L. Dubertret "geologist", M. Dunand and A. Barrois "archaeologists", in a mission of a few months in 1933.[1870]

In 1991 Syrian-French mission started excavations in the region under directed Frank Braemer representative the French side and Ahmed Farzat Tarqji director of the Syrian side and representative of the Directorate General of Antiquities and Museums of Syria.[1871]

1865 Mouamar 2013: 99.
1866 Mouamar 2013: 99.
1867 Mouamar 2013: 99.
1868 Braemer et al.1993: 416.
1869 Braemer et al.1993: 416.
1870 Braemer et al.1993: 416.
1871 Braemer et al.1993: 416.

Stratigraphy:

- Chalcolithic period.
- Early Bronze Age I / II.

Fortifications:

The rampart was built at the end of the 4th millennium, the date was obtained from the charcoal of the soil which has been taken from the north rampart and gave a chronological range between 3328 to 2930 BC, with a maximum probability between 3289 and 3048 BC,[1872] a wall of the rampart can be followed to the north, to the east and to the south of the city, on a length of nearly 1000 , which enclosed an area about 4 ha,[1873]

The rampart is a composite and complex structure that includes the following elements: a wall, square or circular towers, rectangular bastions, a gate has been identified to the southern side of the site.[1874]The wall is heterogeneous work (dimensions and design), where its width measured between 2 to 15 m, in the north-eastern corner we can see that the rampart has preserved most of its structures and its width reach 17 m, moreover, the bastion is still rising on 7 courses and 3 m above the external level.[1875]

This defensive system consists of five sectors (the north-west sector from VS4.01 until VS 4.06) – (The north-east sector VS4.07 until VS4.11)- Dams in north-east corner of the site (from VS4.09 until VS1.02) -(The east sector from VS1.03 until VS1.06) -(the south-east sector from VS1.07 until VS2.03) and (the south-west sector VS3.07).

North-west sector (Fig. 114)

A fortification wall has extended from VS4.01 until VS4.06, which measured 3.50 to 4 m wide and can be followed more than 160 m long, it has been built of blocks of bullous basalt their average dimensions are (70×60×40 cm),[1876] two bastions (VS4.02 and VS4.05) were built over the original wall, these two bastions are distinguished from the ancient wall by their dense basalt blocks.

The bastion (VS 4.02) is 22 m long and 7.50 m wide, it was built at a distance from the solid wall, only its exterior cladding is neat, while inside the bastion the blocks are not arranged to form a homogeneous face. The bastion (VS4.05) measured (25×8.50 m) and has been built of blocks of bullous basalt on the edge of the basaltic cliff.[1877]

North-east sector

1872 Braemer et al. 2004: 39.
1873 Braemer et al. 2004: 39.
1874 Braemer et al. 2004: 39.
1875 Braemer et al. 2004: 41.
1876 Braemer et al. 2004: 41.
1877 Braemer et al. 2004: 41.

There is a section of a solid wall with double siding (VS4.07); the average thickness of the wall is 2.30 m, runs along the edge of the cliff above the wadi. It is constructed of blocks of medium size (45×30 cm), it is preserved on a maximum of 8 courses, on a 12 m long.[1878] Moreover, we can see a square structure (VS4.11), measured 10 ×10 m, is built on the slope to dominate the wadi.[1879]

North-east dam and associated structures

In the north-eastern corner of the site, a structure that is quite original seems to combine the elements of rampart and dams, to the west from this structure, there is a set of collapsed walls, was partly destroyed by the floods of the wadi. We can notice that the main wall (VS 4.09),[1880] is directed almost north-south, and turn to the south-west, no doubt it was connected with square structure (VS 4.11), its width is 2.20 m on at the summit and more than 4 m at the base.

It is tripled by two walls on its west and east sides, to the east, a vertical cladding consisting of very large blocks retains a mass of filling blocks and soil, its thickness varies from 4.50 m to 6 m, in the west, we have an identical system, almost vertical and reinforced to the central wall over a thickness of 1.70 m.[1881]

The northern structure on the left bank, has extended from the west to the east; in the west, a wall (VS1.01) is 1 to 1.50 m wide,[1882] this wall connected with a triangular structure [1883] to the west (base 11 m, height 12 m), it has an earthen core, packed clay mixed with pebbles, to the east a continuous wall is dominated the wadi, appears to have been partially reinforced by a bastion measured (26×10 m), which is extended it to the north, there is a circular tower in the north-east corner of the wall.[1884]

Dams[1885]

We can observe to the east, on the right bank of the wadi, the following elements: a quadrangular tower, the last element was built towards the east and an earthen embankment (VS1.02), which constitutes a veritable artificial dam installed on the edge of the small cliff overlooking the wadi, its width at the base is 17 m, its thickness at the top of the cliff is 1.50 m and its length at 50 m, a volume of more than 1500 m^3 if one appreciates the lands accumulated in the slope at above the wadi, it has been built of clay mixed with pebbles. [1886]

To the east there is a tower, it is a solid mass, measured 10 m wide, and its length is preserved to 11 m, has extended to the north-south. This gives it a square appearance that probably does not correspond to the original form, that was to be more elongated, probably 15 m, the eastern wall of

1878 Braemer et al. 2004: 42.
1879 Braemer et al. 2004: 44.
1880 Braemer et al. 2004: 45.
1881 Braemer et al. 2004: 45.
1882 Braemer et al. 2004: 45.
1883 Braemer et al. 2004: 45.
1884 Braemer et al. 2004: 45.
1885 Braemer et al. 2004: 48.
1886 Braemer et al. 2004: 49.

the tower is preserved to 6 m high, while the western wall is preserved to 1 m high, it has been built of irregular blocks measured (130×70, 100×70, 70×70 cm).[1887]

The southern walls on the right bank of the wadi followed the contour of the cliff's edge the large wall (VS4.09) is built of very large blocks (150×100×60 cm on average).[1888]

East sector (Fig. 115)

From the north to the south, there are five elements of successive walls,[1889] the first one is the wall (VS1.03), which is located at the north of the eastern sector, it measured 1.90 m high, it has been built of small blocks measured about (60×40×50 cm, on the average),[1890] this wall was reinforced to the west by a kind of glacis, measured 5 m long and 1 m wide.[1891] We can see to the south of this wall a circular tower (VS1 04), with 14.90 to 15.50 m diameter and its walls are preserved to 3.10 m high and 3,20 m to 3,50 m wide, the external side has been built of large blocks (82×64×54 cm on the average), while the interior side was built of smaller blocks (60×45×30 cm on the average) is associated with the wall (VS1.05) to the south.[1892]

Moreover, the wall (VS1.05) was reinforced by a large bastion (VS1.06), which has a trapezoidal shape, we can observe that its total width in its north part is 7,70 to 7.80 m and in its southern part measured 6 m up to about 7,50 m, while its total length is 28 m.[1893] The southern wall of the bastion is preserved to 8 squares (approximately 2.60 m high) it has been built of fairly regular blocks measured (100×70×40 cm). In the northern part of the bastion is a small room with ill-defined contours (about 3×1.50 m) is accessed via a small corridor to the west,[1894] while a large room measured (3.80×over 4 m) is occupied the southern part of the bastion.[1895]

South-east sector

We can notice that to the south of bastion (VS1.06), there is a wall has an average width of 2.40 m, it was built of blocks (60×40×40 cm),[1896] and to the west we can see the original wall (VS2.01) measured 5 to 12 m wide, inside of it spaces could be rooms, and the narrower wall is 1 to 1.50 m wide.[1897]

1887 Braemer et al. 2004: 49.
1888 Braemer et al. 2004: 50.
1889 Braemer et al. 2004: 51.
1890 Braemer et al. 2004: 51.
1891 Braemer et al. 2004: 51.
1892 Braemer et al. 2004: 51.
1893 Braemer et al. 2004: 56.
1894 Braemer et al. 2004: 56.
1895 Braemer et al. 2004: 56.
1896 Braemer et al. 2004: 57.
1897 Braemer et al. 2004: 58.

We can observe that the narrower wall is associated with the city gate which measured 2 m wide[1898] (Fig. 127), it has been flanked by two projecting towers of 2.50 m; moreover, it has closed by a slab measured (1.50×1.10 ×0.20 m). [1899]

South-west sector

The entire south-west sector of the rampart has been obliterated or destroyed by village,[1900] but the most visible element to the north is a quadrangular construction (VS3.07), which has called the citadel by the expedition during the first excavation campaign (Fig. 151), because at first sight, it seemed to be part of the initial fortification, it measured 19 m long and 15 m wide, and its walls measured 2.40 m wise, they are preserved up to 4.50 m high to the west.[1901]

Architectural analysis and relative chronology

Architectural analysis reveals at least four main phases in the life of the rampart:[1902]

The first phase, a single wall with a thickness of 1 to 5 m to has been built the north. While in the south, this construction of the wall is much more irregular, its thickness from 5 to 15 m,[1903]it seems that from this first phase, a dam was associated with the rampart structure, while in the second phase, four rectangular bastions have been built on the original wall. To the north and the east, their length ranges from 22 to 30 m, their width from to 10 m. The east side includes a larger interior room. These bastions are built of blocks of basalt.[1904]

In the third phase, we can see in the south, a wall measured 1 to 1.50 m wide has been added, it has been pierced by a gate with a direct passage, closed by a series of basalt slabs, flanked by two projecting towers of 2.50 m, finally, in the fourth phase, a circular tower has been added to the wall in the eastern sector.[1905]

1898 Braemer et al.1993: 422.
1899 Braemer et al. 2004: 58.
1900 Braemer et al. 2004: 58.
1901 Braemer et al. 2004: 59.
1902 Braemer et al. 2004: 60.
1903 Braemer et al. 2004: 60.
1904 Braemer et al. 2004: 61.
1905 Braemer et al. 2004: 61.

FIGURES

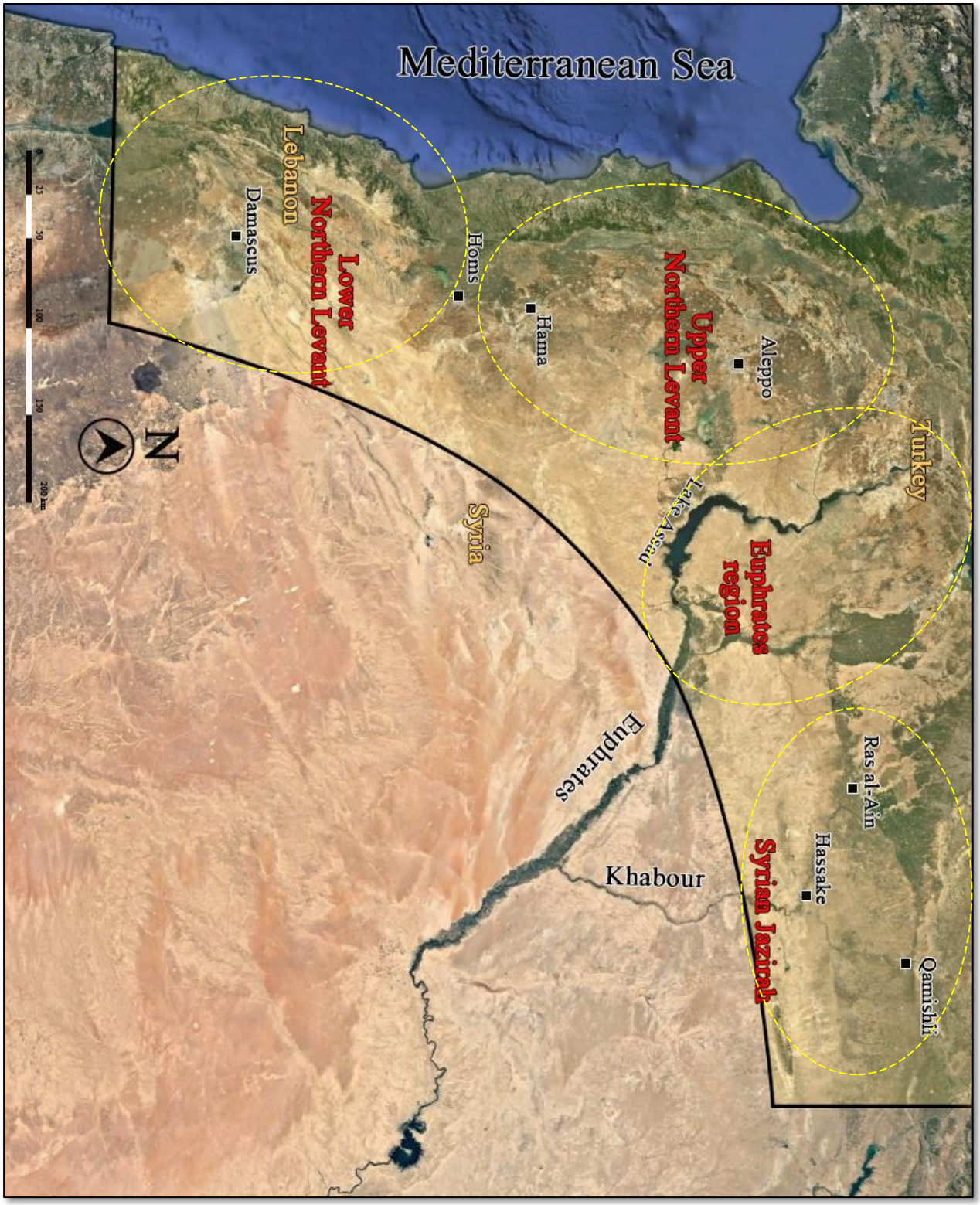

Fig. 1: The regions of the study, (Euphrates region, Syrian Jazirah, the Upper and Lower Northern Levant), (Google Earth).

Fig. 2: The spread of fortified sites in the regions of the study during the EB and MB, (Google Earth).

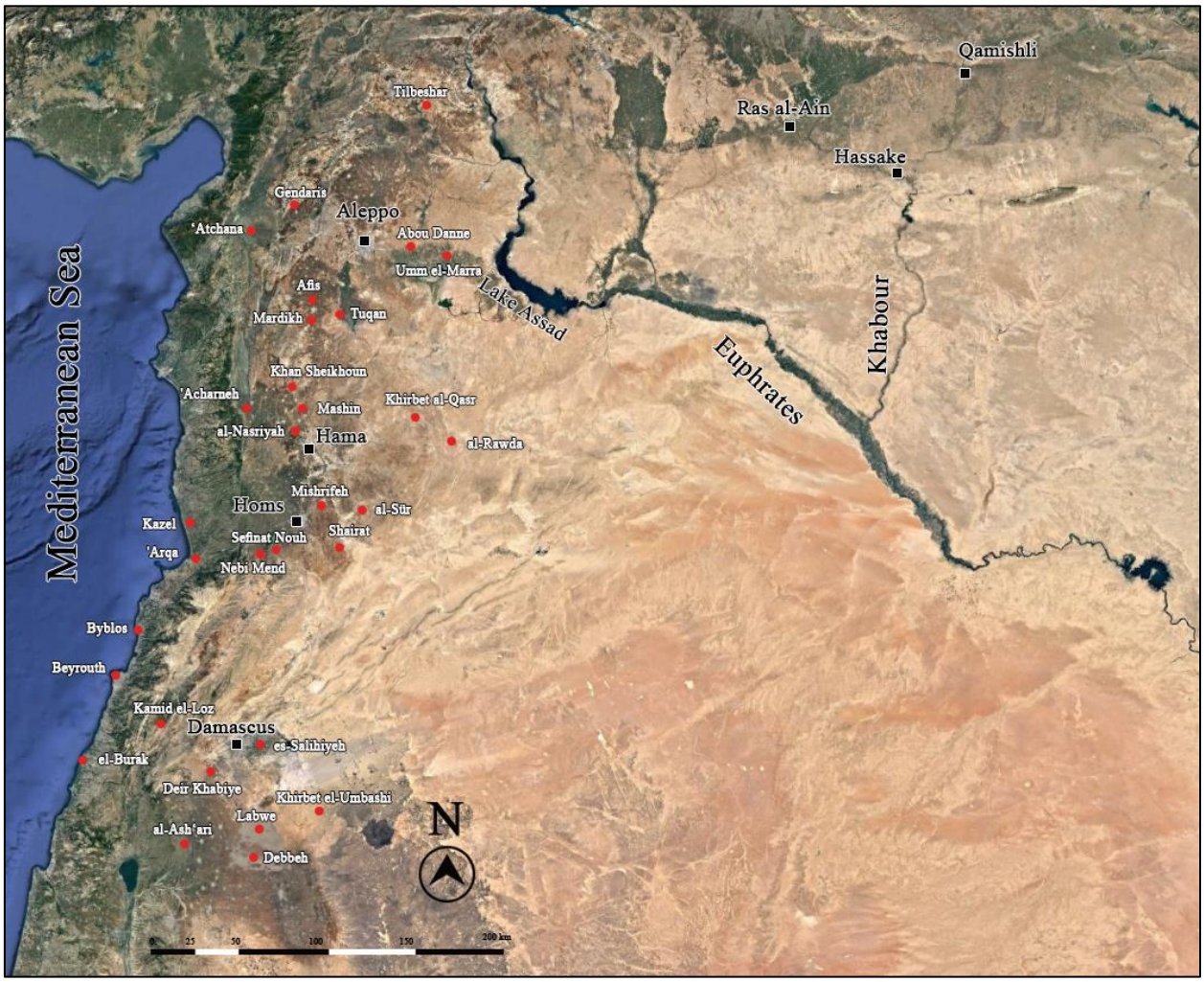

Fig. 3: The spread of fortified sites in the Upper and Lower Northern Levant during the EB and MB, (Google Earth).

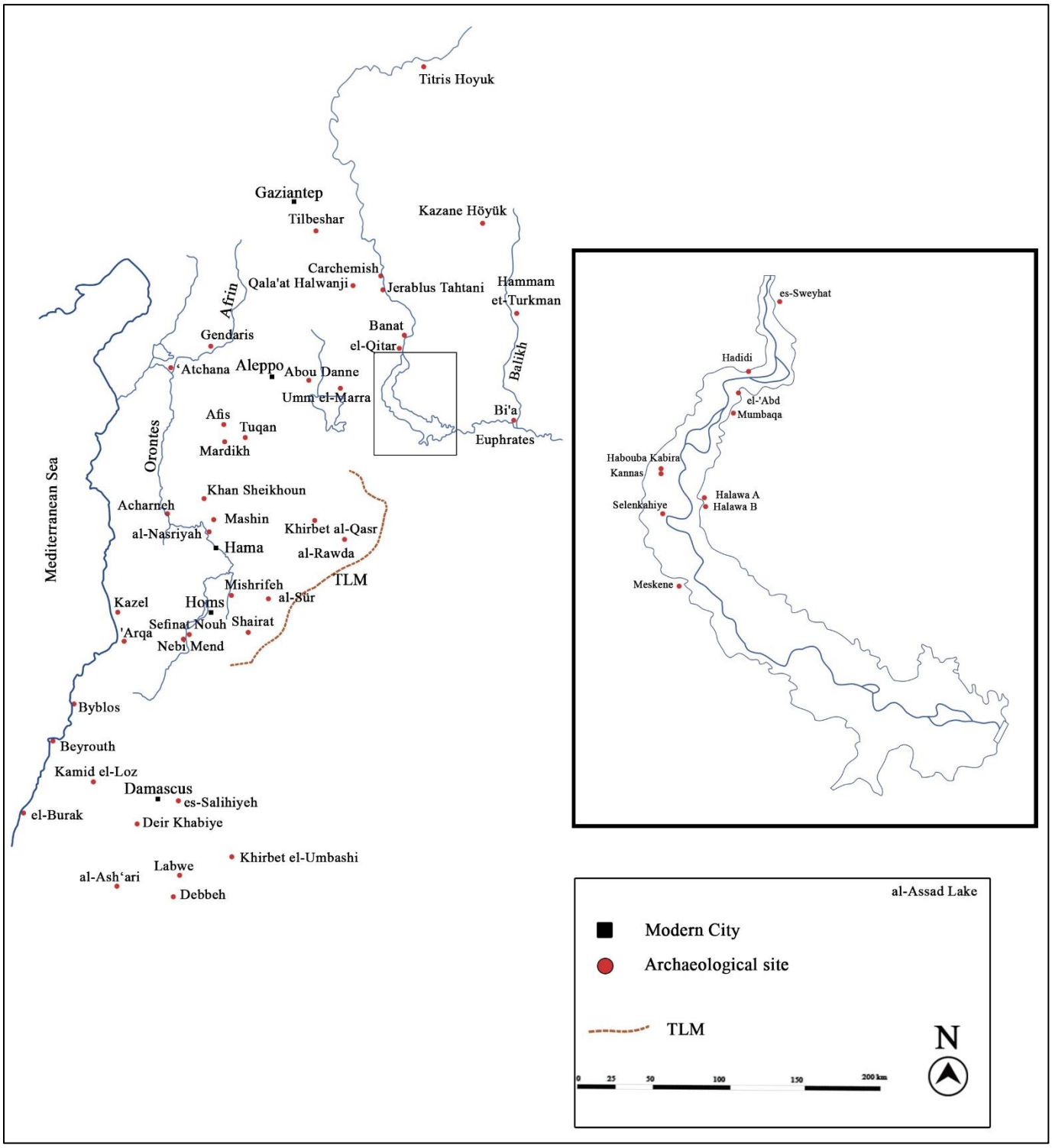

Fig. 4: The spread of fortified sites in the Euphrates region, the Upper and lower Northern Levant during the EB and MB, drawn by the student according to (Steiner, Killebrew 2014: 279,293,417,435). / (Finkbeiner et al.2015: 10).

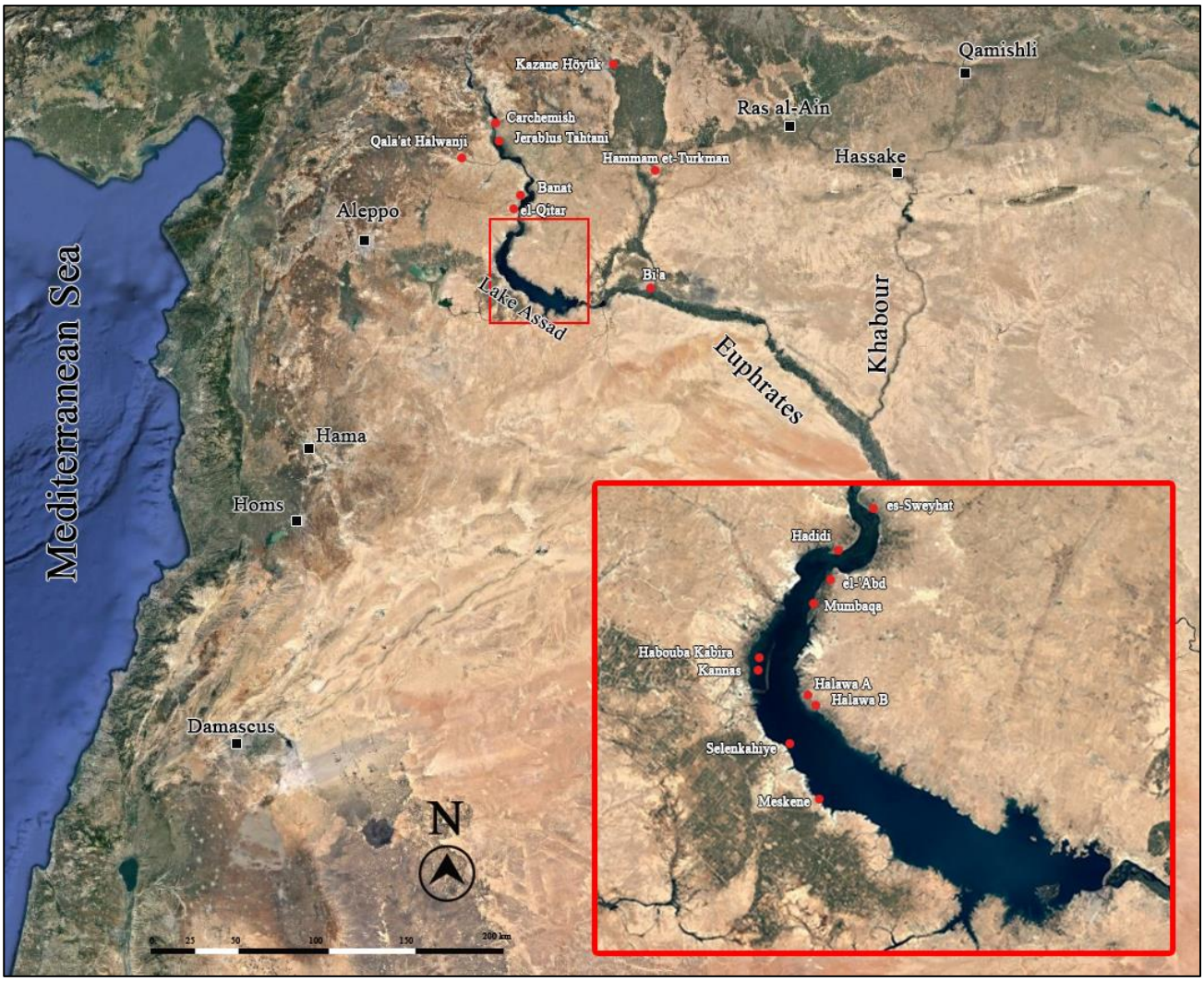

Fig. 5: The spread of fortified sites in the Euphrates region during the EB and MB, (Google Earth).

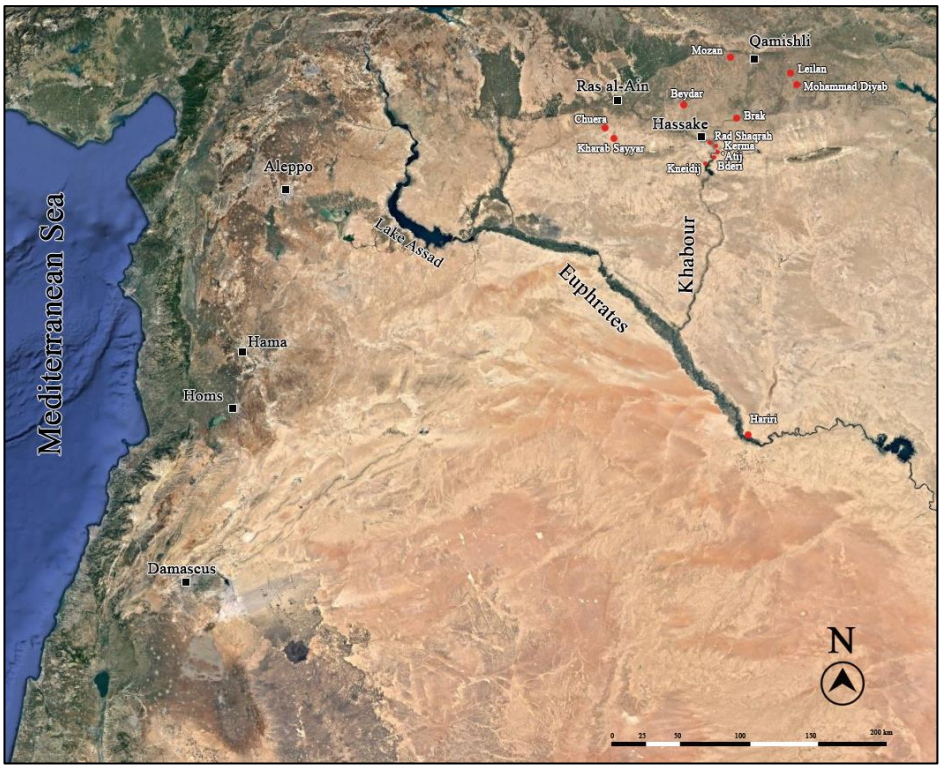

Fig. 7: The spread of fortified sites in Syrian Jazirah during the EB and MB, (Google Earth).

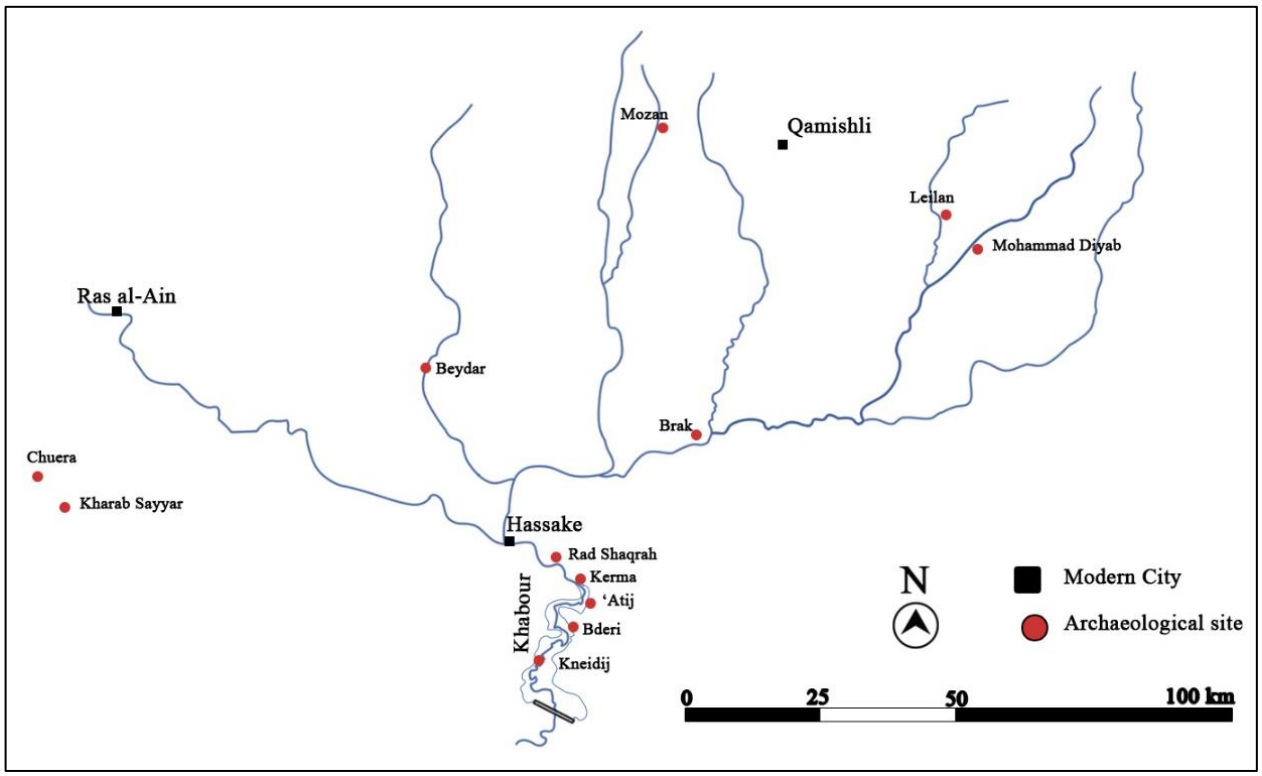

Fig. 6: The spread of fortified Sites in Syrian Jazirah during the EB and MB, drawn by the student according to (Lebeau et al. 2011: 4, 7, 8, 20).

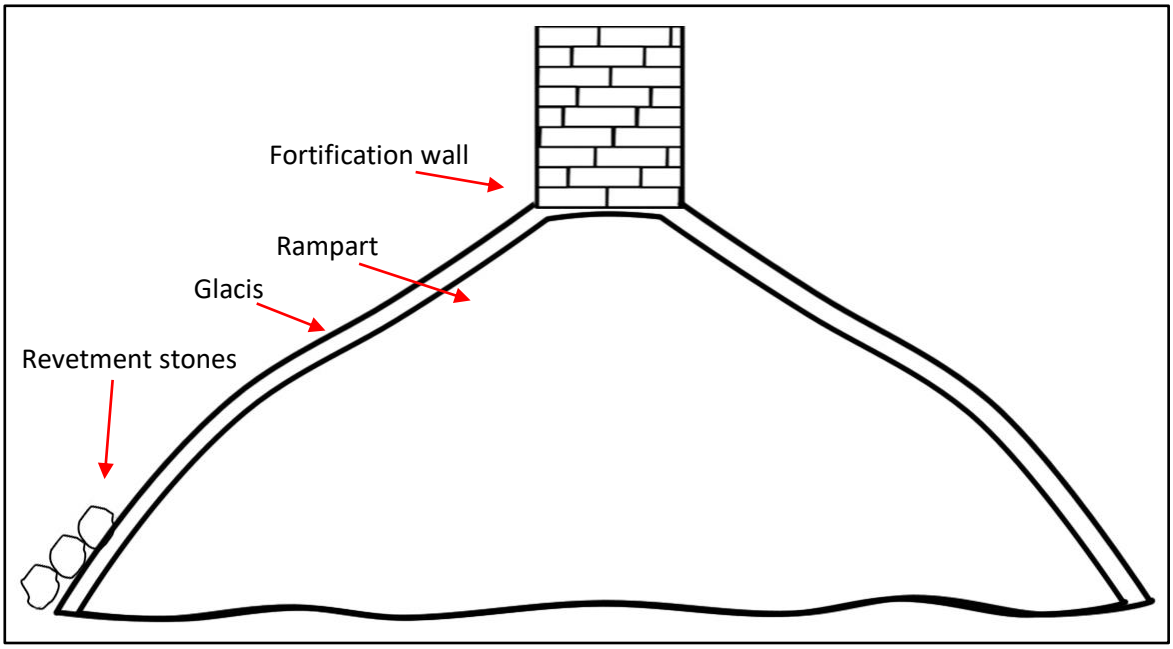

Fig. 8: Freestanding rampart, drown by the student according to (Burke 2004: 97).

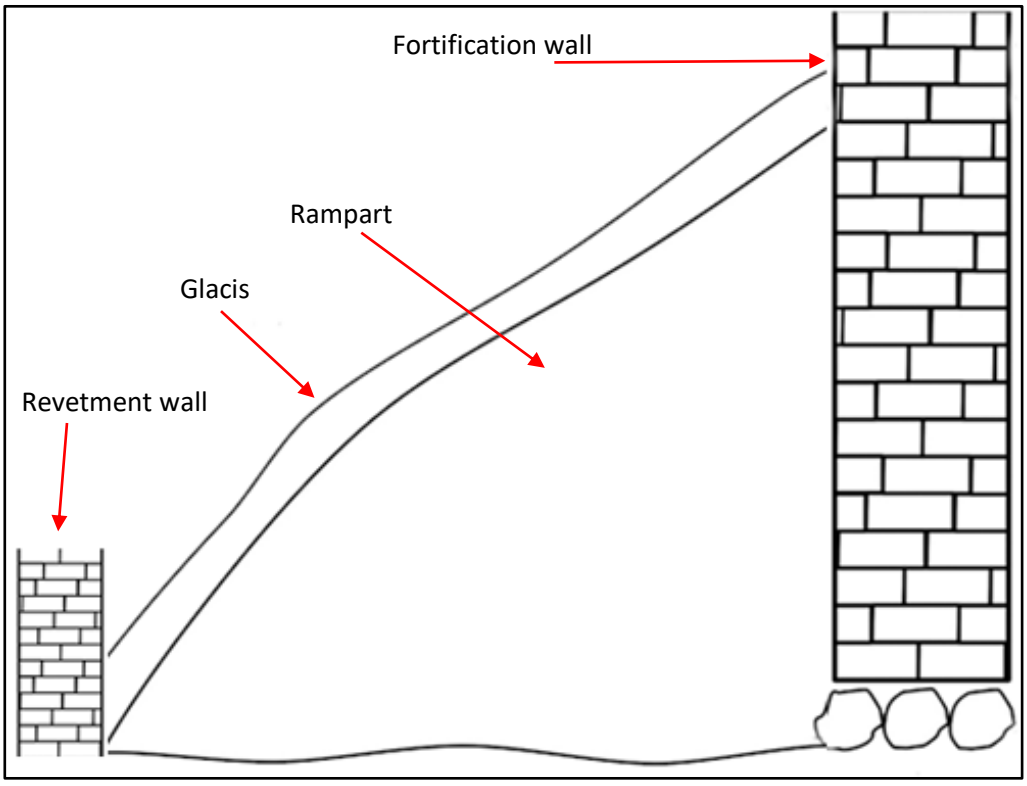

Fig. 9: Supplemental rampart, drown by the student according to (Burke 2004: 97).

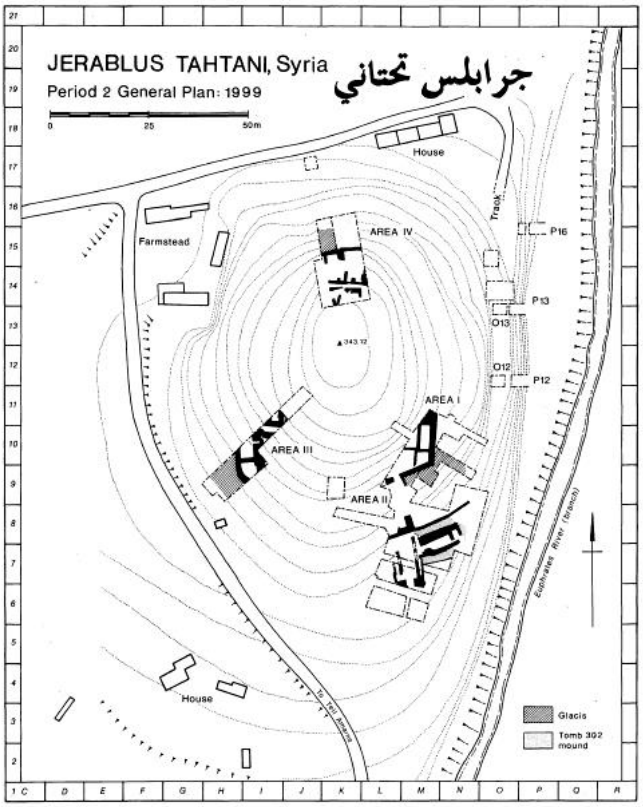

Fig. 10: Plan of Tell Jerablus Tahtani (Peltenburg et al. 2000: 54).

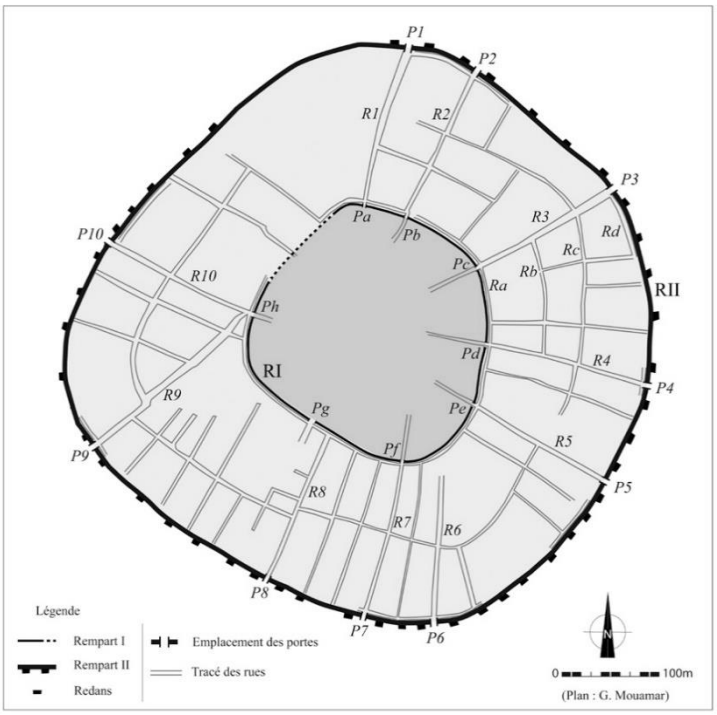

Fig. 11: Plan of Tell Sh'airat (Mouamar 2016: 95).

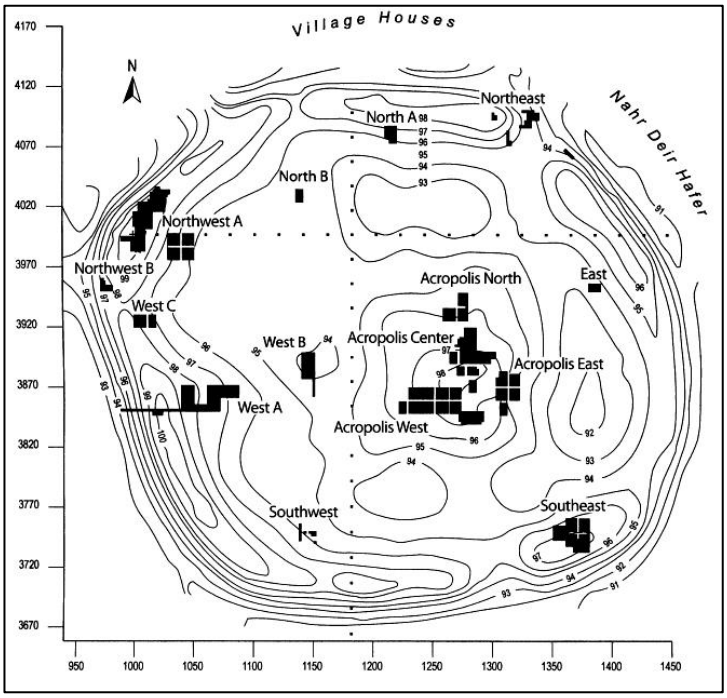

Fig. 12: Plan of Tell Umm el-Marra (Schwartz 2012: 158).

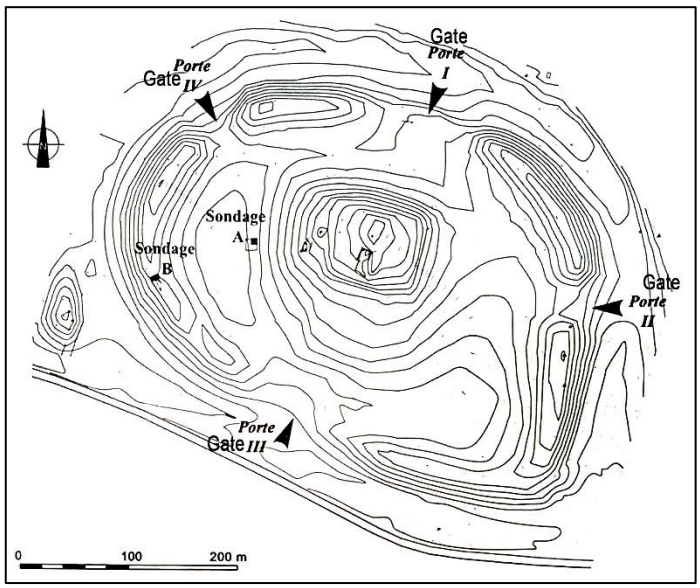

Fig. 13: Plan of Tell al-Sür (EB city) (Mouamar 2013: 109).

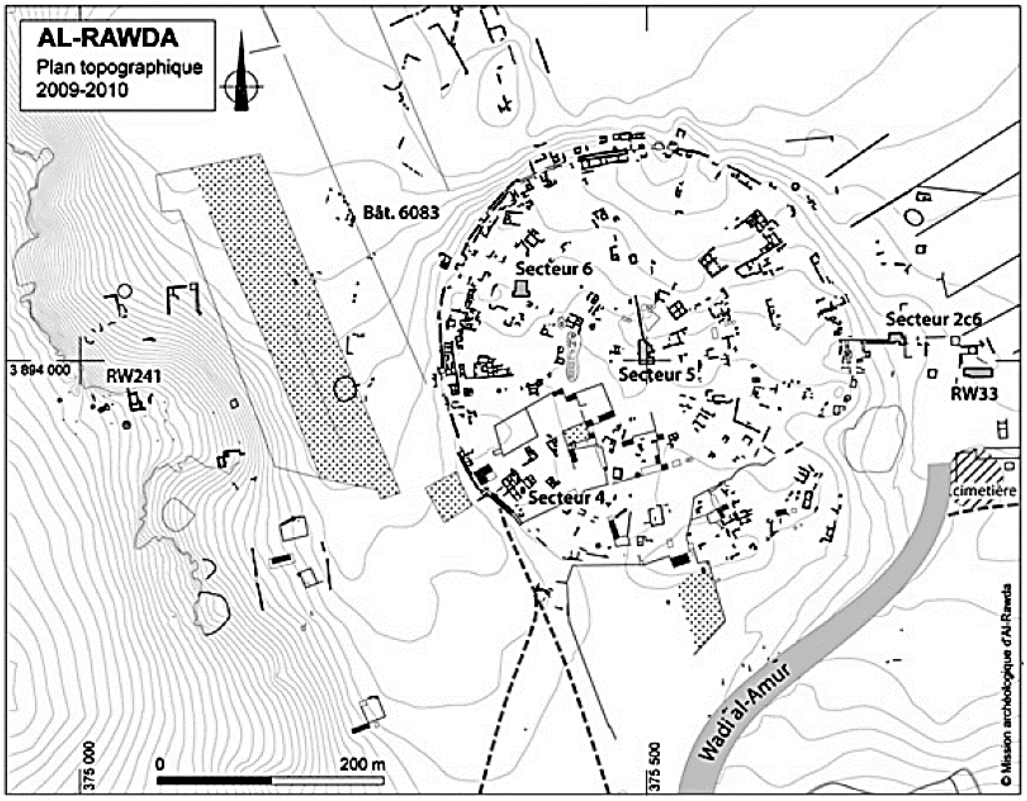

Fig. 14: Plan of Tell al-Rawda, (Castel et al. 2014: 8).

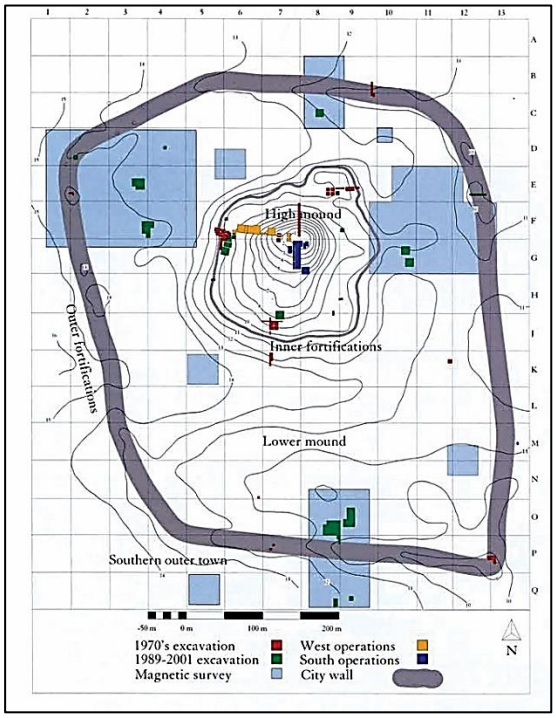

Fig 15: Plan of Tell es-Sweyhat
(Danti, Yettler 2002: 38).

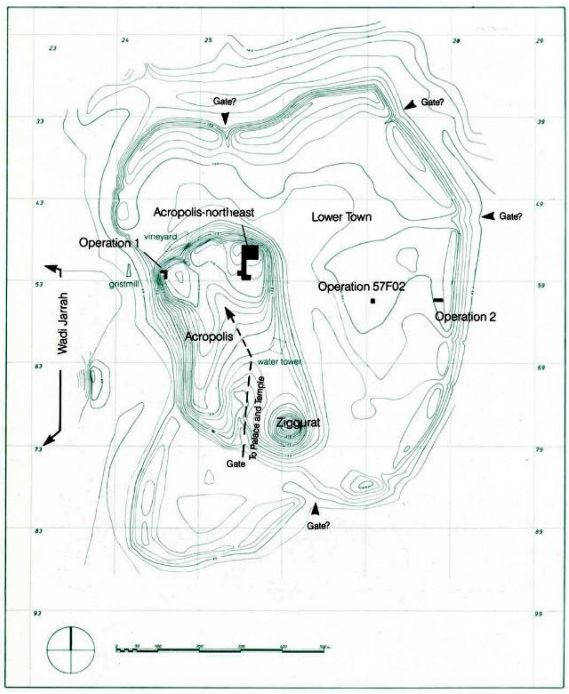

Fig 16: Plan of Tell Leilan
(Weiss 1985: 7).

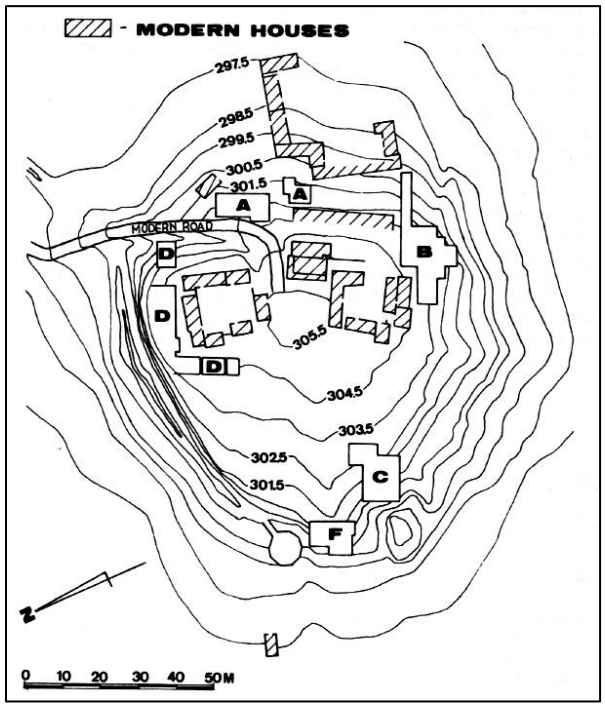

Fig 17: Plan of Tell Rad Shaqrah, (Lawecka 1998: 84).

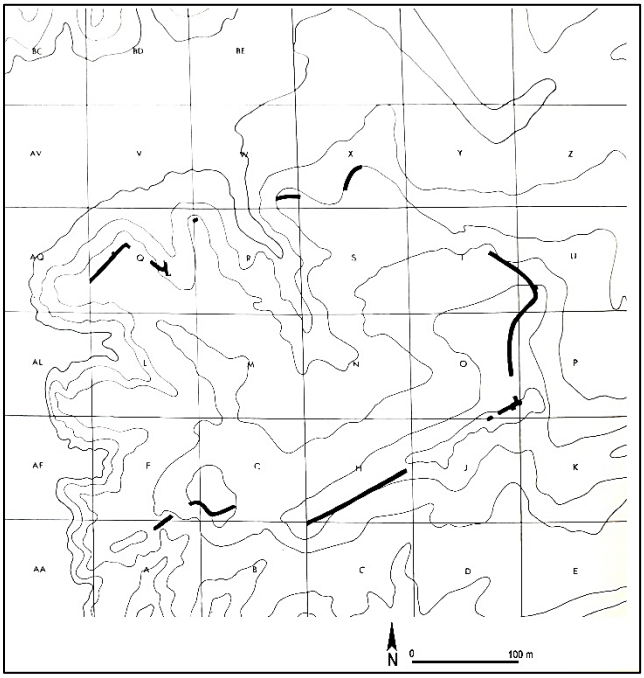

Fig 18: Plan of Tell Halawa A, (Orthmann 1989: 12).

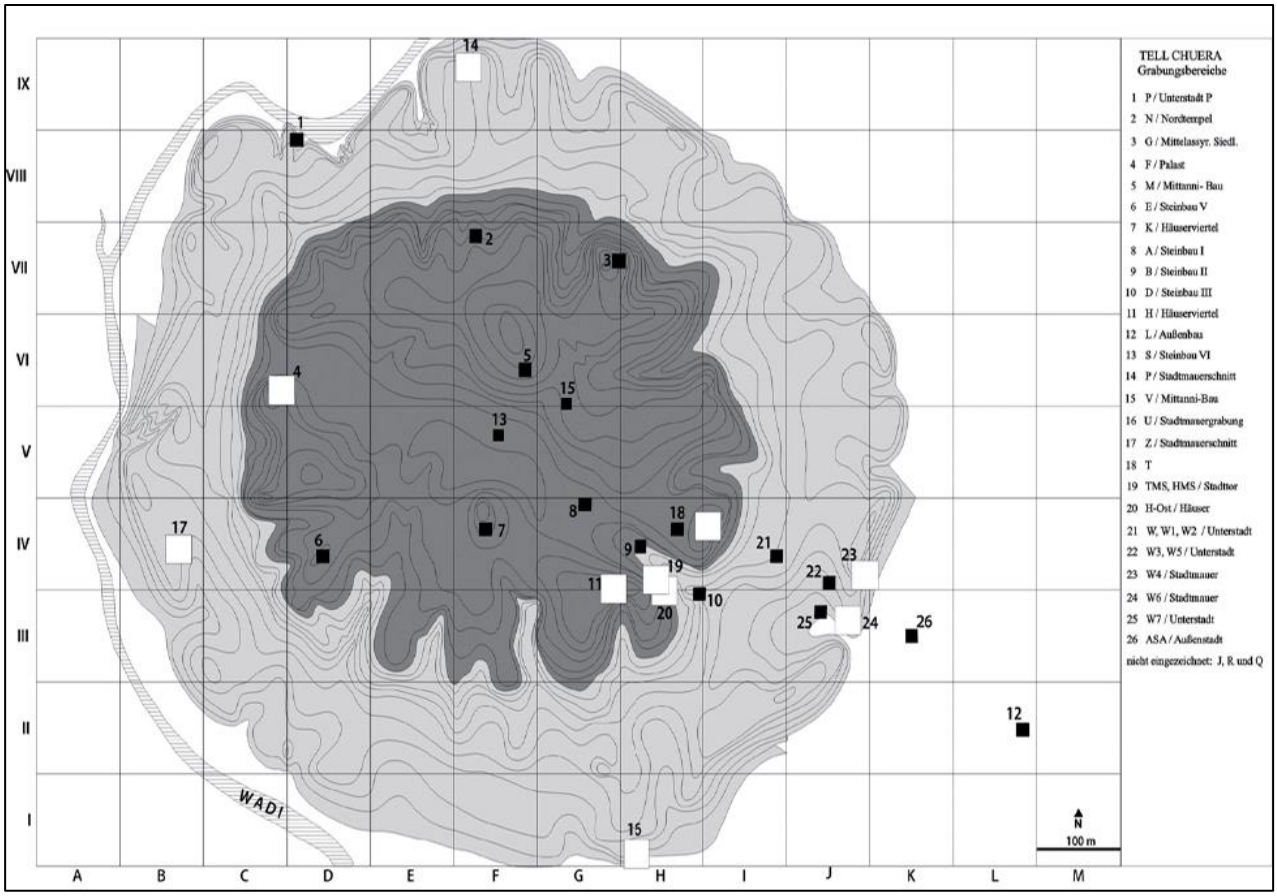

Fig 19: Plan of Tell Chuera, (Helms 2018:352).

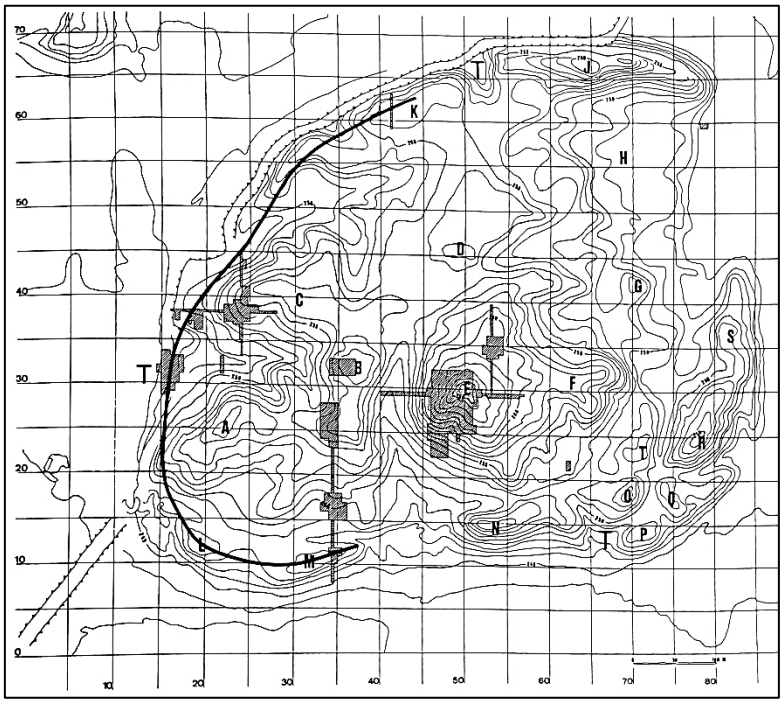

Fig 20: Plan of Tell Bi'a
(Miglus, Strommenger 2002: TAFEL 5).

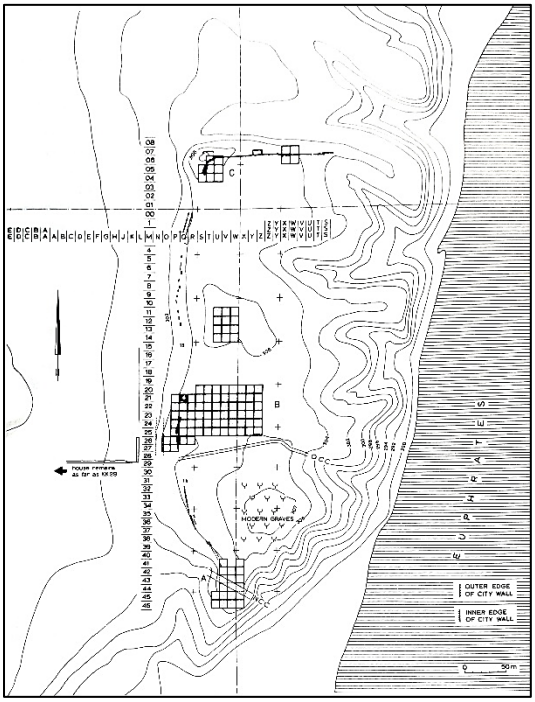

Fig 21: Plan of Tell Selenkahiye
(Van Loon 2001: 3.29).

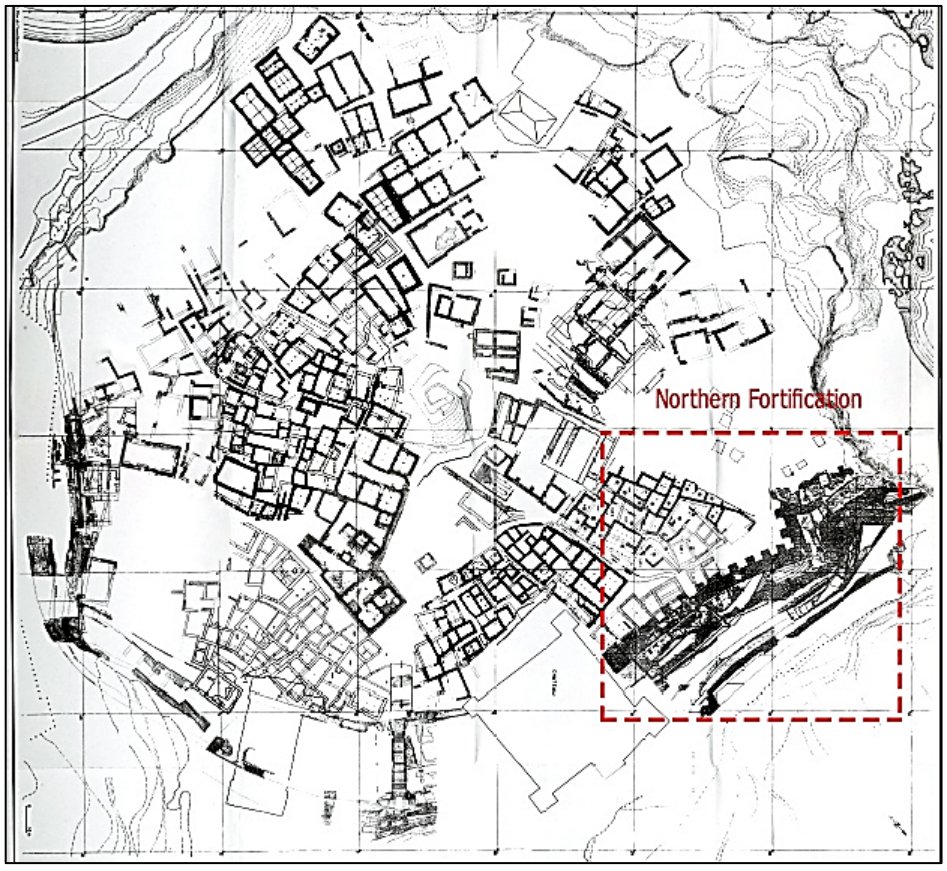

Fig 22: Plan of Byblos, (Lauffray 2008a: Atles Plan 4).

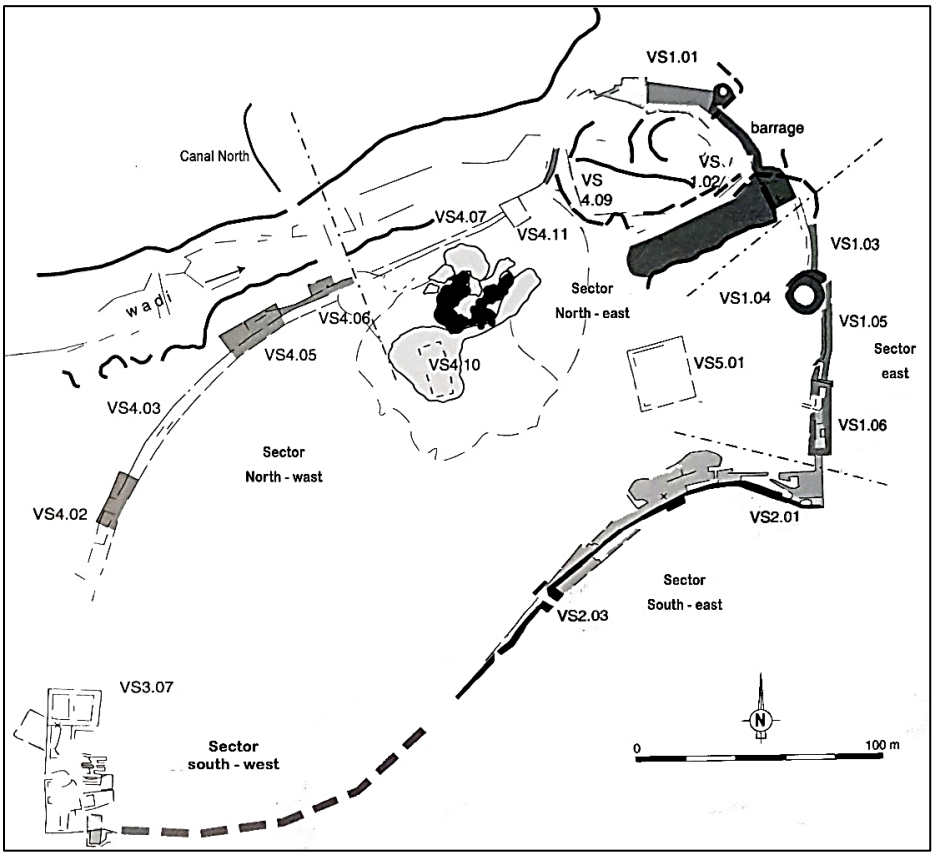

Fig 23: Plan of Khirbet el-Umbashi, (Braemer et al. 2004: 40).

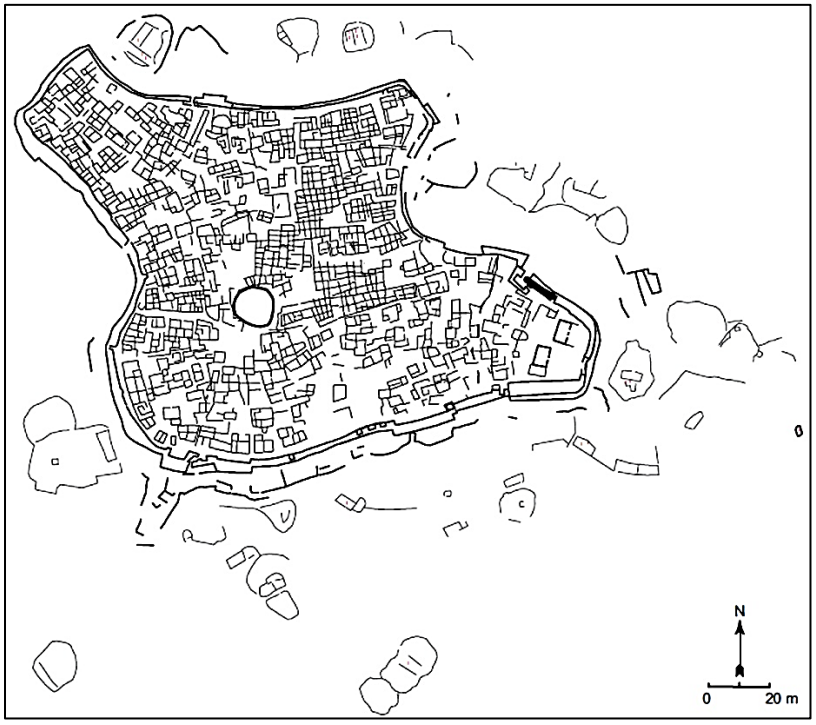

Fig 24: Plan of Tell Labwe, (Al-Maqdissi, Braemer 2006: 117).

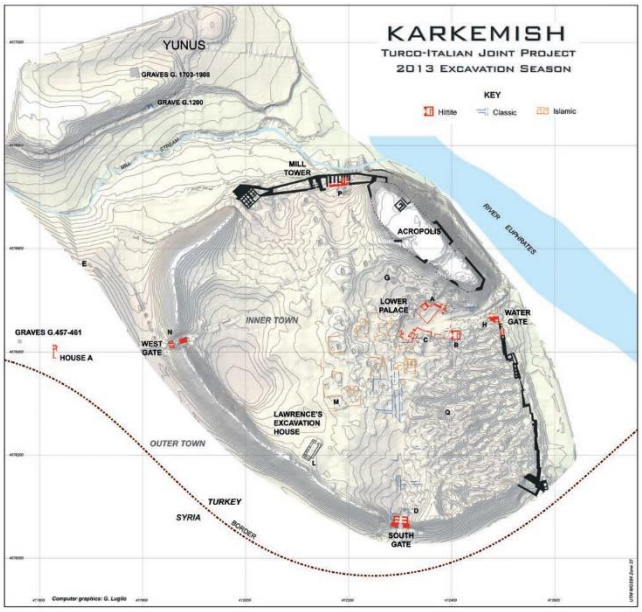

Fig 25: Plan of Carchemish, (Marchetti 2014a: 22).

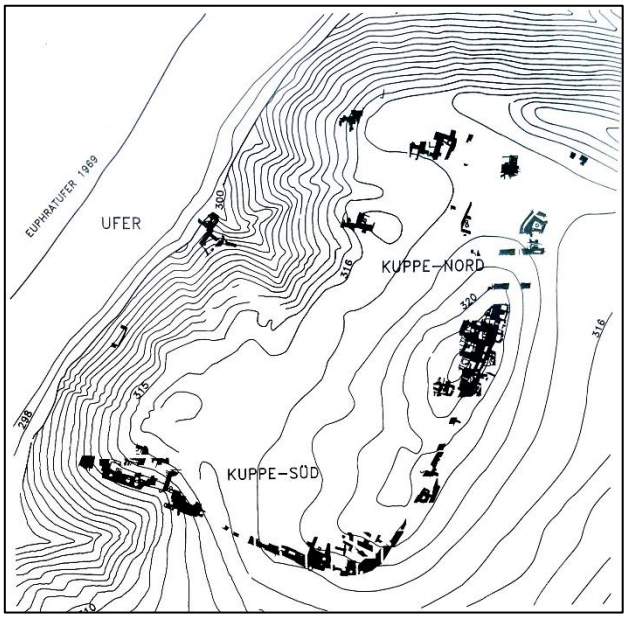

Fig 26: Plan of Tell Mumbaqa, (Werner et al. 1998: 39).

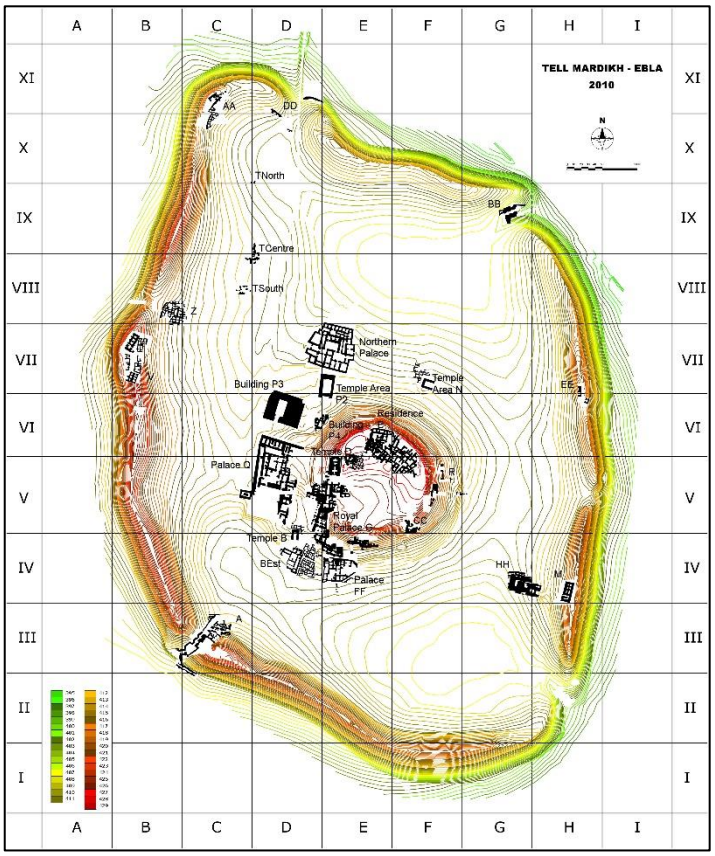

Fig 27: Plan of Tell Mardikh / Ebla (Ebla's expedition office).

Fig 28: 3D Plan of Tell Mardikh/ Ebla (Drawn by the student).

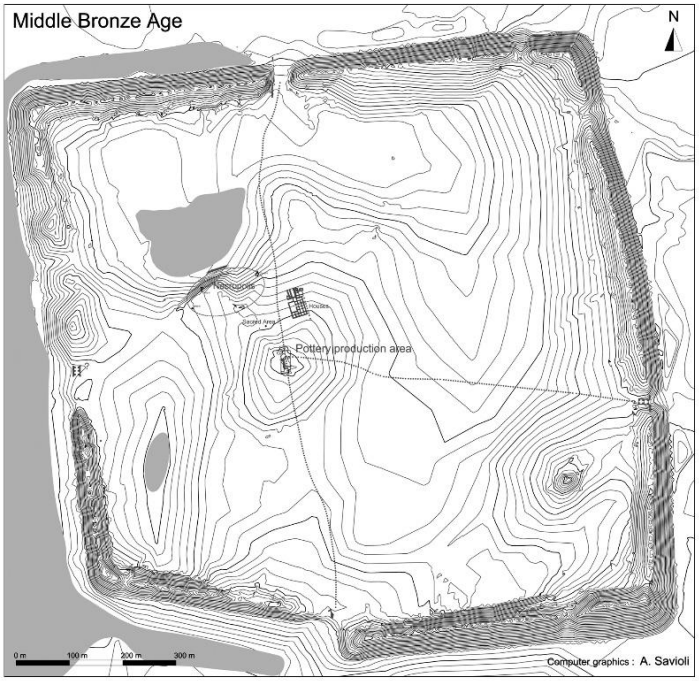

Fig 29: Plan of Tell Mishrifeh /Qatna (Bonacossi 2014: 291).

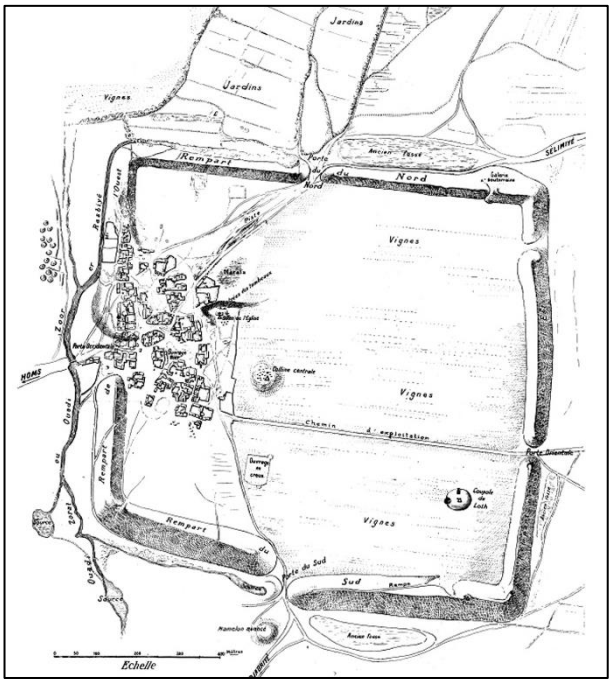

Fig 30: Plan of Tell Mishrifeh /Qatna (Du Mesnil du Buisson 1926: PLXL1X).

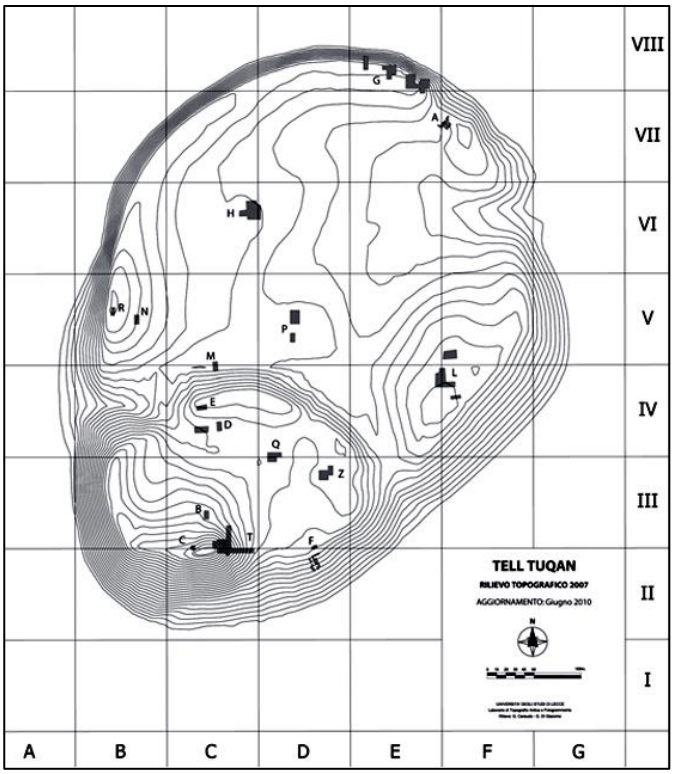

Fig 31: Plan of Tell Touqan, (Baffi 2013: 203).

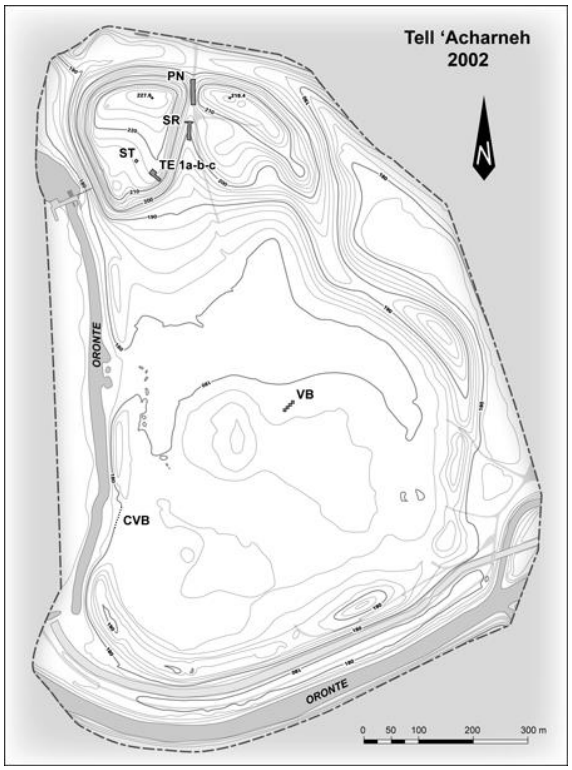

Fig 32: Plan of Tell 'Acharneh, (Fortin 2006: 10).

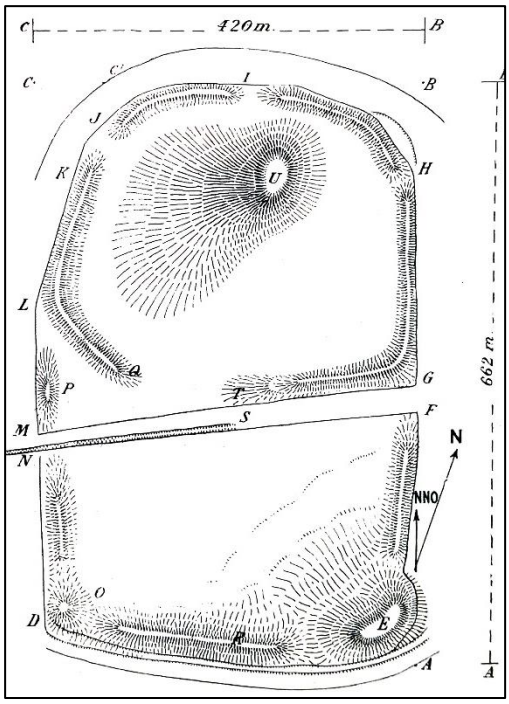

Fig 33: Plan of Tell al-Sür (MB city) (Mouamar 2013:107).

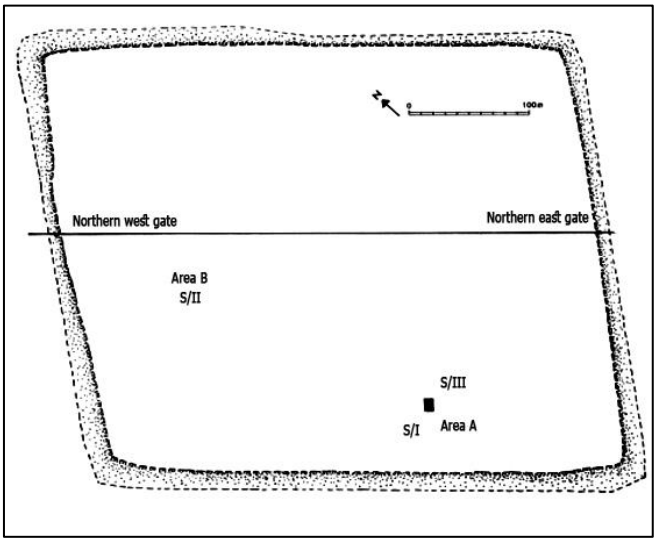

Fig 34: Plan of Tell Sefinat-Nouh (Mousli 1989/90: 301).

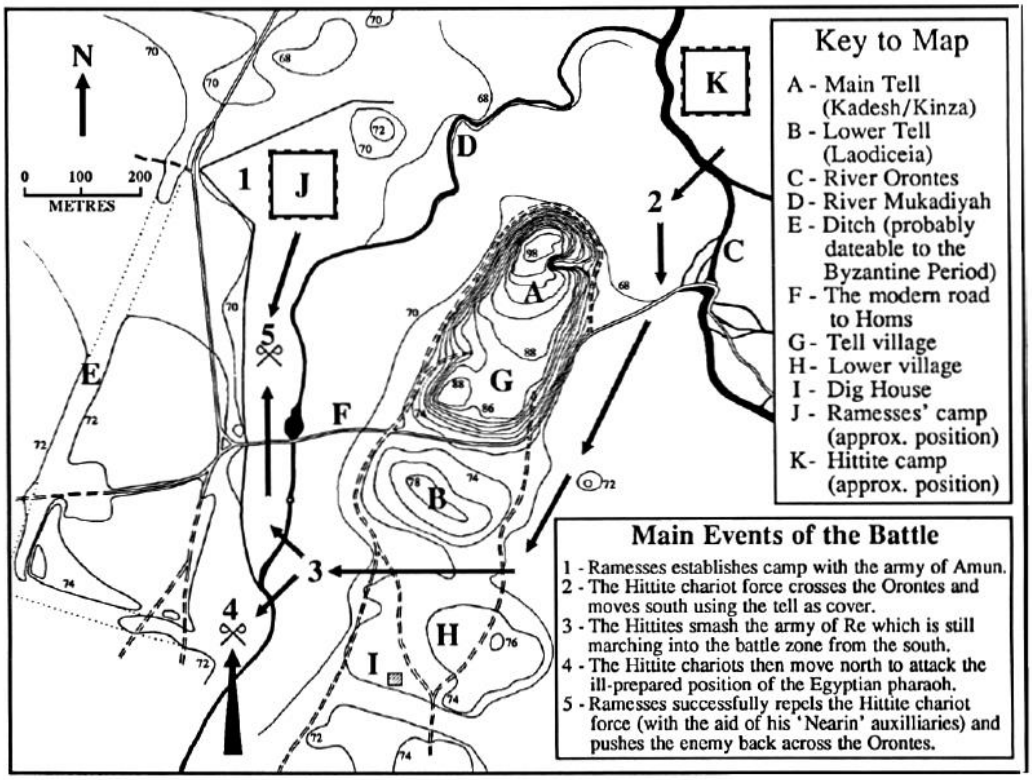

Fig 35: Plan of Tell Nebi Mend/ Kadesh, (Parr 1991: 79).

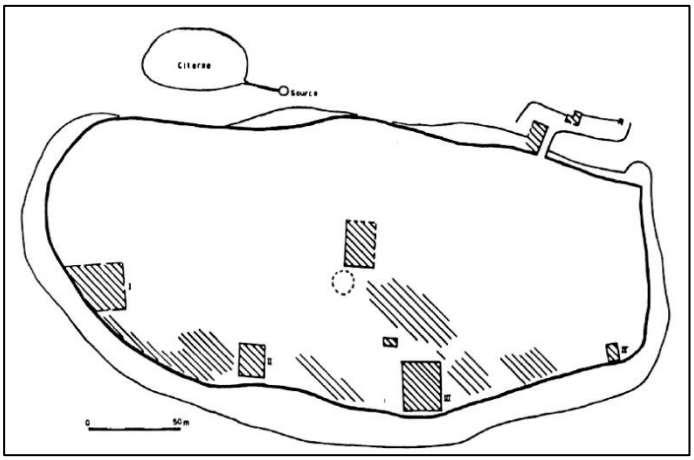

Fig 36: Plan of Tell Debbeh
(Braemer 1984: 237).

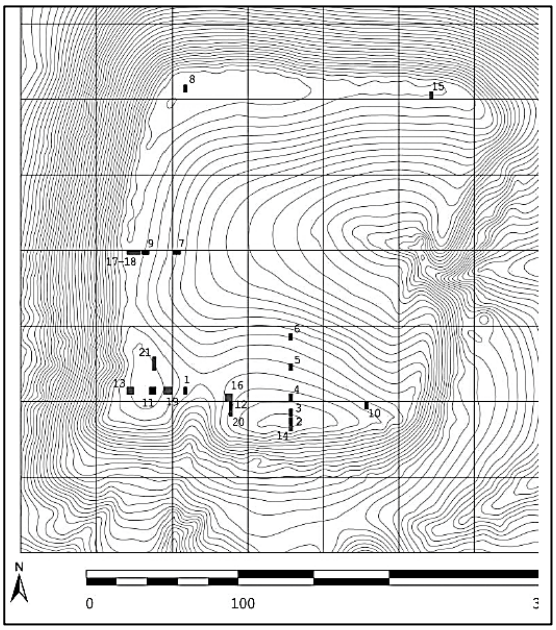

Fig 37: Plan of Tell Qala'at Halwanji
(Eidem 2013: 17).

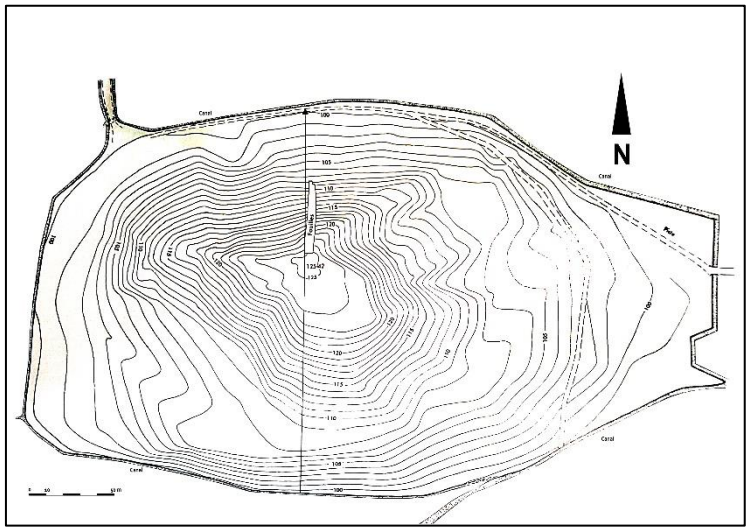

Fig 38: Plan of Tell es-Salihiyeh
(Von Der Osten 1956: Tafel 1).

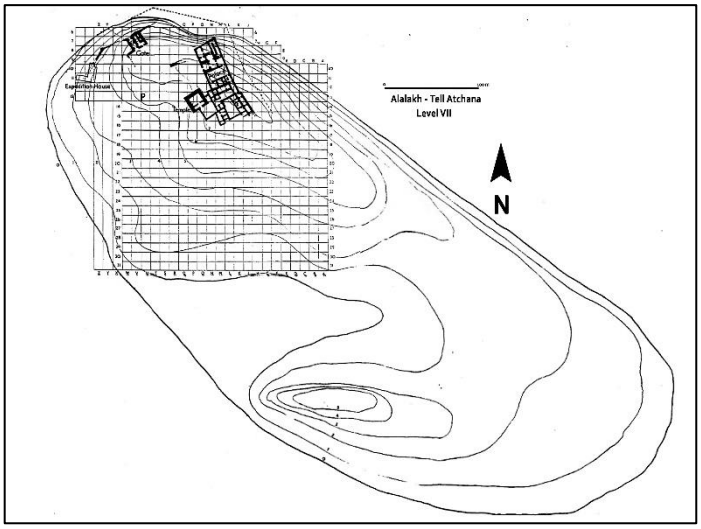

Fig 39: Plan of Tell ‘Atchana / Alalakh
(Woolley 1955: levell VII - plate XIV).

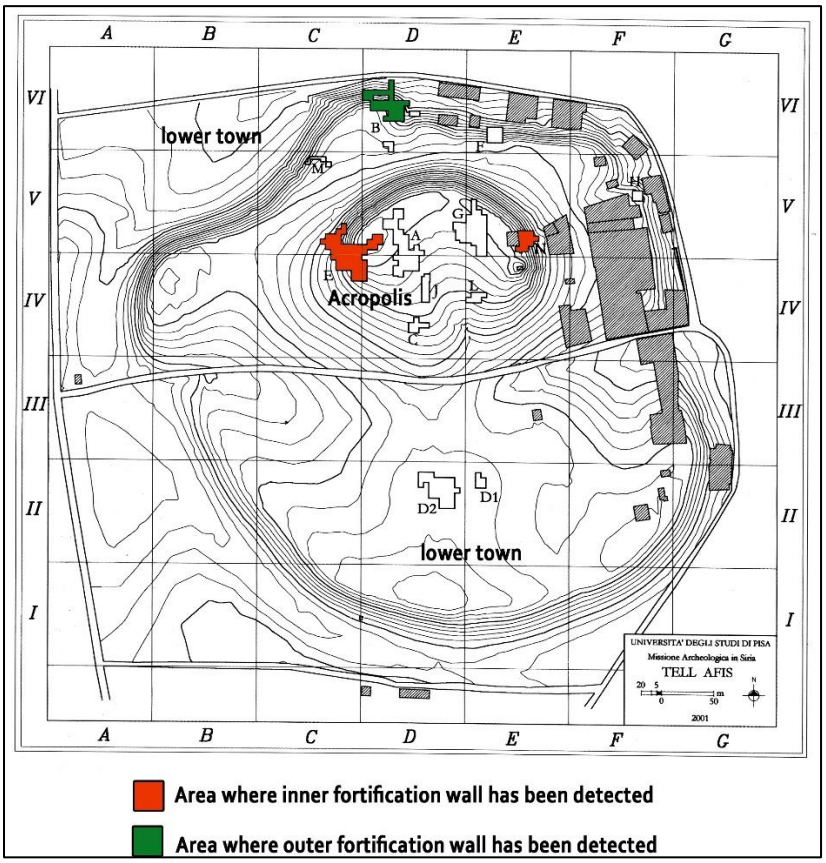

Fig 40: Plan of Tell Afis, (Mazzoni 2002: 74).

Fig 41: Plan of Tell Mardikh/Ebla (outer rampart), (google earth).

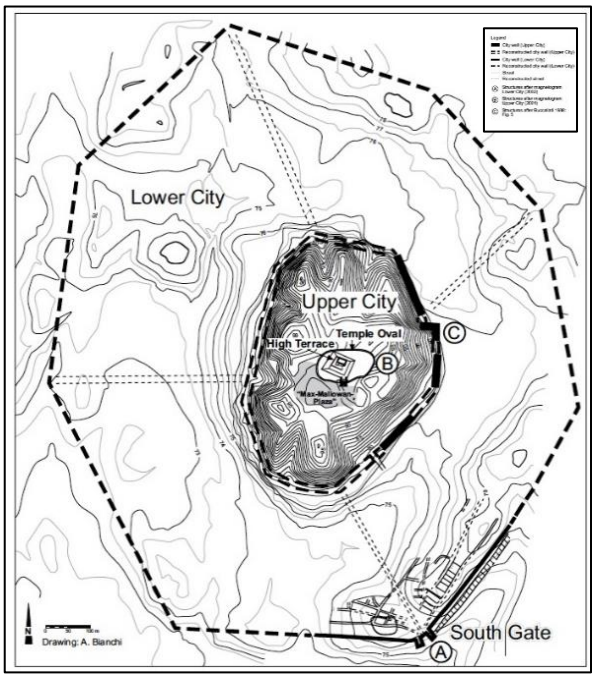

Fig 42: Plan of Tell Mozan/ Urkesh
(Deckers et al. 2010: 5).

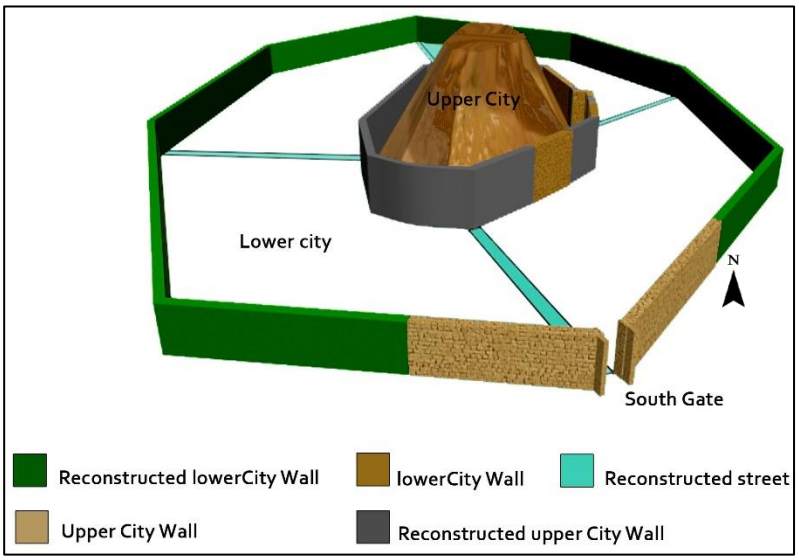

Fig 43: 3D Plan of Tell Mozan/ Urkesh
(Drawn by the student).

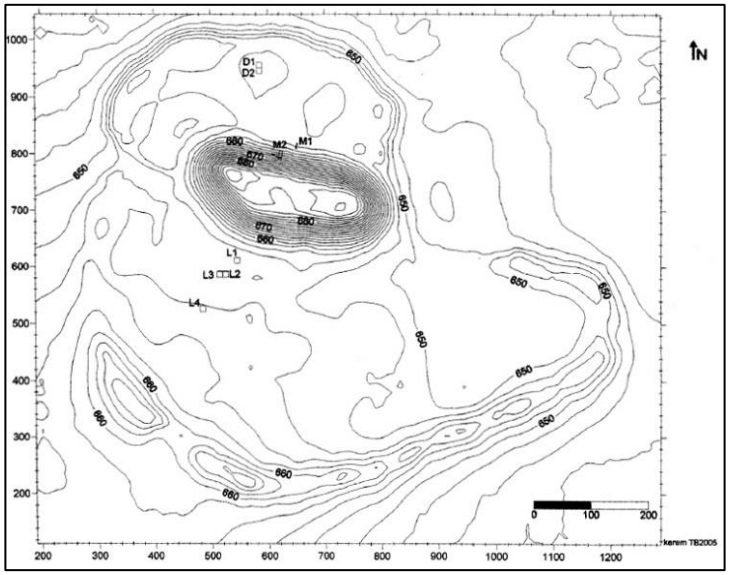

Fig 44: Plan of Tell Tilbeshar
(Kepinski et al. 2006: 252).

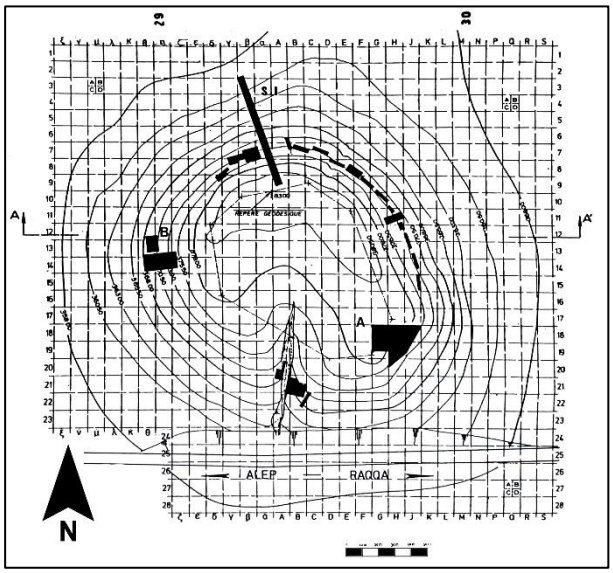

Fig 45: Plan of Tell Abou Danne
(Tefnin 1983: 148).

Fig 46: Plan of Tell Kannas
(Strommenger 1979: 64).

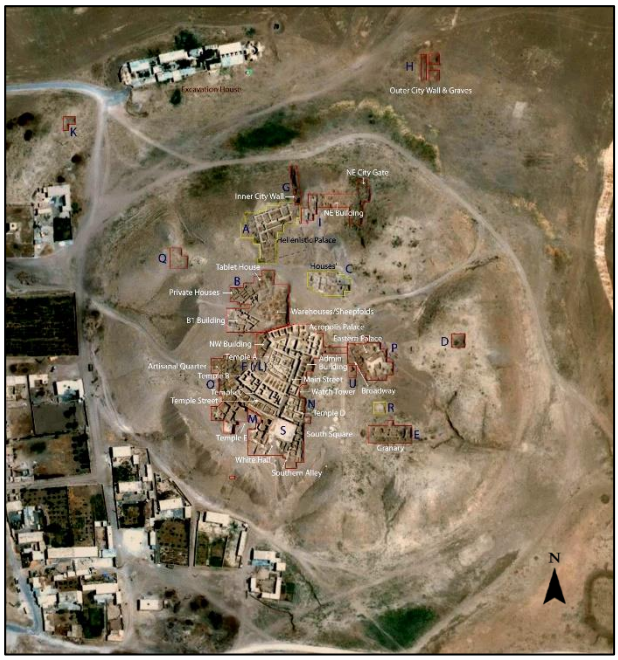

Fig 47: Plan of Tell Beydar
(Lebeau 2014: 7).

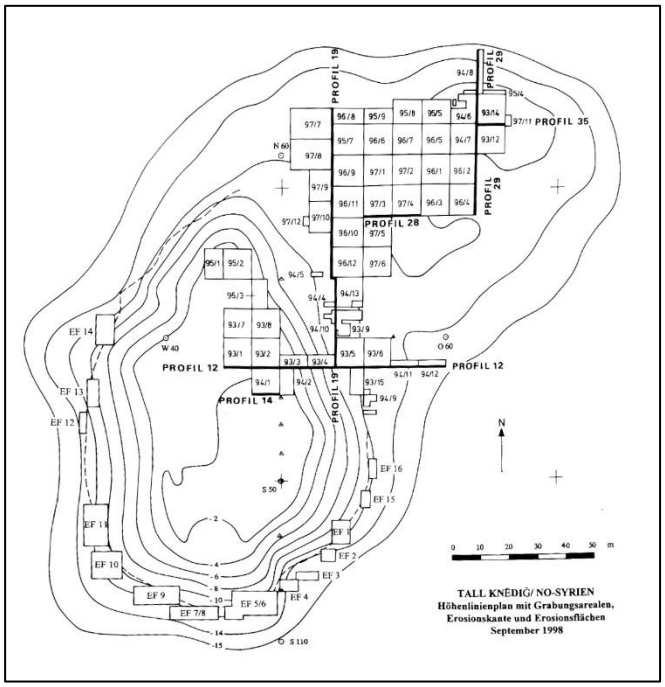

Fig 48: Plan of Tell Knedig
(Brandt et al. 2005: 34).

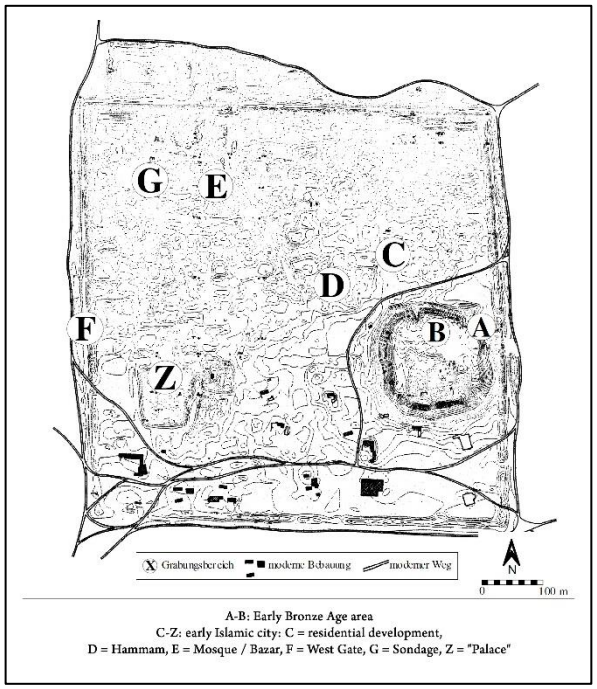

Fig 49: Plan of Tell Kharab Sayyar
(Falb 2012: 3).

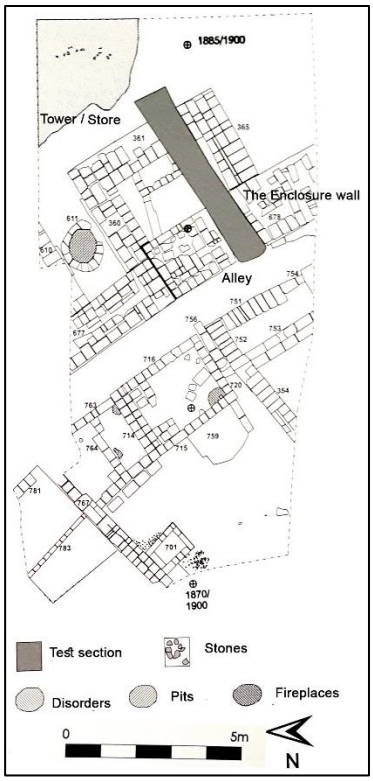

Fig 50: The Enclosure wall, of Tell Kharab Sayyar, phase 26, in trench A (Hempelmann 2013: 331).

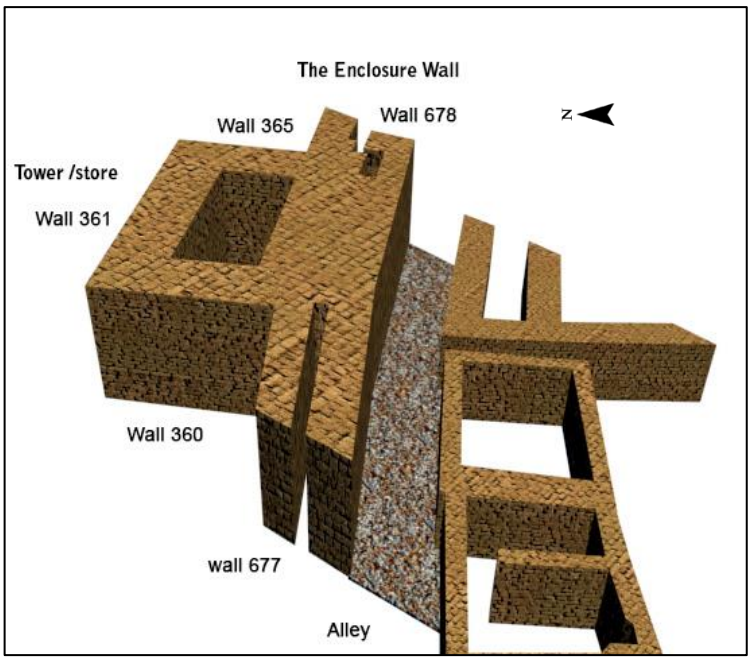

Fig 51: 3D drawing of the Enclosure Wall of Tell Kharab Sayyar, phase 26, in trench A (Drawn by the student).

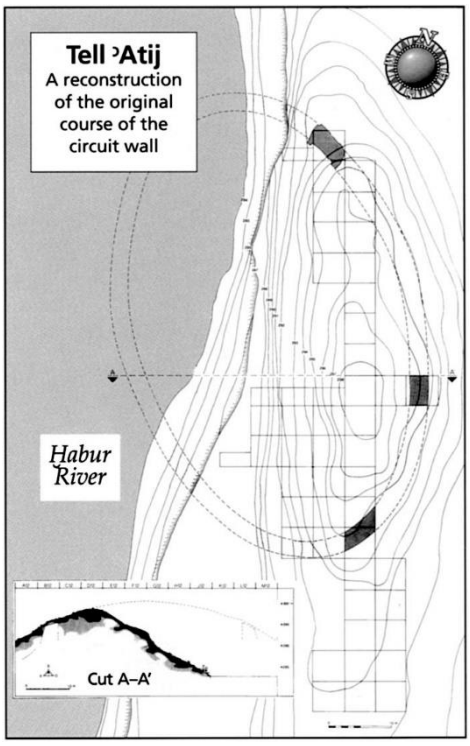

Fig 52: Plan of Tell 'Atij (Fortin 1998: 20).

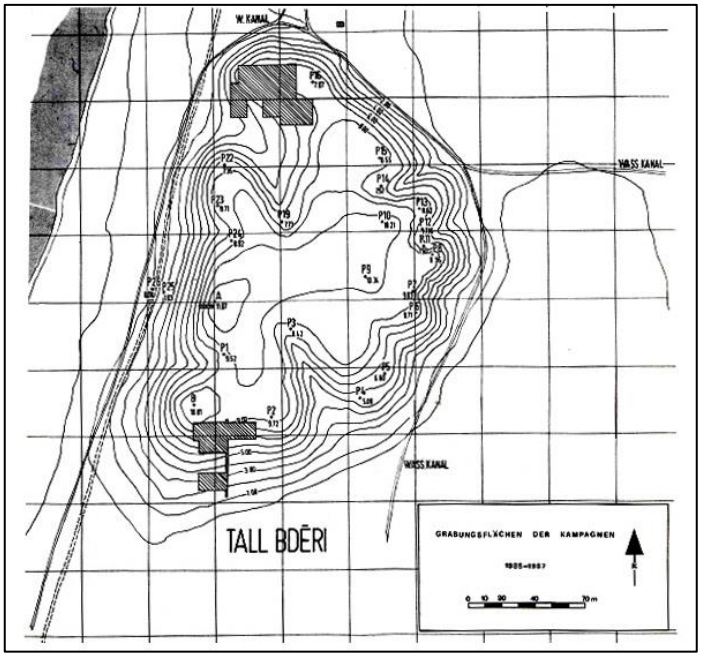

Fig 53: Plan of Tell Bderi (Pfälzner 1989/90: 213).

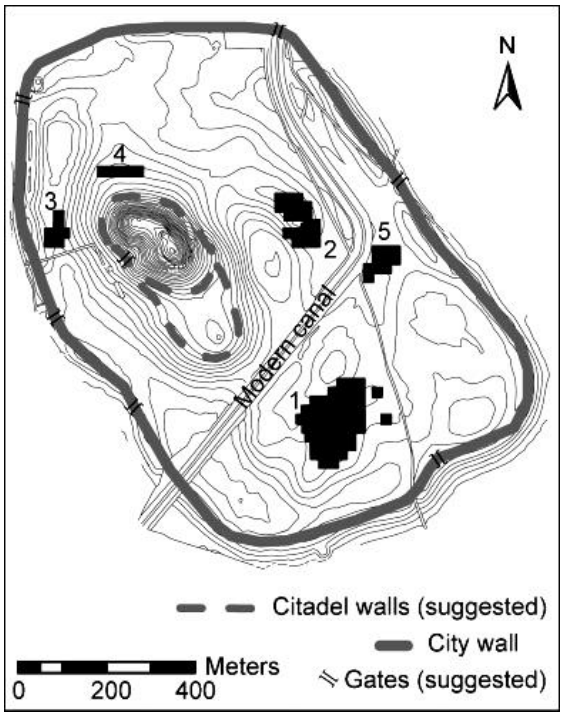

Fig 54: Plan of Tell Kazane Höyük
(Creekmore 2010: 74).

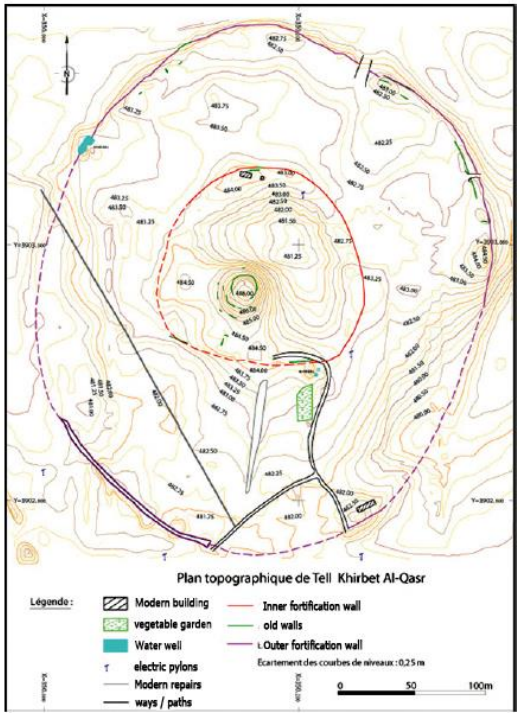

Fig 55: Plan of Tell Khirbet al-Qasr
(Castel et al. 2014: 29).

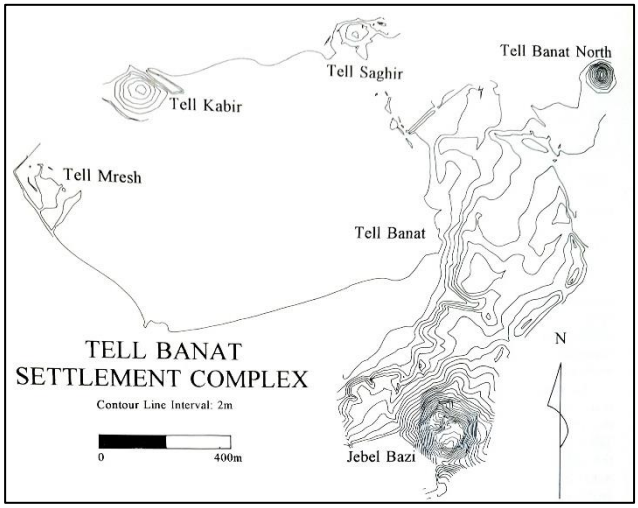

Fig 56: Plan of Tell Banat
(Porter, Mcclellan 1998: 12).

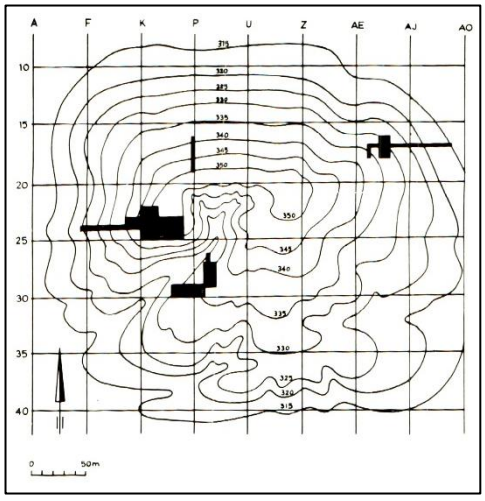

Fig 57: Plan of Tell Hammam et-Turkman
(Van Loon 1986/87: 313).

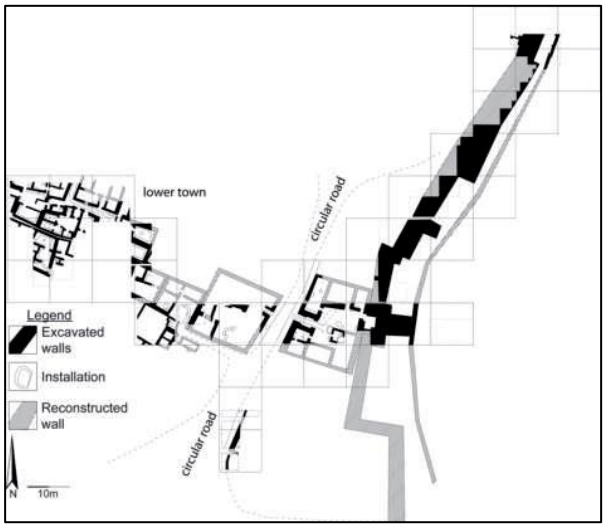

Fig 58: Overall plan of excavation area W (preliminary version). The plan covers period ID structures within the lower city (areas W-1, W-2, W-3, W-5, W-7) as well as the outer fortifications (area W-4, construction phases 1–2, local period Tell Chuera ID (Helms, Meyer 2016: 149).

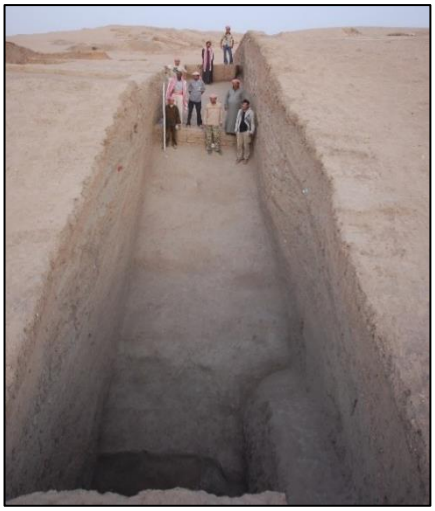

Fig 59: The outer face of the earthen rampart in area W-4 (construction phase 2, local period Tell Chuera ID), (Helms, Meyer 2016: 148).

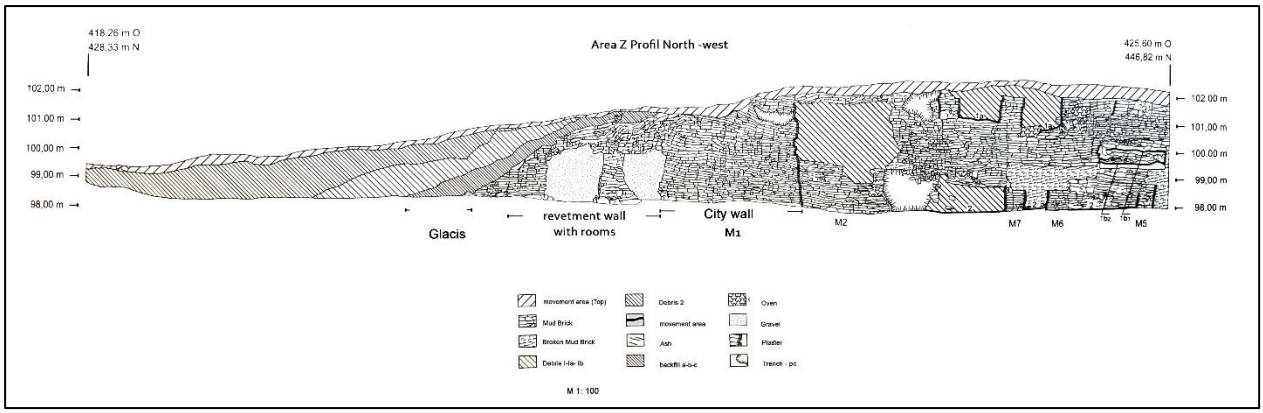

Fig 60: Section north-west of the city wall in area Z, in Tell Chuera, (Meyer 2010: Beilge 1).

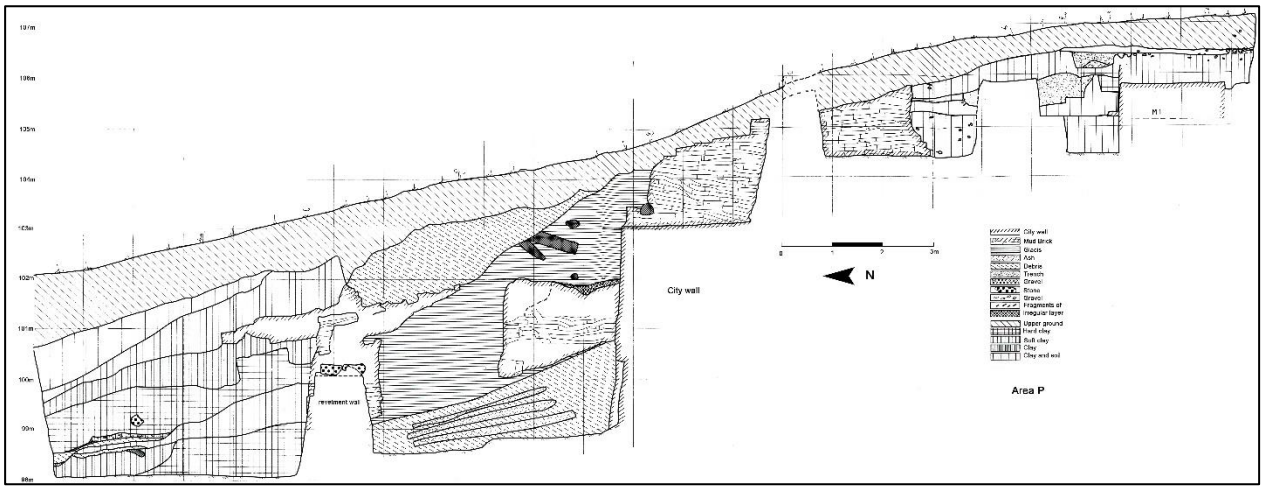

Fig 61: Section of the city wall in area P, in Tell Chuera, (Meyer 2010: Beilge 1).

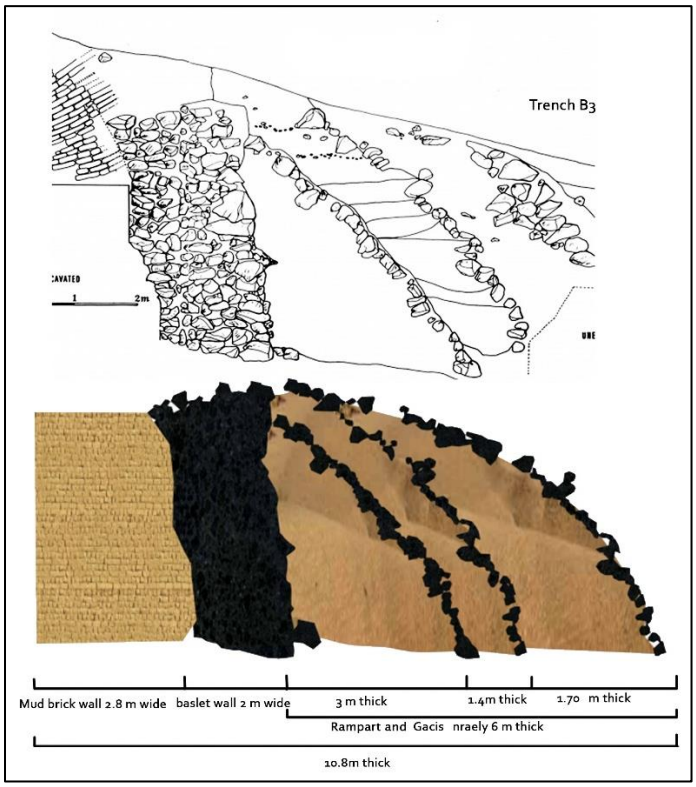

Fig 62: Section of the rampart B3 in Tell Rad Shaqrah, *upper Fig* (Bielinski 1993: 120). *lower Fig* (Drawn by the student).

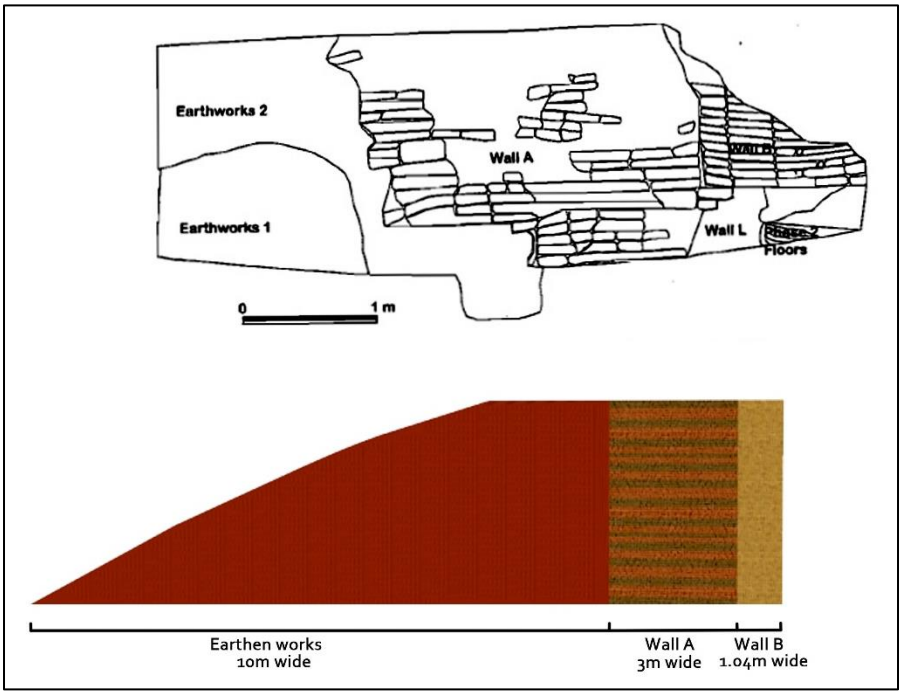

Fig 63: Section of the EB IVB fortification structure wall A, B and the rampart in Tell Leilan, *upper Fig* (Bielinski 1993: 120). *lower Fig* (Drawn by the student).

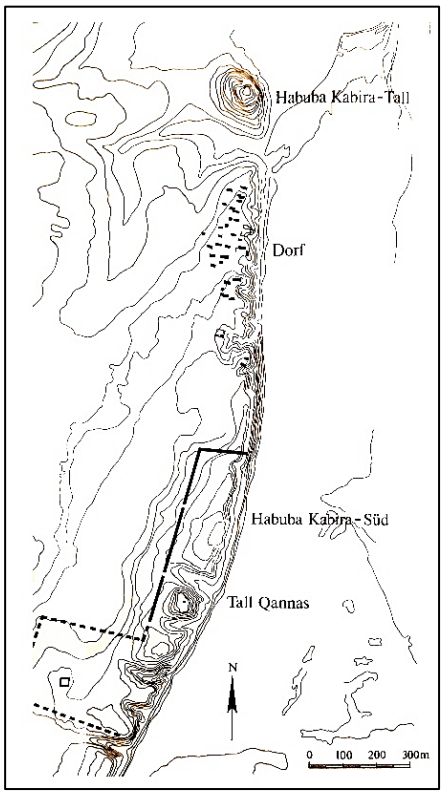

Fig 64: Plan of Tell Habouba Kabira and southern Habouba Kabira (Strommenger 1980: 32).

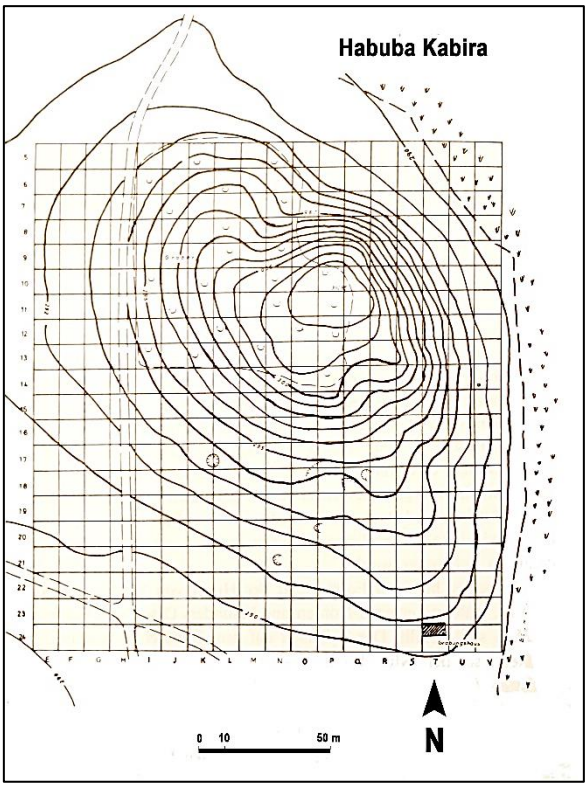

Fig 65: Plan of Tell Habouba Kabira (Heusch 1979: 160).

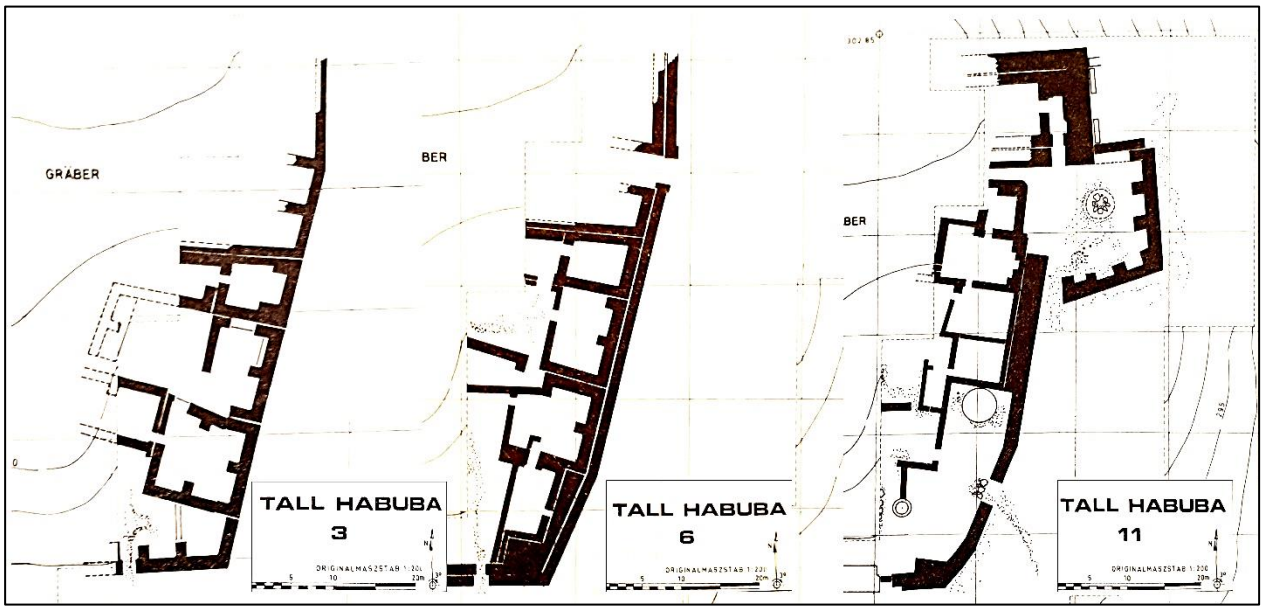

Fig 66: The fortification walls in layer 3, 6 and 11 in Tell Habouba Kabira, (Heusch 1979: 165,197,173).

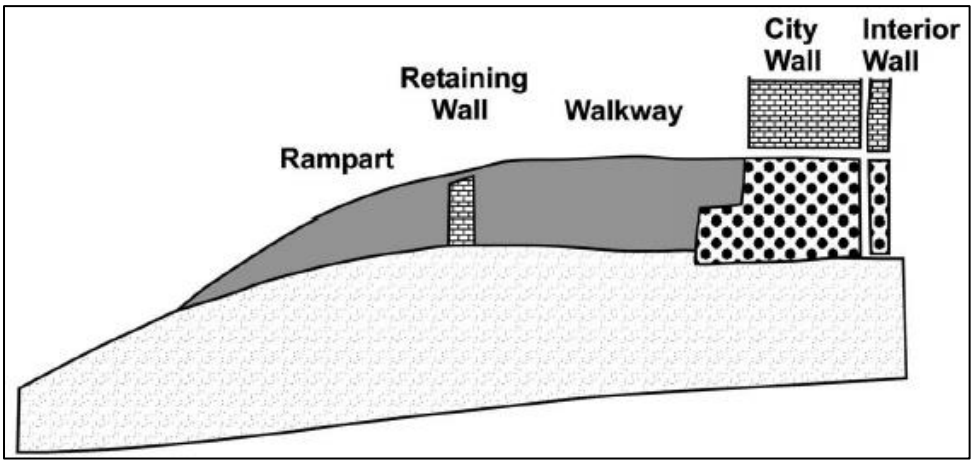

Fig 67: Section in the fortification structure in Tell Halawa A, (Orthmann 1989: 17).

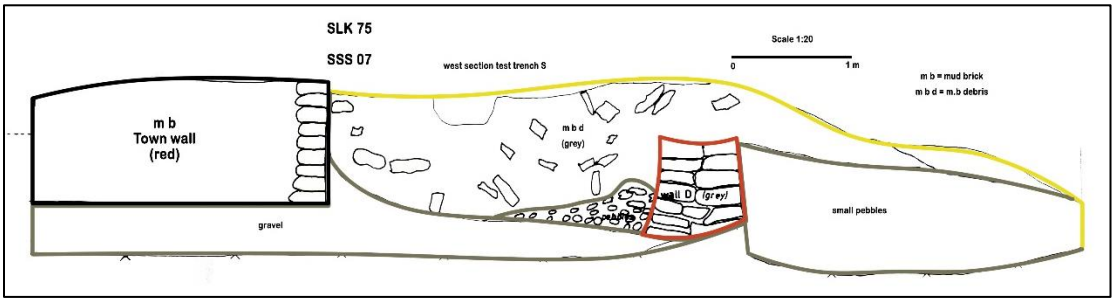

Fig 68: Section in the EB city wall in Sq SSS 07 in Tell Selenkahiye, (Van Loon 2001: 3.87).

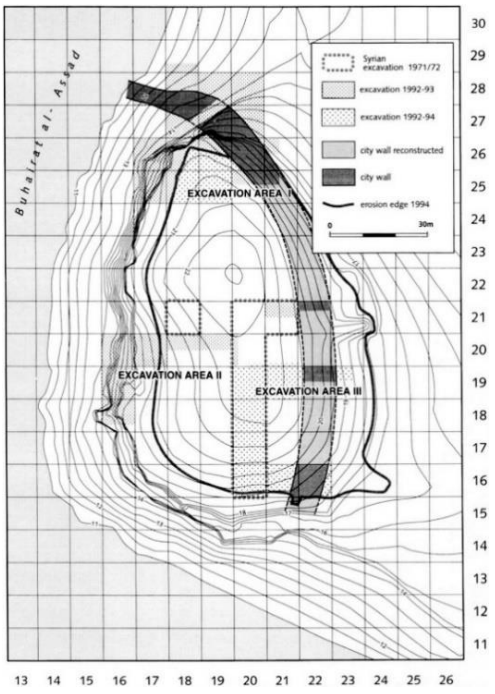

Fig 69: Plan of Tell el-'Abd
(Weiss, 1997: 99).

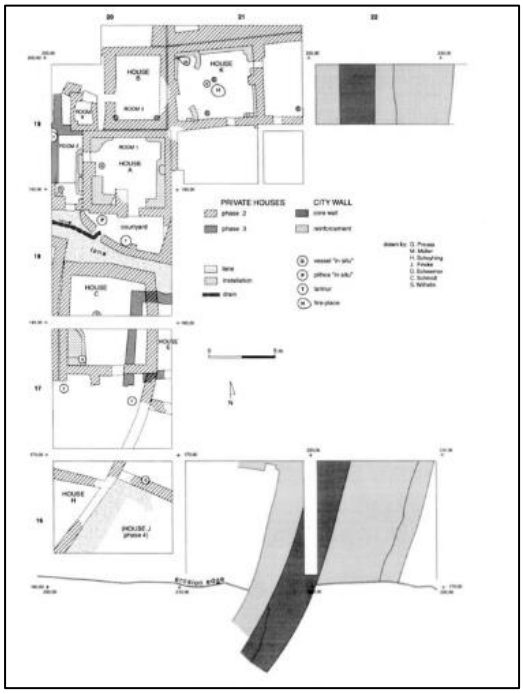

Fig 70: The fortification wall of Tell el-'Abd
(Weiss, 1997: 99).

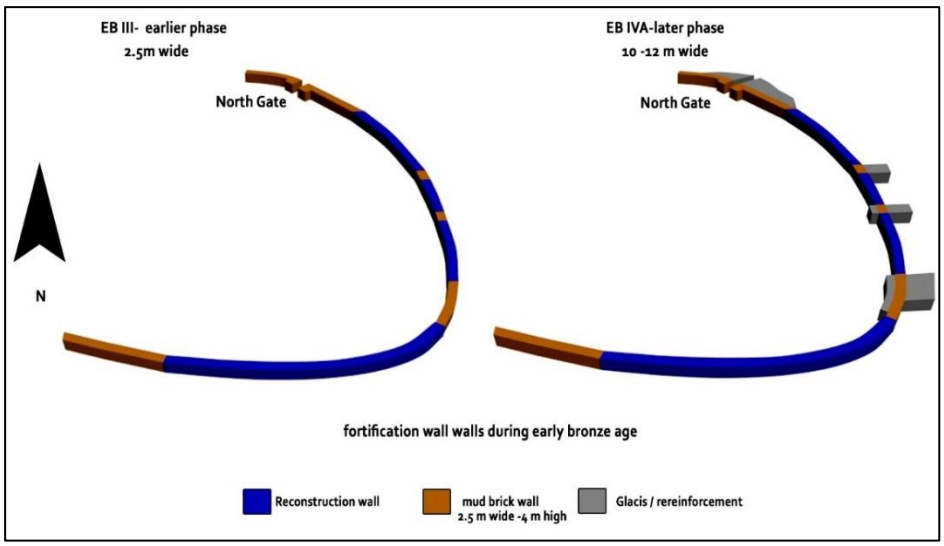

Fig 71: 3D drawing of the fortification wall in Tell el-'Abd, shows the expansion during EB IVA, (Drawn by the student).

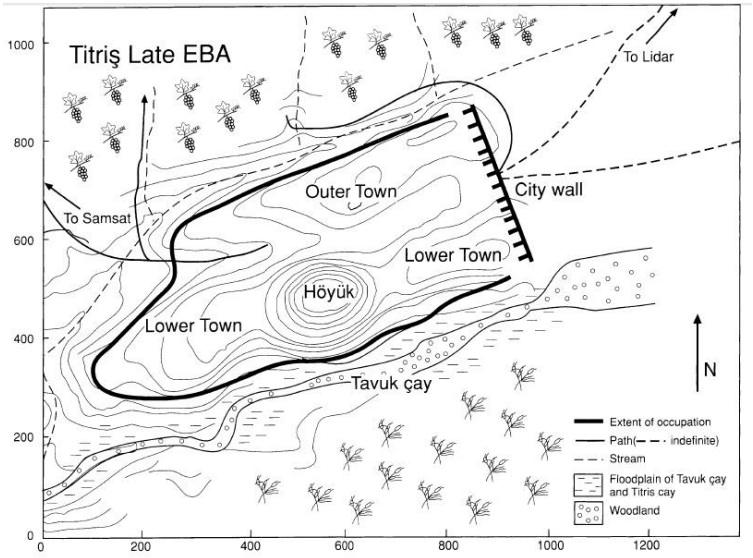

Fig 72: Plan of Tell Titriş Höyük.

(Algaze et al. 2001:100).

Fig 73: The northern fortification structure in Byblos shows:
A. The first wall, (Sableux) sandy period (3200 -2700 BC) EB II.
B. Wall with redans (Buttresses) EB III.
C. Glacis EB III.
D. Glacis MB I.
E. "Hyksos" glacis MB II.
F. Later glacis.
(Luaffray 2008: 300).

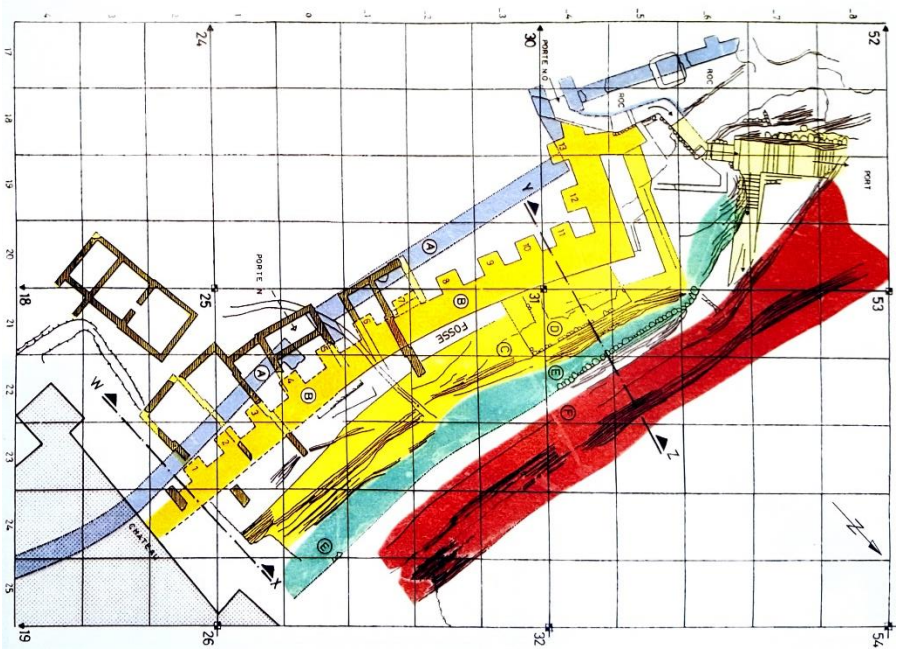

Fig 74: The northern fortification structure in Byblos, (Sala 2013: 180).

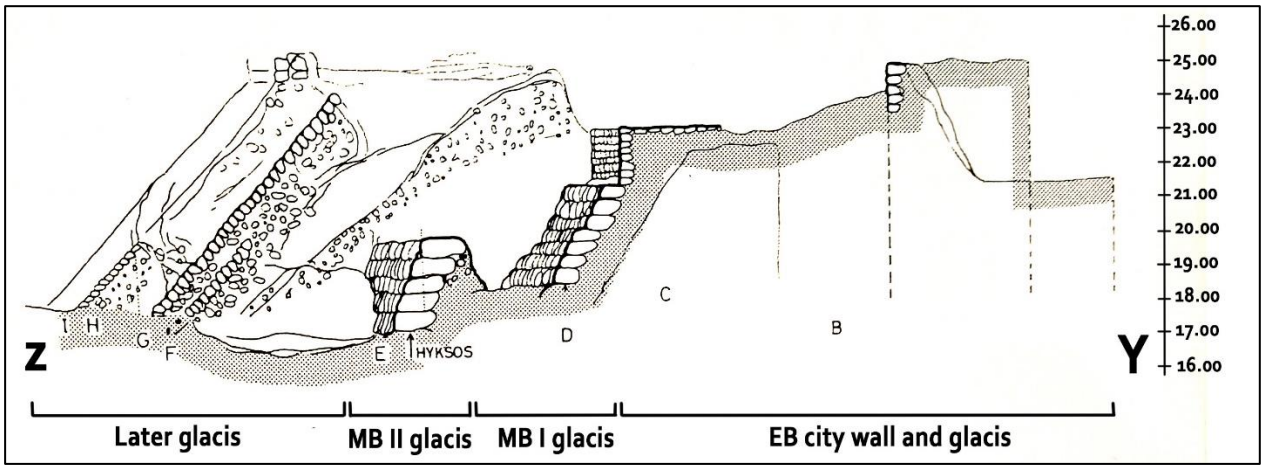

Fig 75: Section Z-Y in northern rampart in Byblos, (Sala 2013: 182).

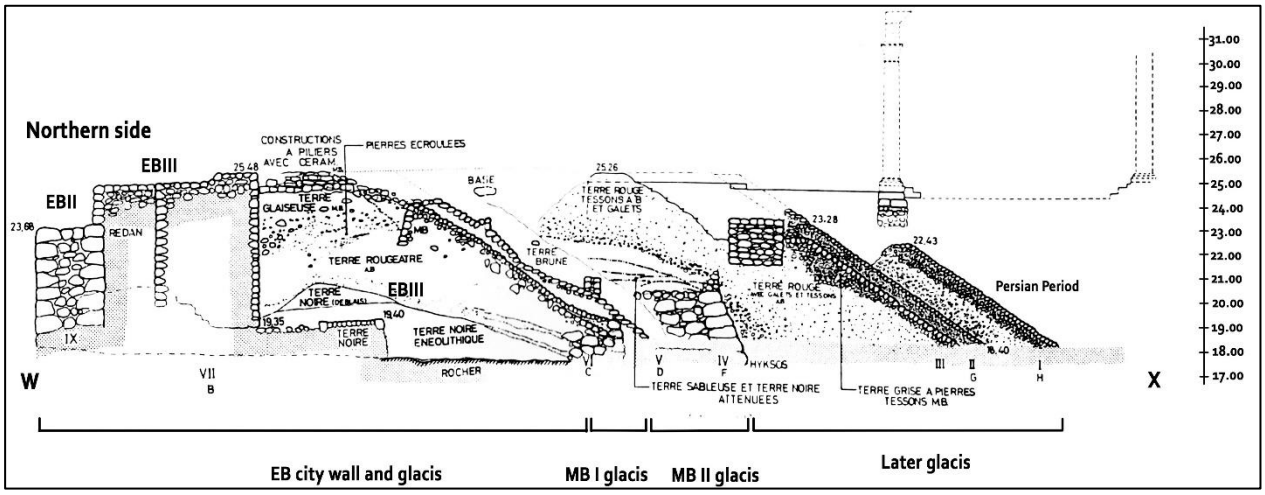

Fig 76: Section W -X in northern rampart in Byblos, (Sala 2013: 182).

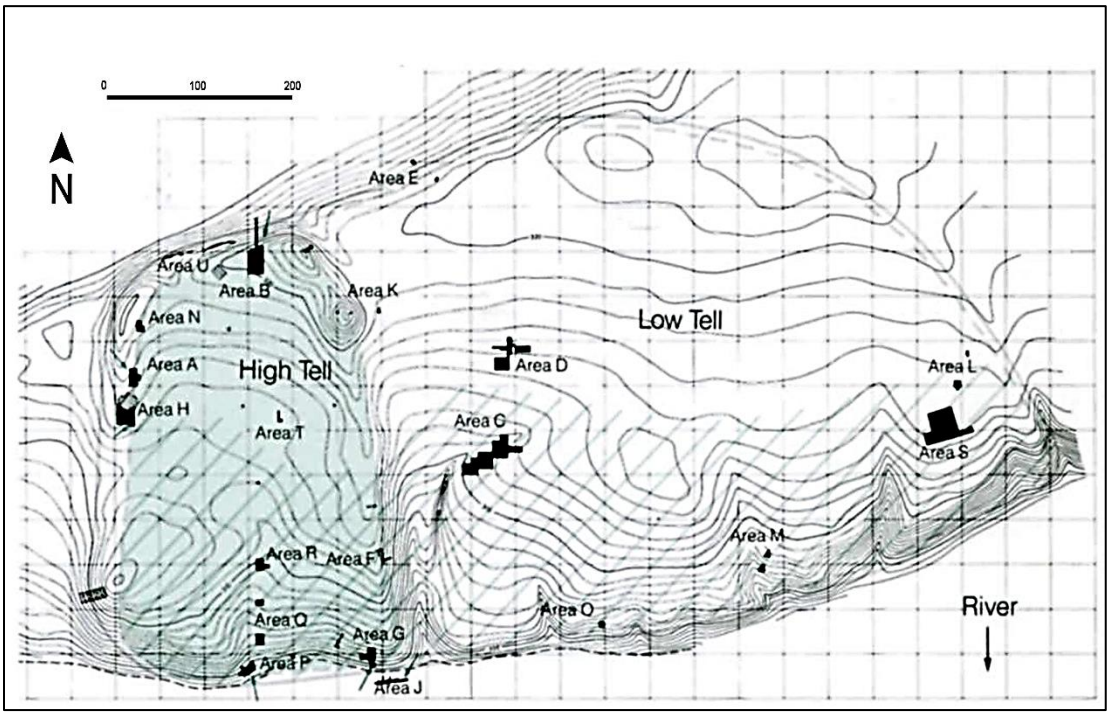

Fig 77: Plan of Tell Hadidi, (Dornemann 1985: 54).

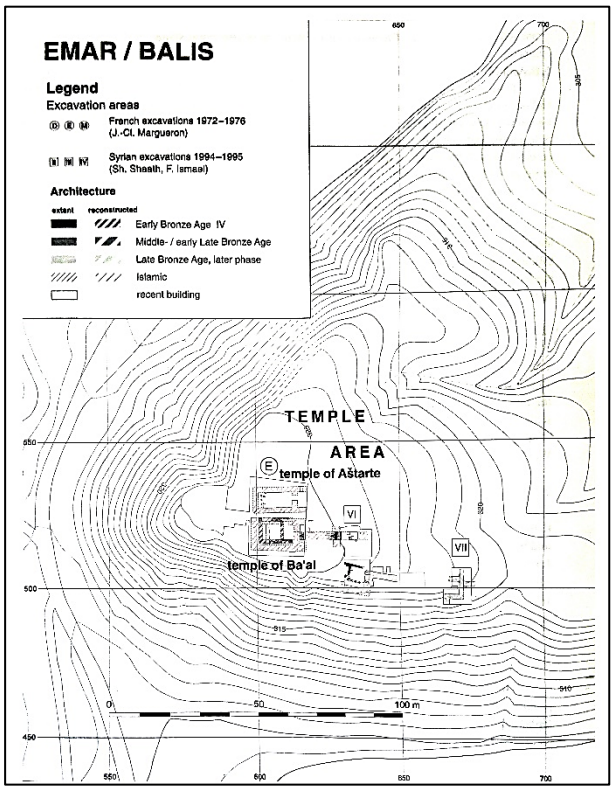

Fig 78: Plan of Tell Meskene / Emar (Finkbeiner, Leisten 1999/00: 7).

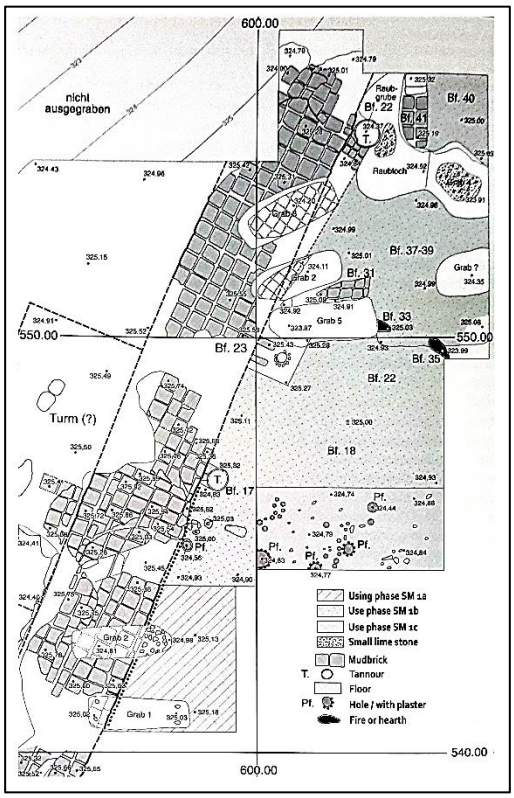

Fig 79: The fortification wall of Tell Meskene / Emar (Finkbeiner, Sakal 2003: 36).

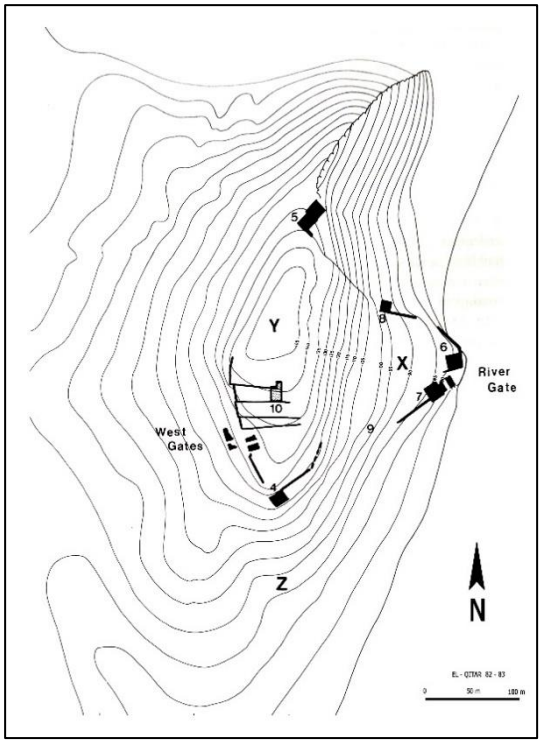

Fig 80: Plan of Tell el-Qitar
(Culican, Mcclellan 1983/84: 32).

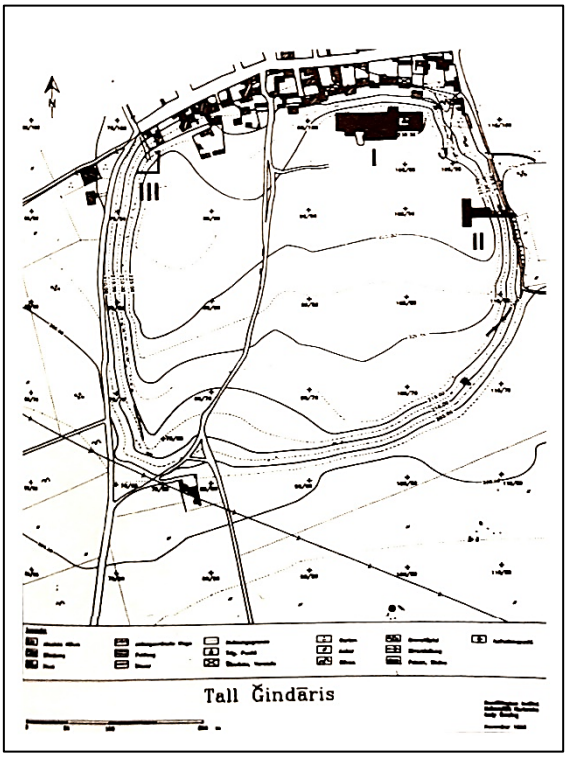

Fig 81: Plan of Tell Gindaris
(Sürenhagen 1999: 161).

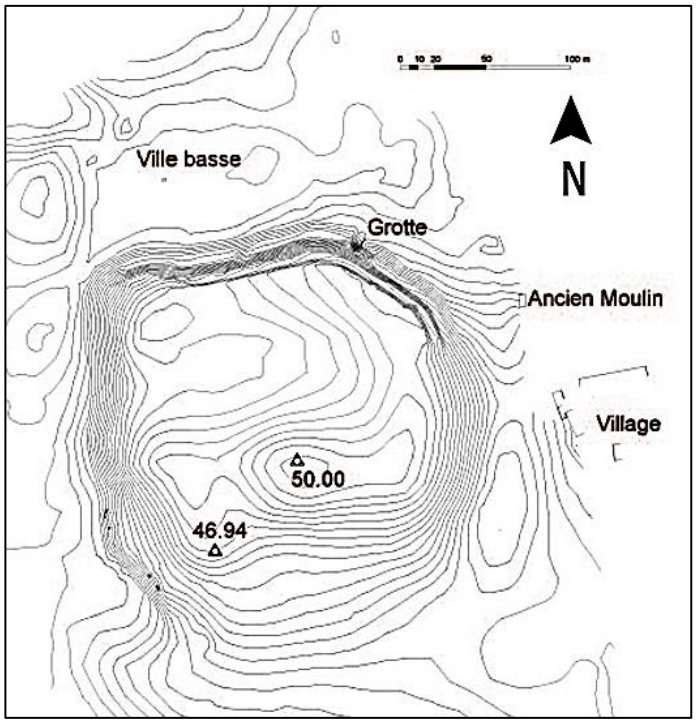

Fig 82: Plan of Tell Massin
(Al-Maqdissi et al. 2009: 44).

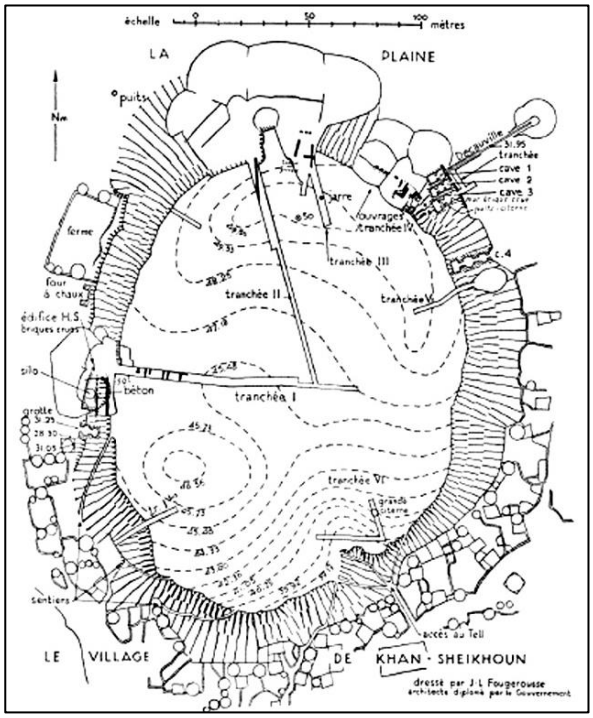

Fig 83: Plan of Tell Khan Sheikhoun
(Du Mesnil du Buisson 1932: PL XXXII).

Fig 84: Plan of Tell al-Ash'ari
(google earth).

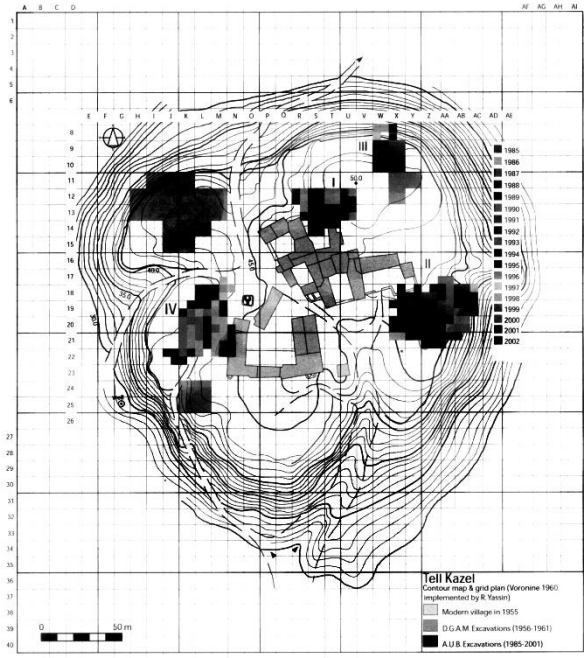

Fig 85: Plan of Tell Kazel
(Badre 2006: 68).

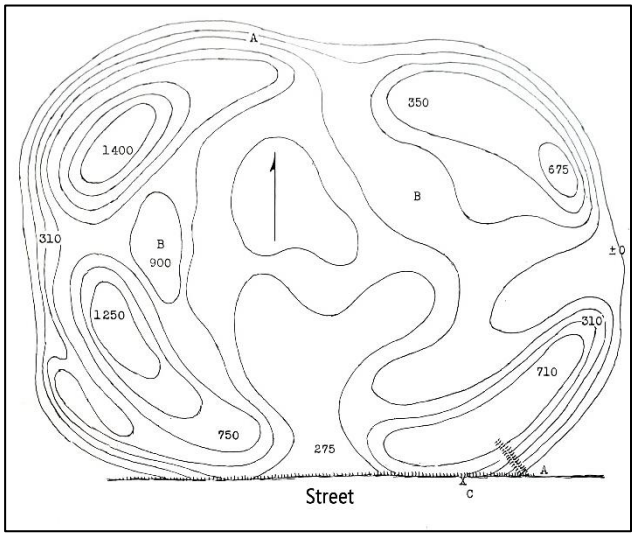

Fig 86: Plan of Tell Deir Khabiye
(Von Der Osten 1956: 13).

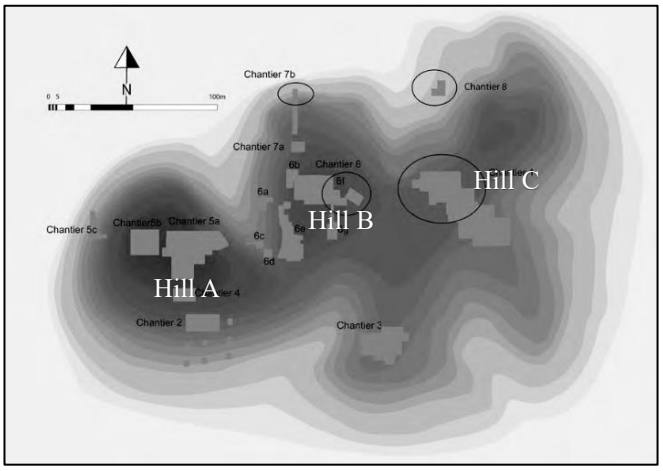

Fig 87: Plan of Tell Mohamad Diab
(Nicolle 2008: 160).

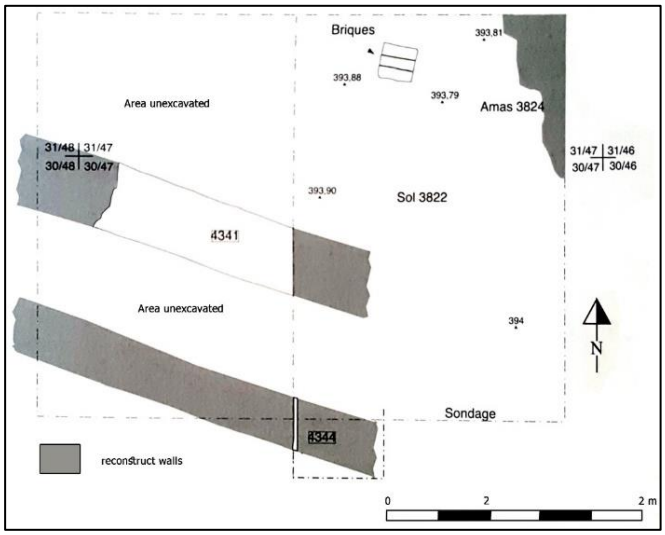

Fig 88: The fortification wall in Tell Mohamad Diab, Hill A (Nicolle 2006: 50).

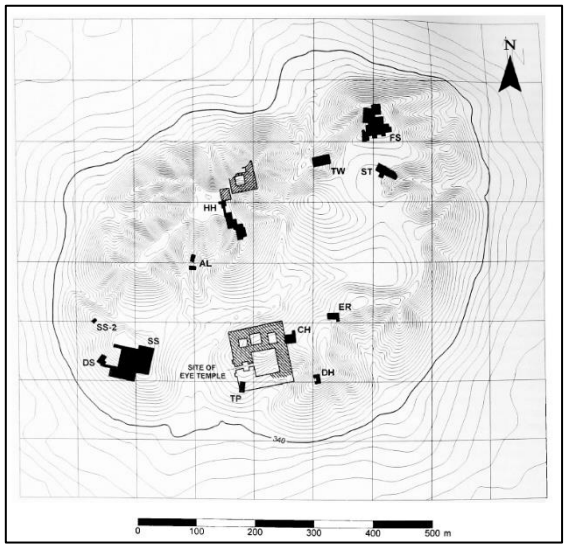

Fig 89: Plan of Tell Brak (Oates et al. 2001: 16).

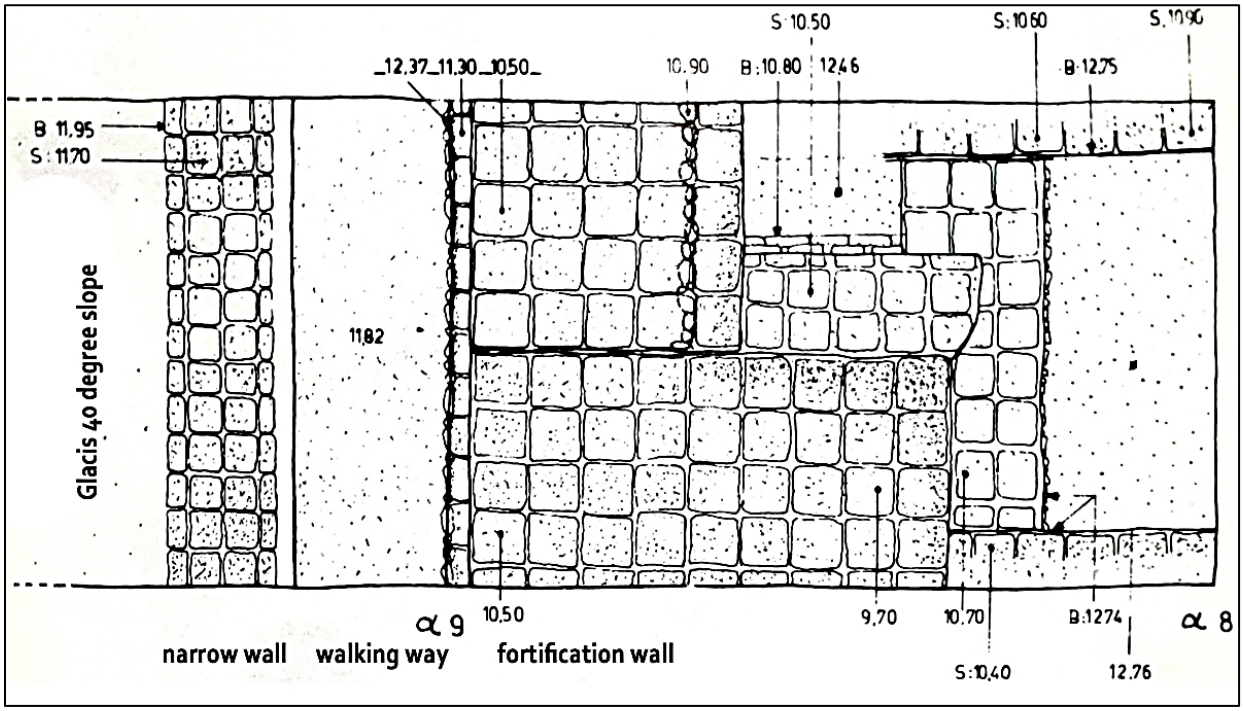

Fig 90: The first phase of the fortification structure in Tell Abou Danne, level VI MB, shows the fortification wall, walking way and narrow wall, (Tefnin 1979a: plate VI).

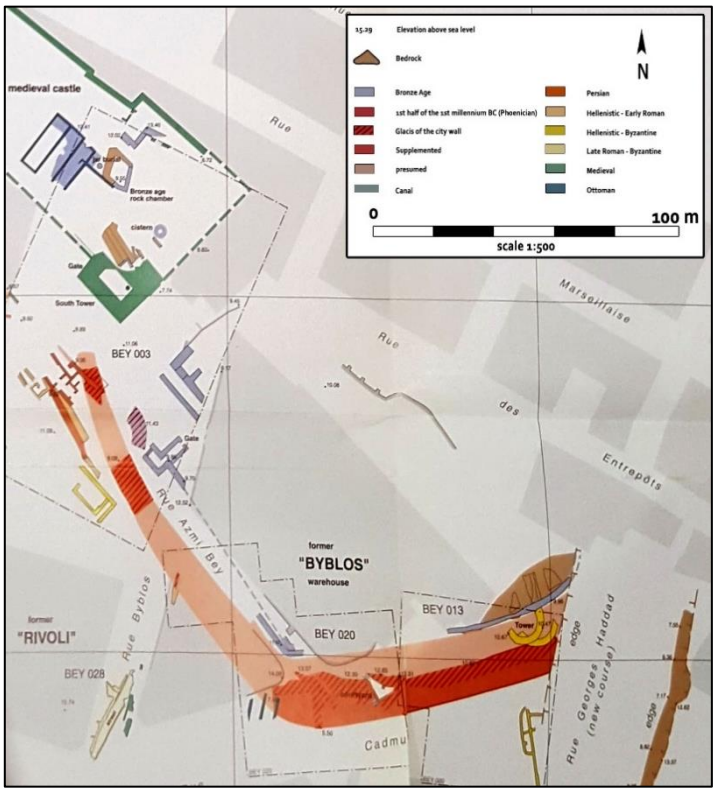

Fig 91: Plan of Beirut (Bey 003,020 and 013) (Finkbeiner, Sader 1997: free plan).

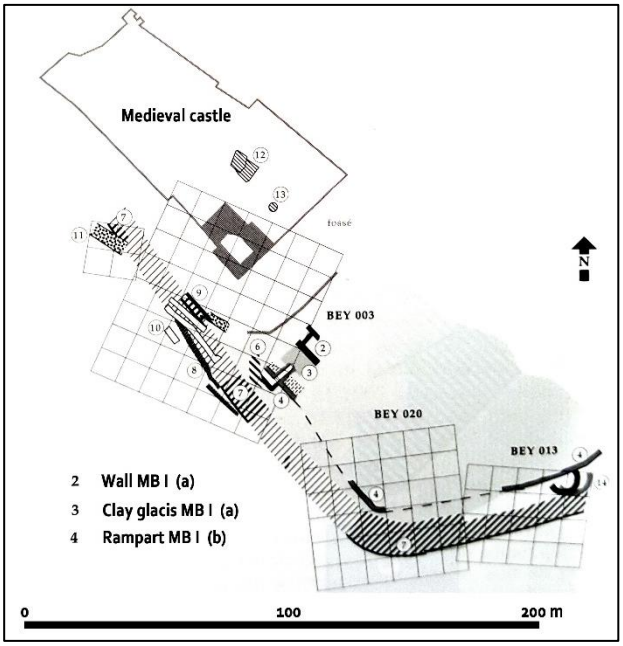

Fig 92: Plan of Beirut (Bey 003,020 and 013) (Badre 1996: 89).

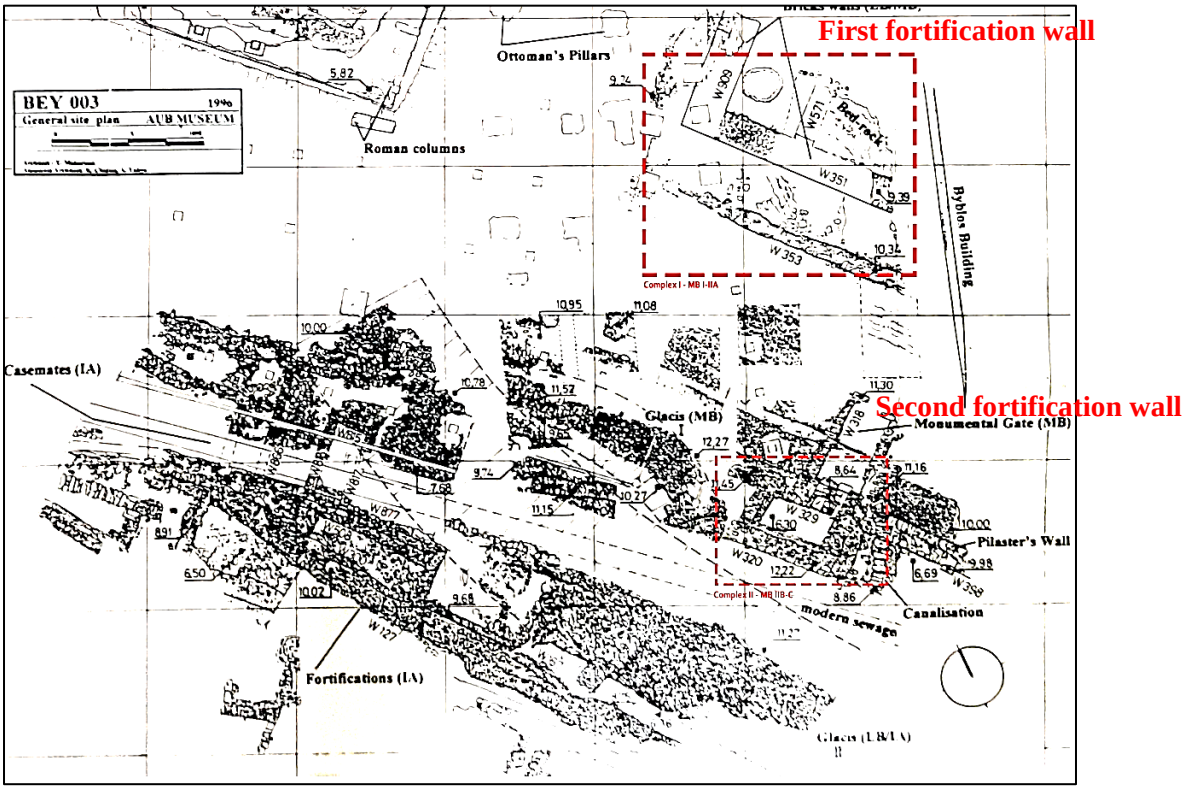

Fig 93: Plan of Beirut (Bey 003), shows the first and second fortification walls, (Badre 1997: 8).

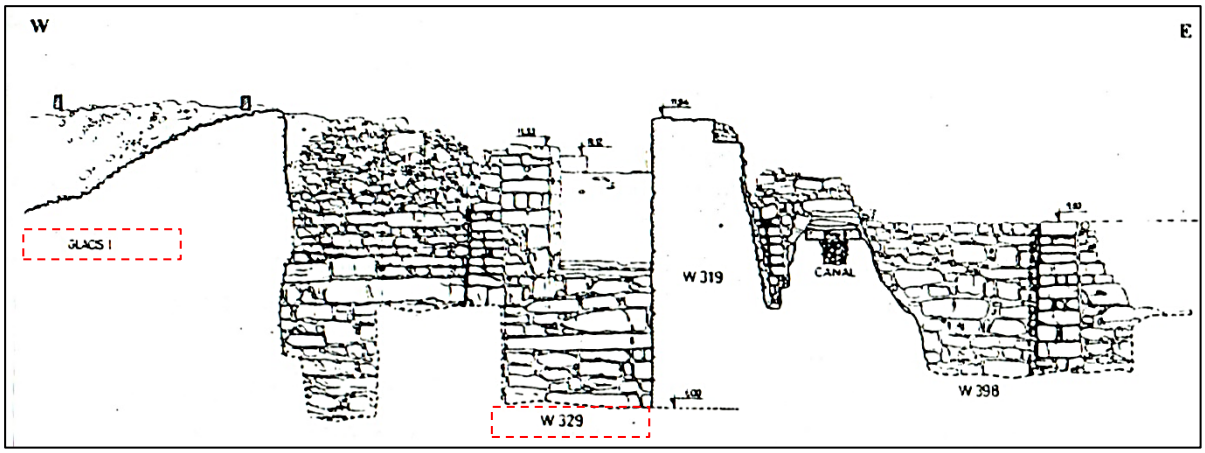

Fig 94: Section east-west in the second fortification wall (W329) in Beirut -Bey 003, (Badre 1997: 27).

Fig 95: The second fortification wall (W329) in Beirut -Bey 003 (Badre 1997: 29).

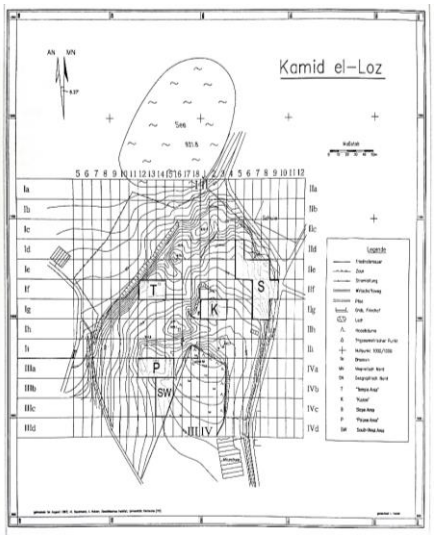

Fig 96: Plan of Tell Kamid el-Loz (Heinz 2004: 87).

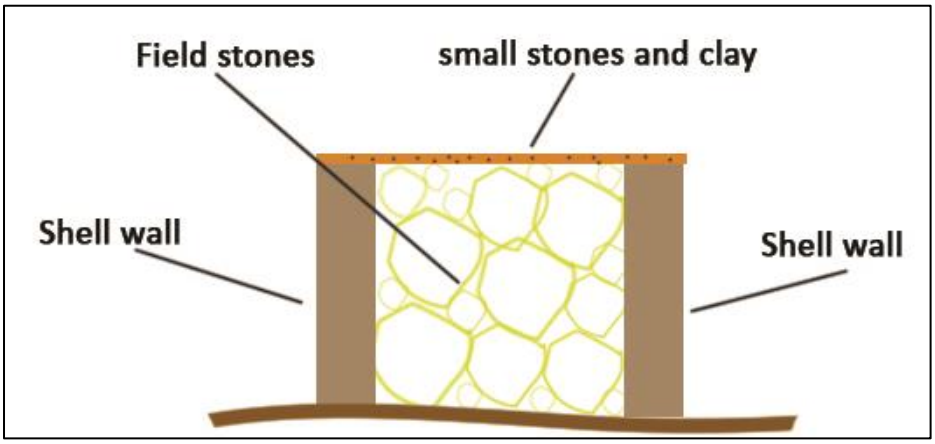

Fig 97: The complex foundation in Tell Halawa A, (Drawn by the student).

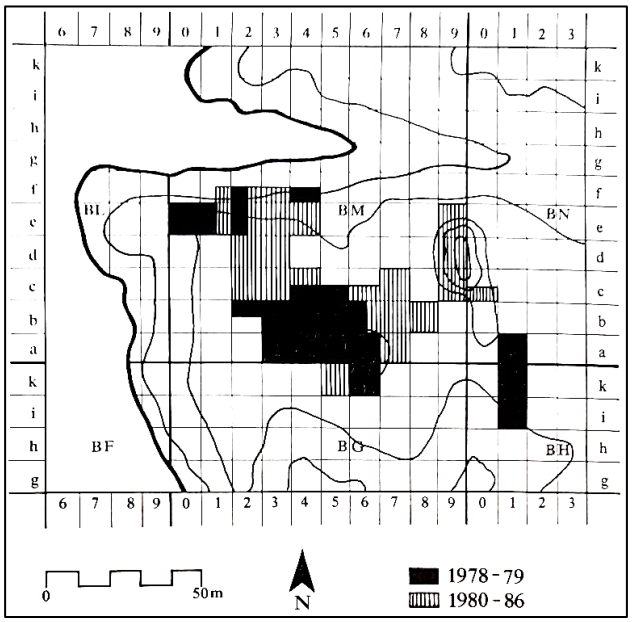

Fig 98: Plan of Tell Halawa B (Orthmann 1989: 86).

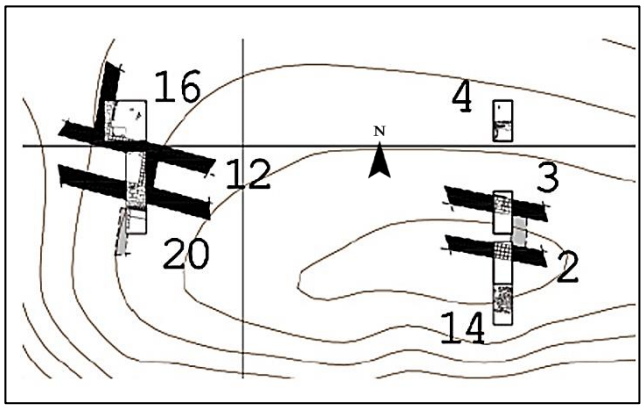

Fig 99: Casemate walls in Qala'at Halwanji on the south ridge (Eidem. 2013: 18).

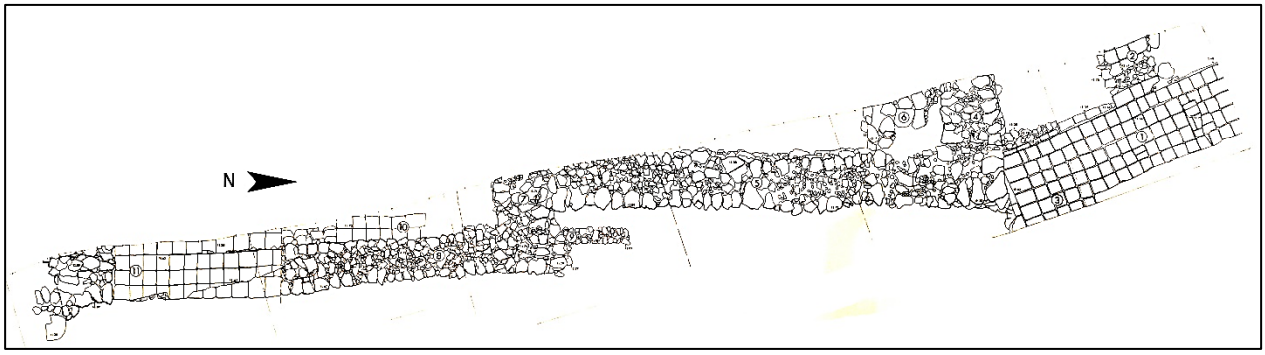

Fig 100: Casemate walls in Kamid el-Loz in ID15 level 3d, (Bertemes, 1986: Beilage 1).

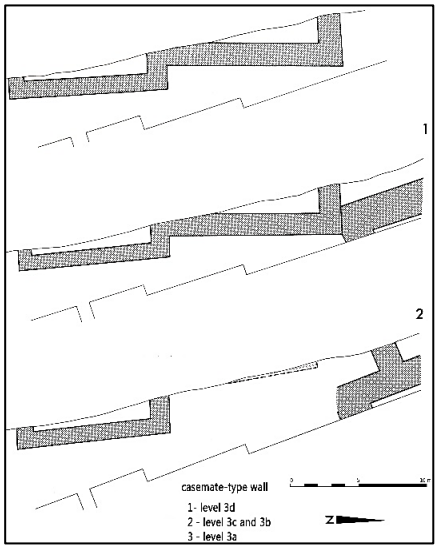

Fig 101: Casemate walls in Kamid el-Loz in ID15 (Bertemes, 1986: 90).

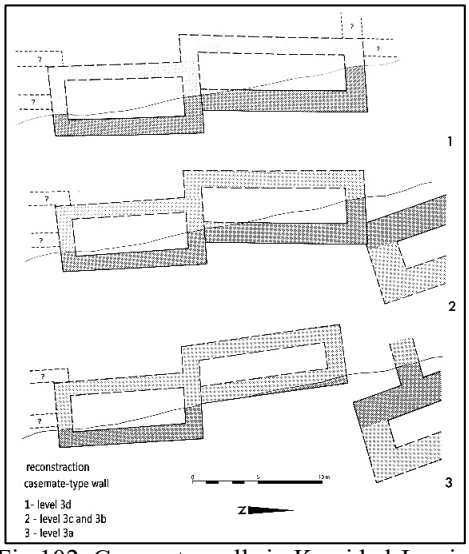

Fig 102: Casemate walls in Kamid el-Loz in ID15 (Bertemes, 1986: 88).

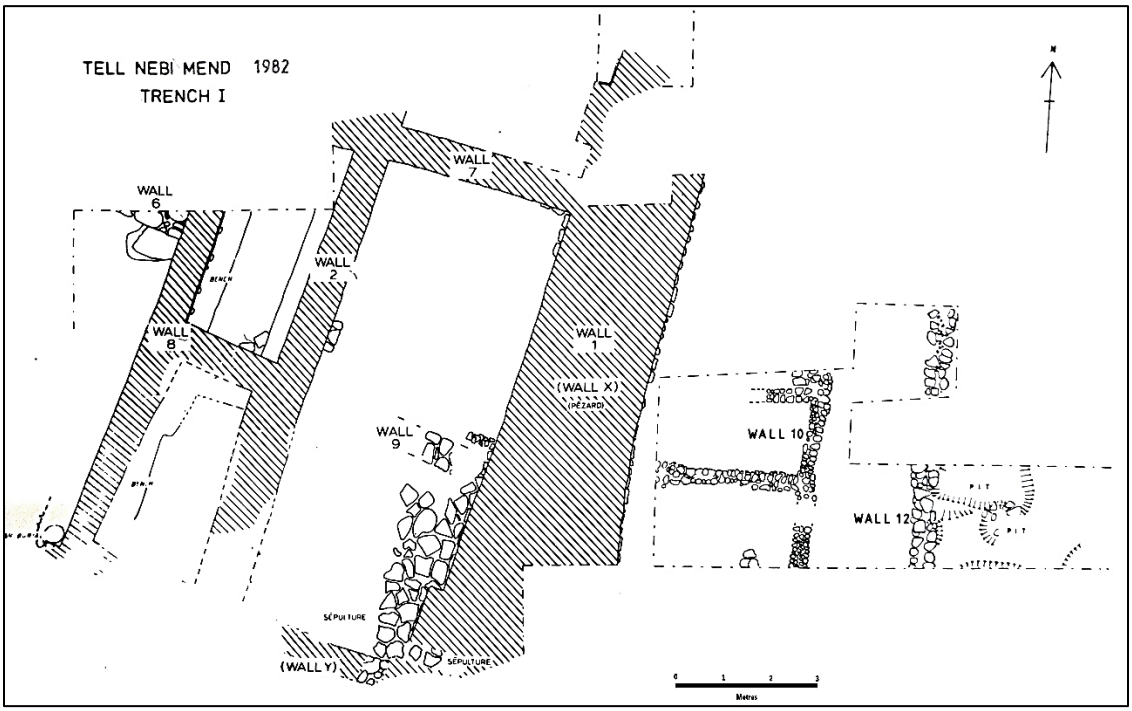

Fig 103: The casemate wall in Tell Nebi Mend / Kadesh; walls (1, 2 and 8) - (7.9 and 6), (Parr 1983: 114).

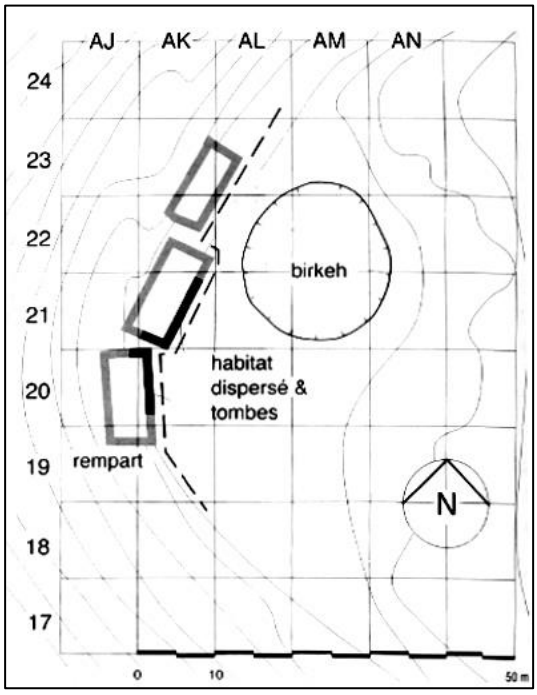

Fig 104: Plan of Tell 'Arqa with casemate walls level 13 (Thalmann. 2006: 52).

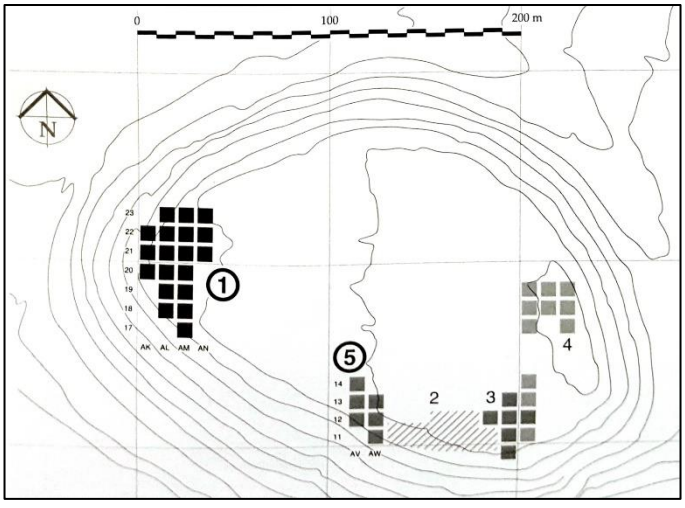

Fig 105: Plan of Tell 'Arqa (Thalmann. 2006a: 5).

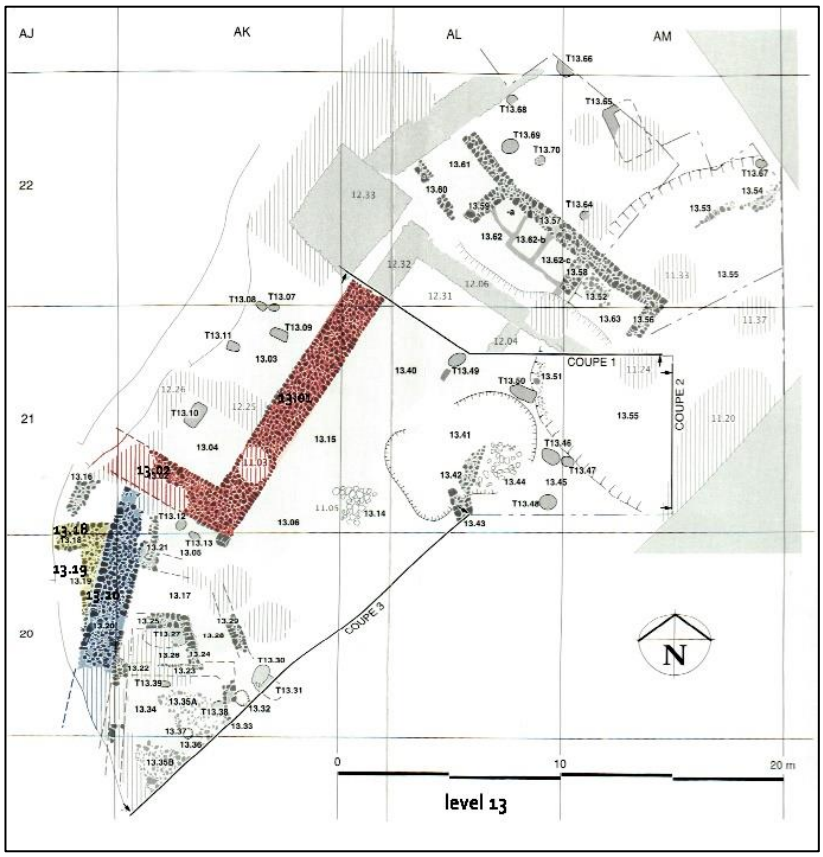

Fig 106: The casemate walls level 13 in Tell 'Arqa, (Thalmann. 2006: 92). / (Modified by the student).

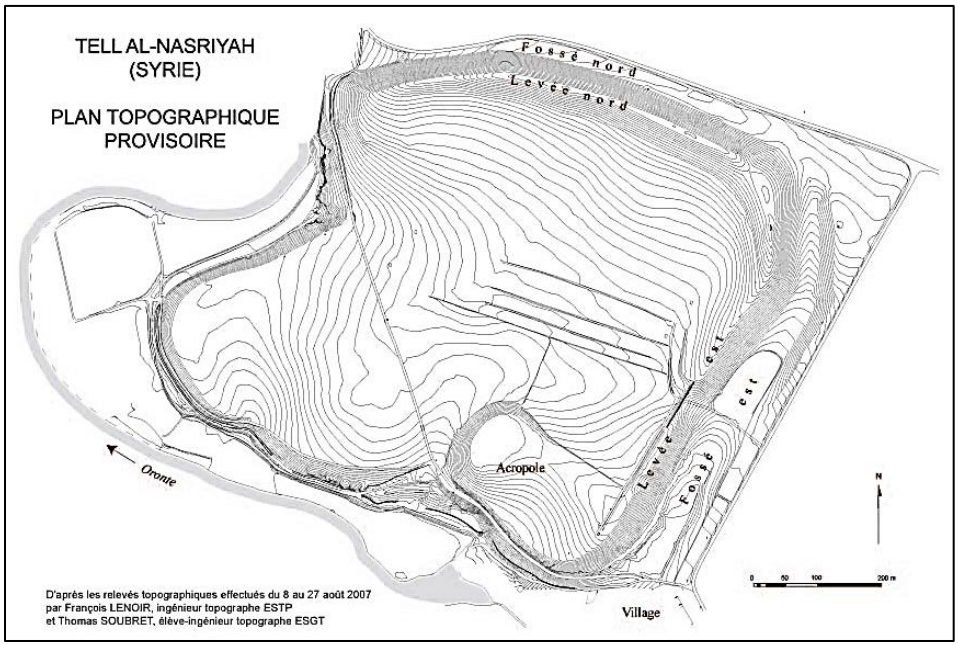

Fig 107: Plan of Tell al-Nasriyah, (Al-Maqdissi et al. 2009: 47).

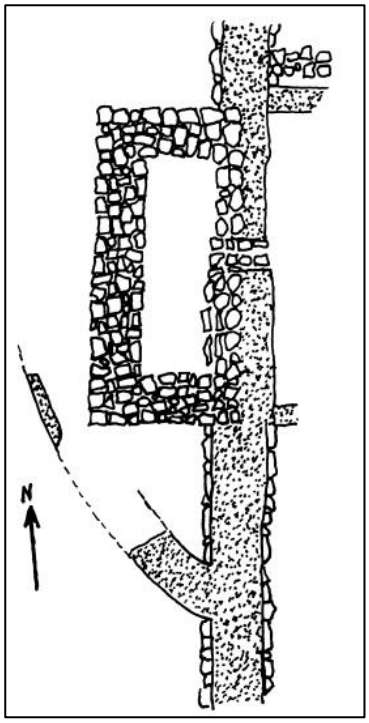

Fig 108: The north-west tower in Tell Kannas (Finet 1979: 85).

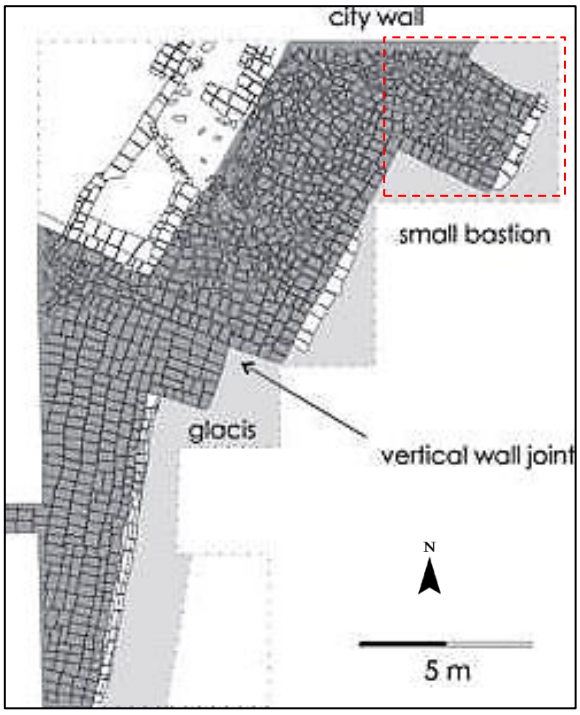

Fig 109: The small bastion in the area W-4 in Tell Chuera (Helms, Meyer 2016: 153)

Fig 110: Large rectangular bastion (Bastion I) in area W-4 (construction phase 2, local period Tell Chuera ID). In Tell Chuera, (Helms, Meyer 2016: 149).

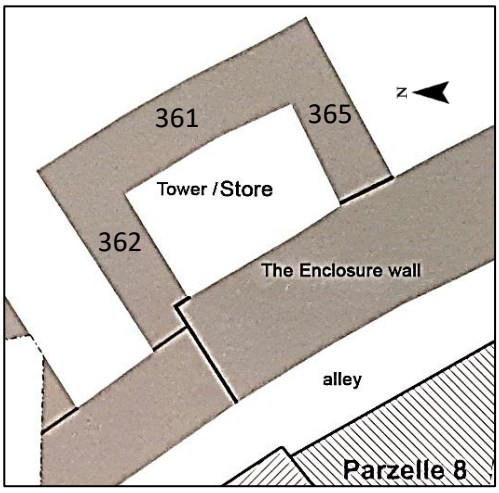

Fig 111: Tower in Tell Kharab Sayyar (Hempelmann 2013: 338).

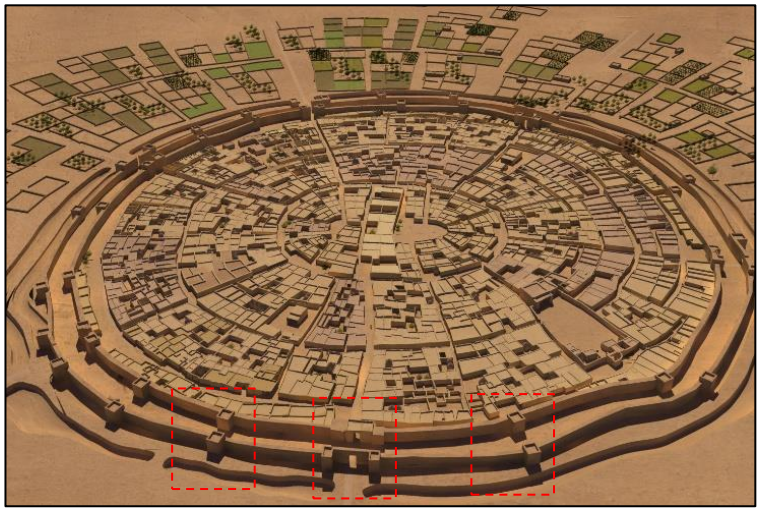

Fig 112: Towers in Tell al-Rawda (Castel, Awad 2016: 138).

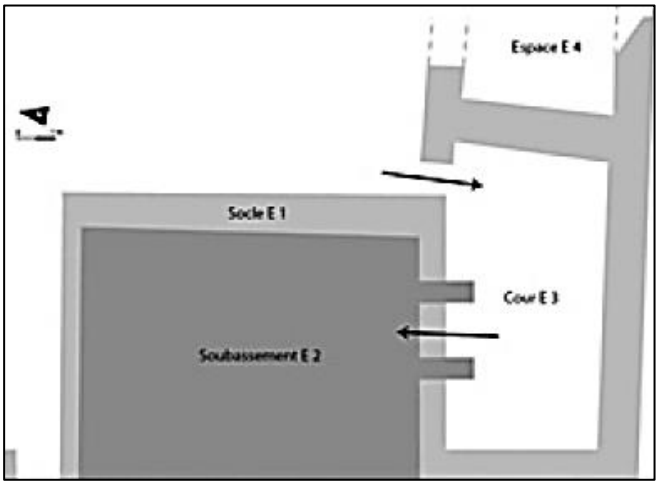

Fig 113: Tower RW241, which is located out of Tell al-Rawda (Castel et al. 2014 vol 2: 2).

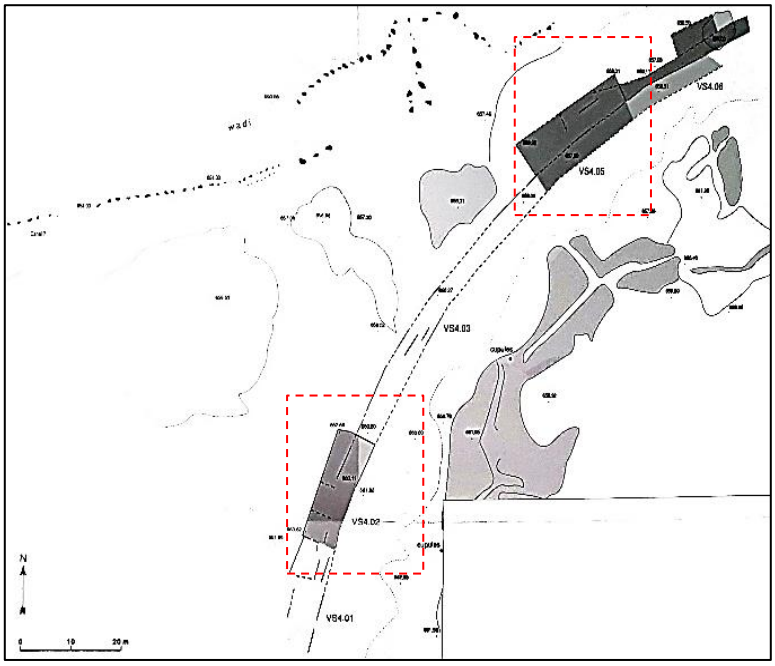

Fig 114: Bastions (VS4.02, VS4.05) in the north-west sector of Khirbet el-Umbashi (Braemer et al. 2004: fig 48).

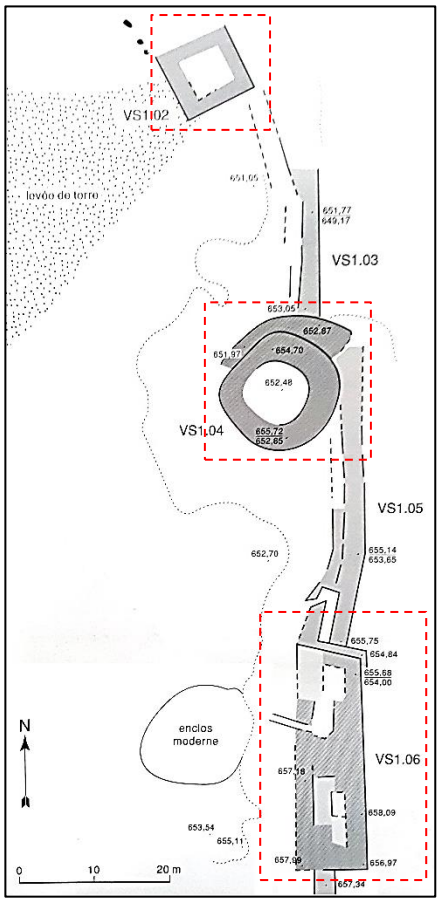

Fig 115: Bastions (VS1.04, VS1.06) in the eastern sector of Khirbet el-Umbashi (Braemer et al. 2004: 54).

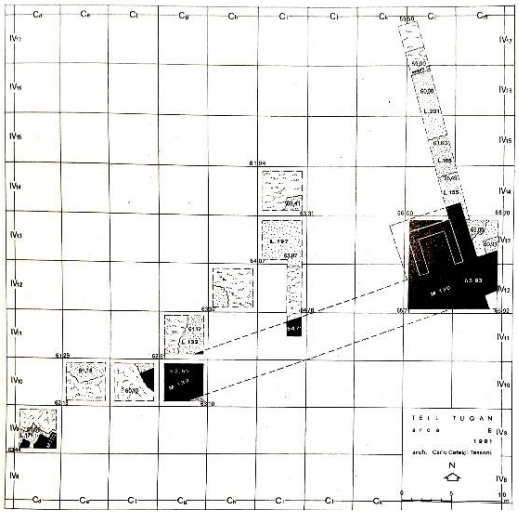

Fig 116: The inner fortification wall and tower in area E in Tell Touqan (Baffi 2013: 183).

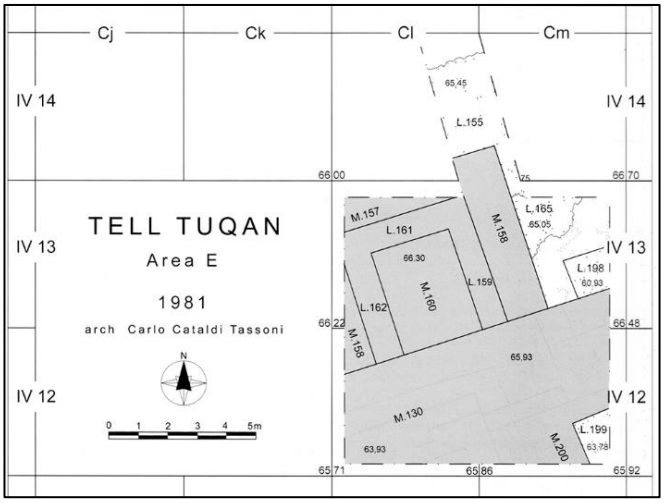

Fig 117: The inner tower in area E in Tell Touqan (Baffi 2013: 184).

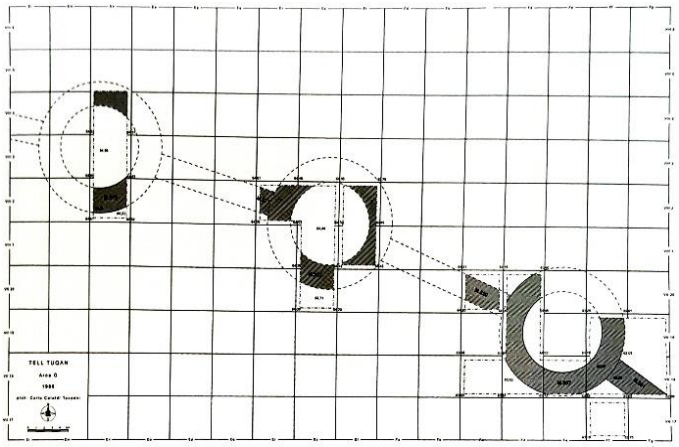

Fig 118: Circular towers in area G in Tell Touqan (Baffi 2013: 181).

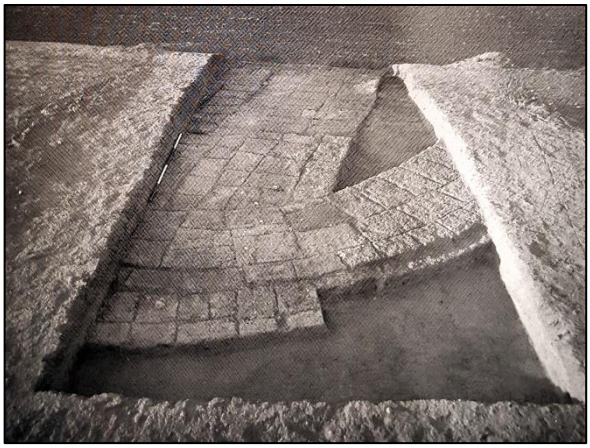

Fig 119: The structure of a Circular tower in area G in Tell Touqan (Baffi 2013: 181).

Fig 120: 3D drawing of the circular towers in area G in Tell Touqan, (Drawn by the student).

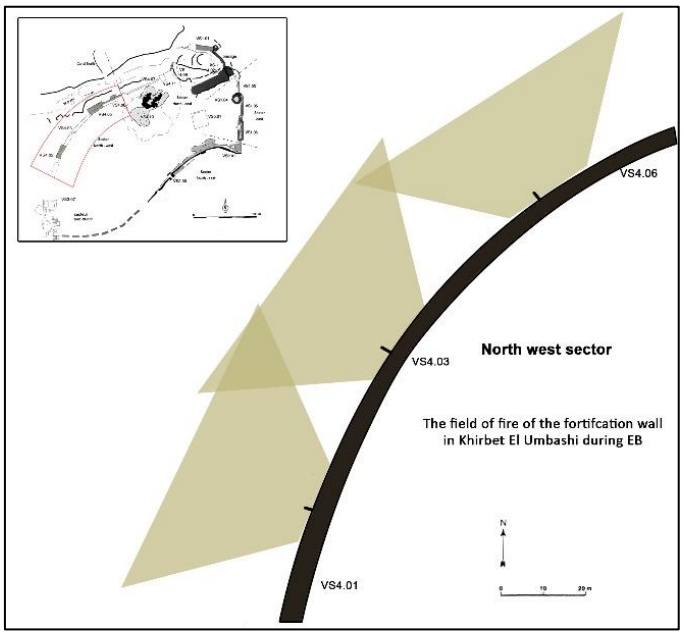

Fig 121: Dead zones and fields of fire in the north-west sector of Khirbet el-Umbashi without towers, (drawn by the student) according to (Braemer et al. 2004: fig 48).

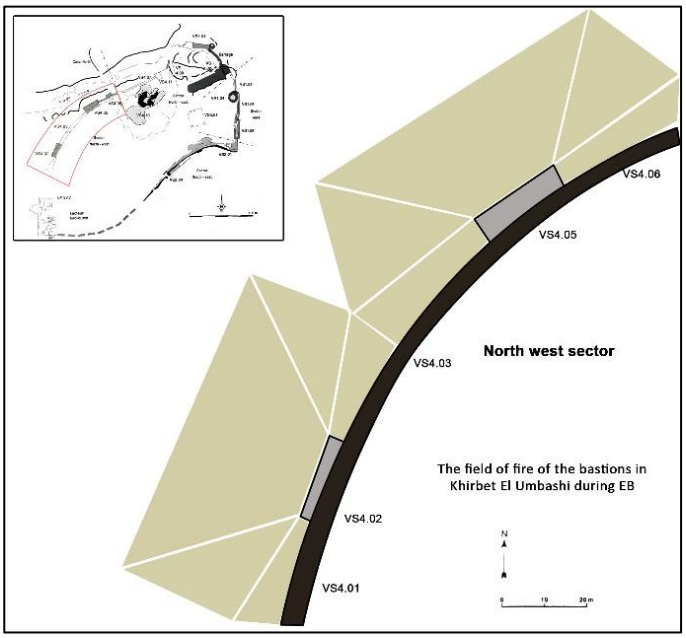

Fig 122: Dead zones and fields of fire in the north-west sector of Khirbet el-Umbashi with towers, (drawn by the student) according to (Braemer et al. 2004: fig 48).

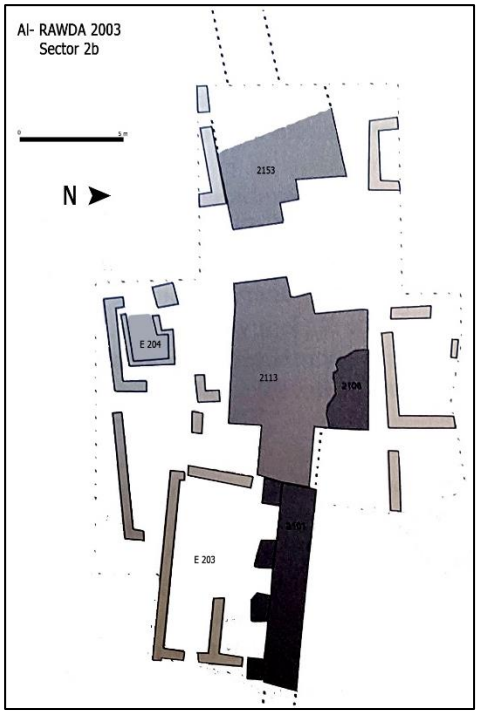

Fig 123: The northern gate in sector 2b in Tell al-Rawda, (Castel 2008a: 311).

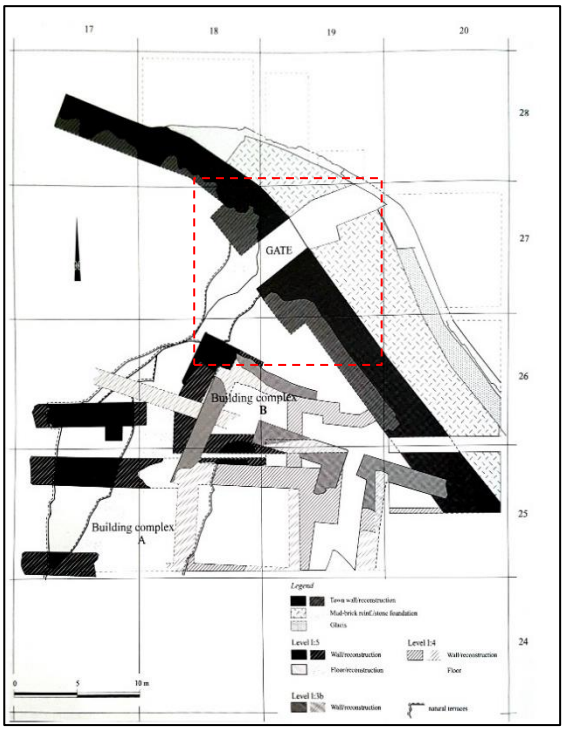

Fig 124: The northern gate in Tell el-'Abd (Sconzo. 2013:16).

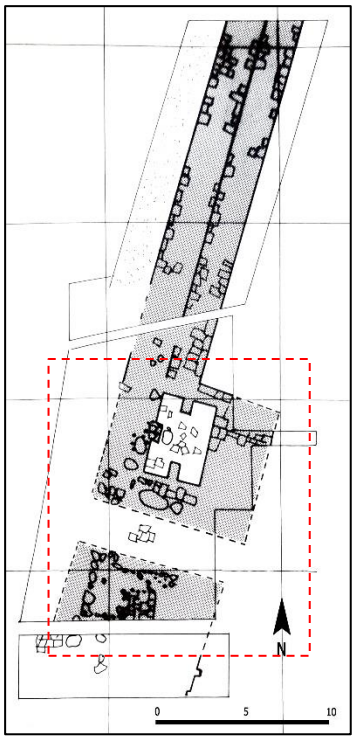

Fig 125: The gate in Q3 in Tell Selenkahiye, which has been flanked by two squarish towers. (Van Loon 2001: 3.88).

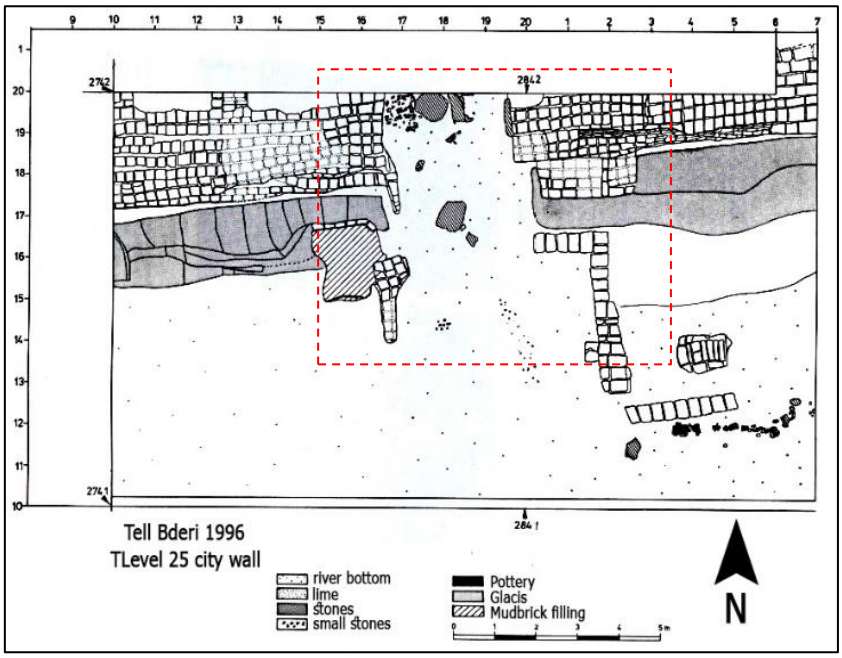

Fig 126: The gate in Tell Bderi part (Pfälzner 1989: 217).

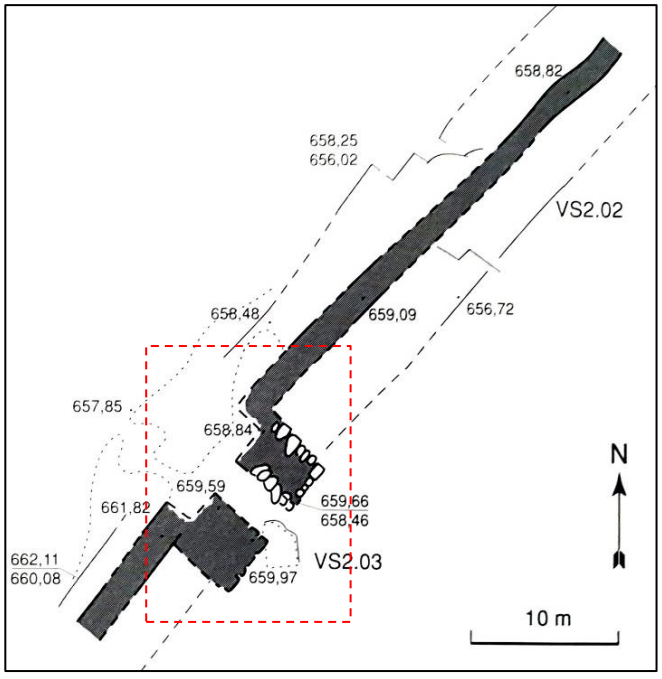

Fig 127: The gate in south-east sector in Khirbet el-Umbashi, which has been flanked by two towers, (Braemer et al. 2004: 59).

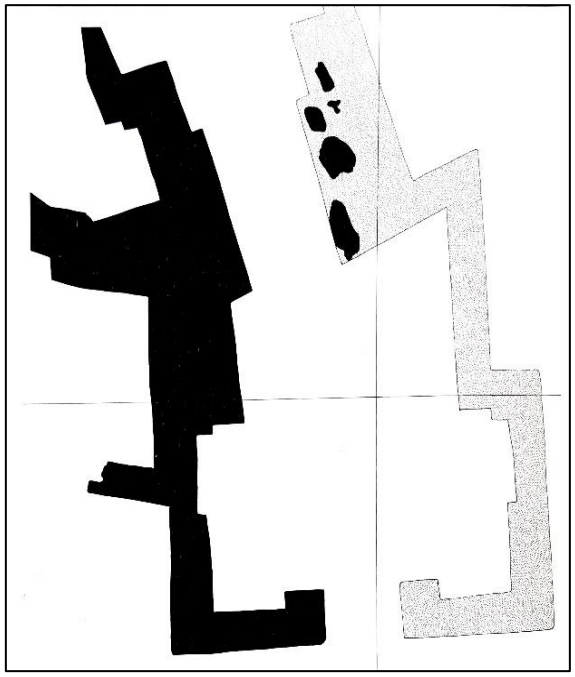

Fig 128: The northern gate in Tell Halawa A, which has been flanked by two buttresses, (Orthmann 1989: 38).

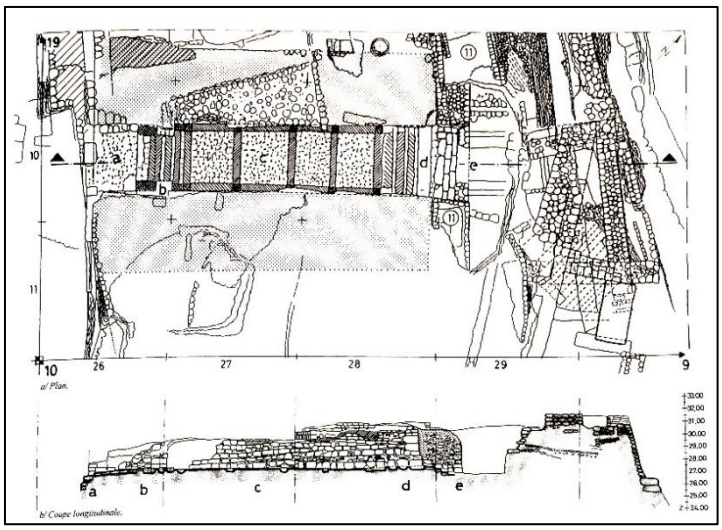

Fig 129: The land gate in the north-eastern part of Byblos (Luaffray 2008: 307).

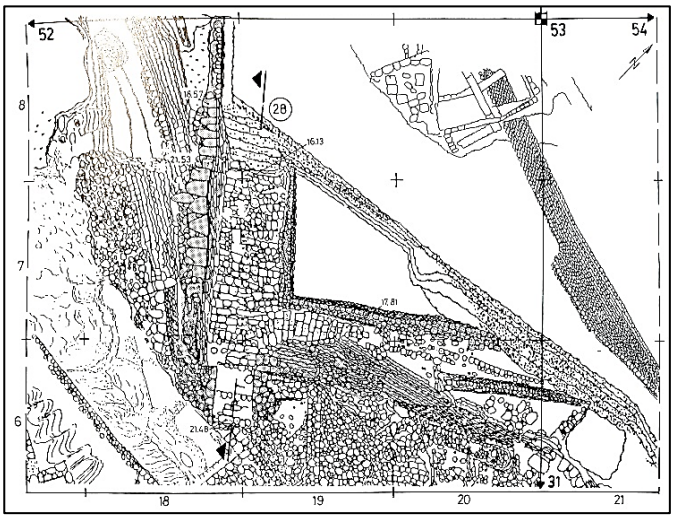

Fig 130: The Port gate in the north-western part of Byblos (Luaffray 2008: 397).

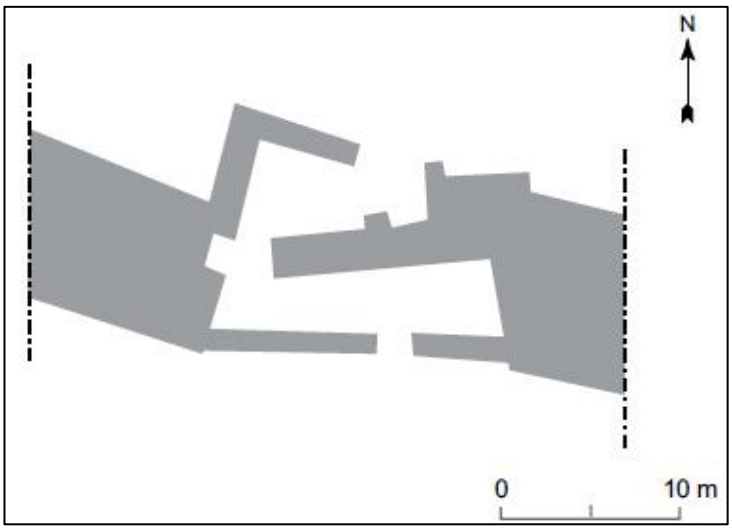

Fig 131: The south-western gate in Tell Labwe (Al-Maqdissi, Braemer 2006: 119).

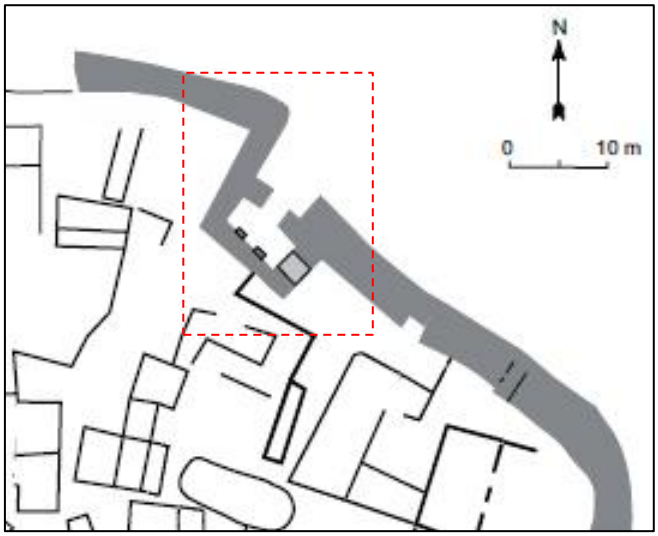

Fig 132: The northern gate in Tell Labwe (Al-Maqdissi, Braemer 2006: 121).

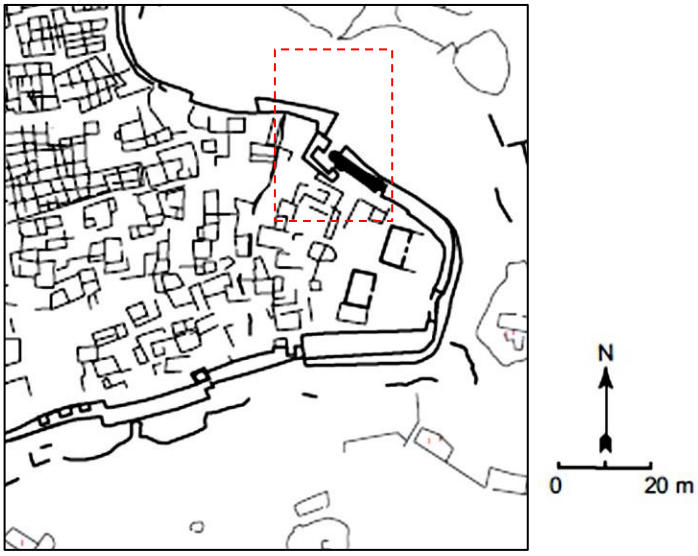

Fig 133: The eastern gate in Tell Labwe (Al-Maqdissi, Braemer 2006: 117).

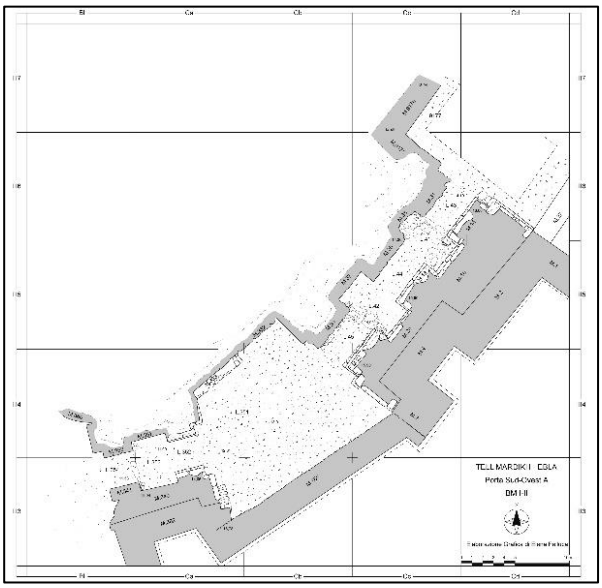

Fig 134: Damascus gate in the south-west part in Tell Mardikh/Ebla in area A, (Ebla's expedition

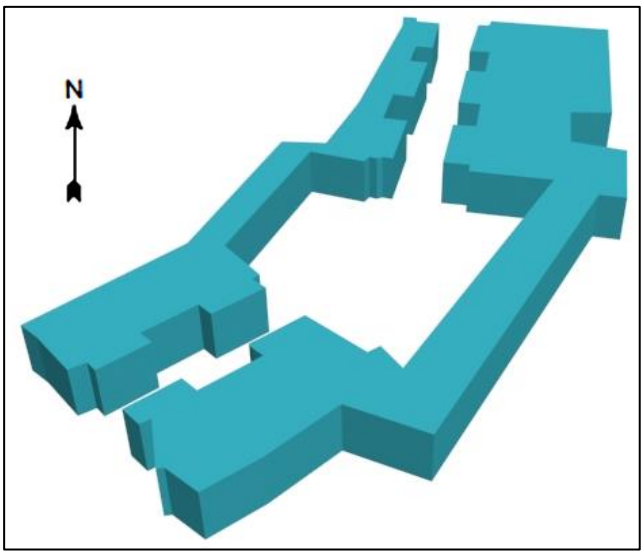

Fig 135: 3D drawing of Damascus gate in the south-west part in Tell Mardikh/Ebla in area A, (drawn by the student).

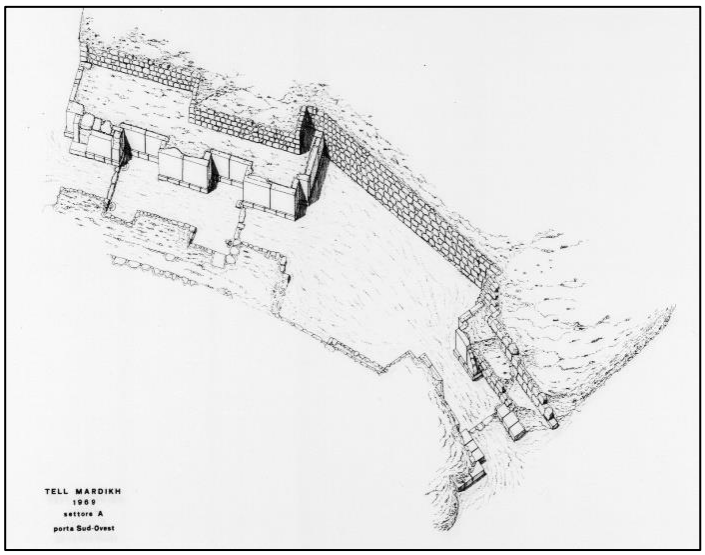

Fig 136: Damascus gate in the south-west part in Tell Mardikh/Ebla in area A, (Ebla's expedition office).

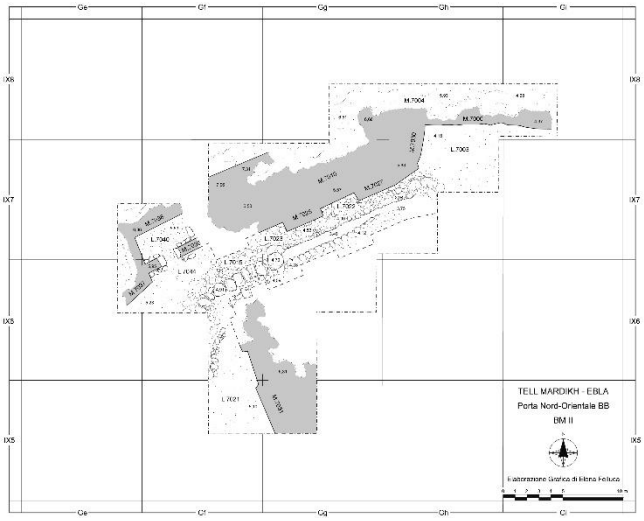

Fig 137: Euphrates gate in the north-east part in Tell Mardikh/Ebla in area BB, (Ebla's expedition office).

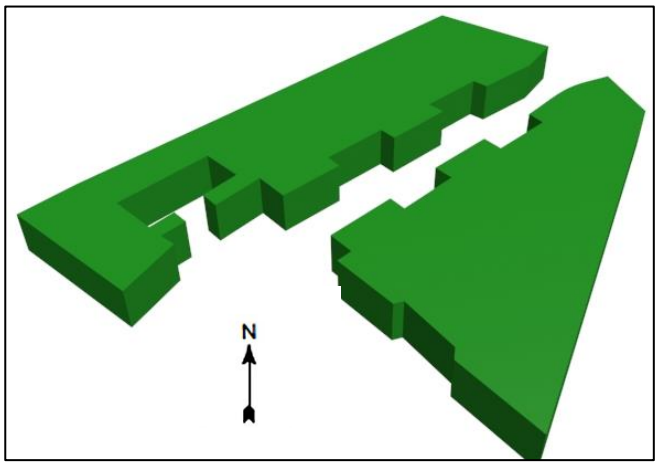

Fig 138: 3D drawing of Euphrates gate in the north-east part in Tell Mardikh/Ebla in area BB, (drawn by the student).

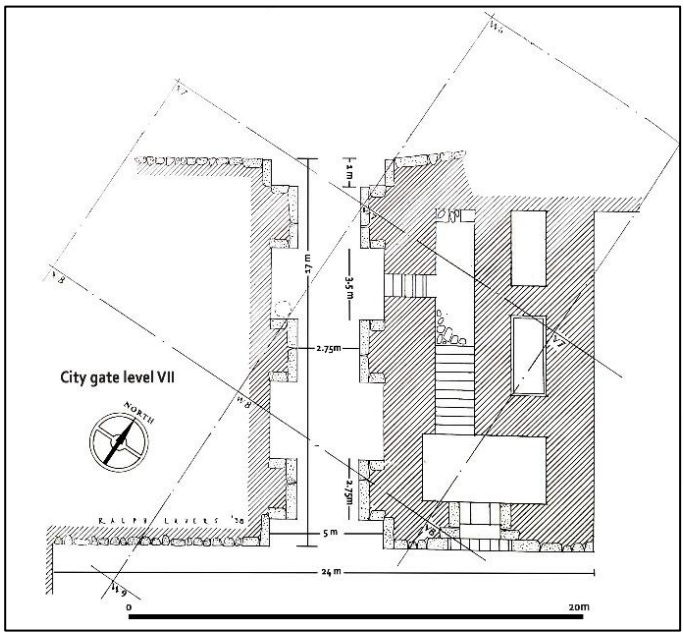

Fig 139: The northern gate in Tell ‘Atchana / Alalakh, (Woolley 1955: 146).

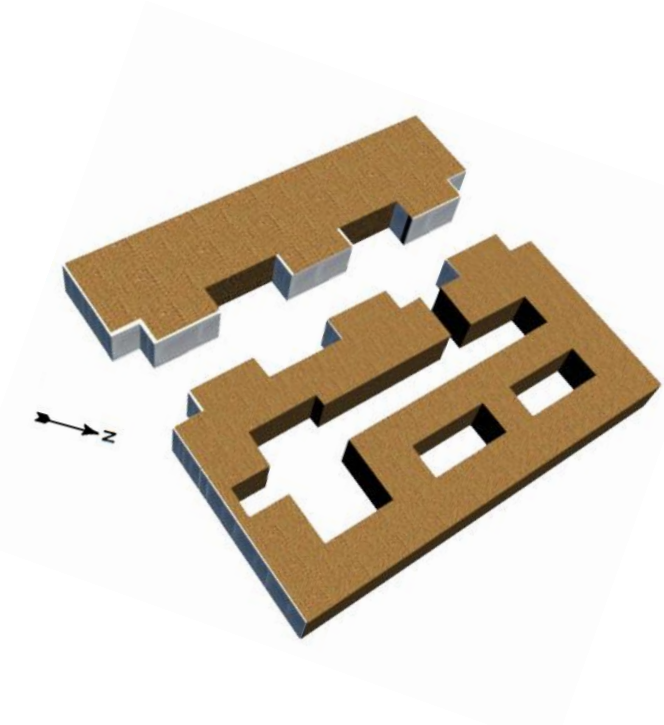

Fig 140: 3D drawing of the northern gate in Tell ‘Atchana / Alalakh, (Drawn by the student).

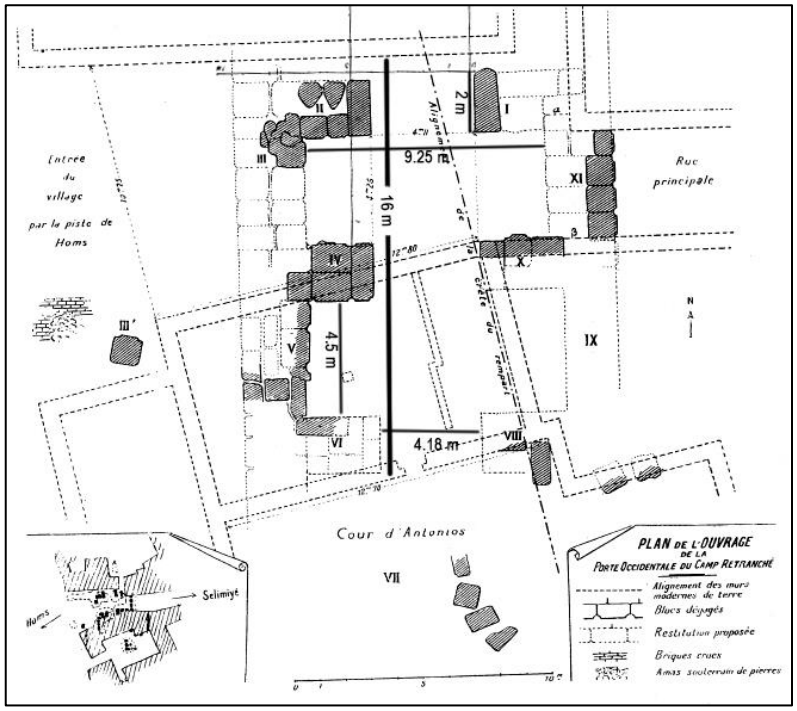

Fig 141: The western gate in Tell Mishrifeh/ Qatna (Du Mesnil du Buisson 1926: 295).

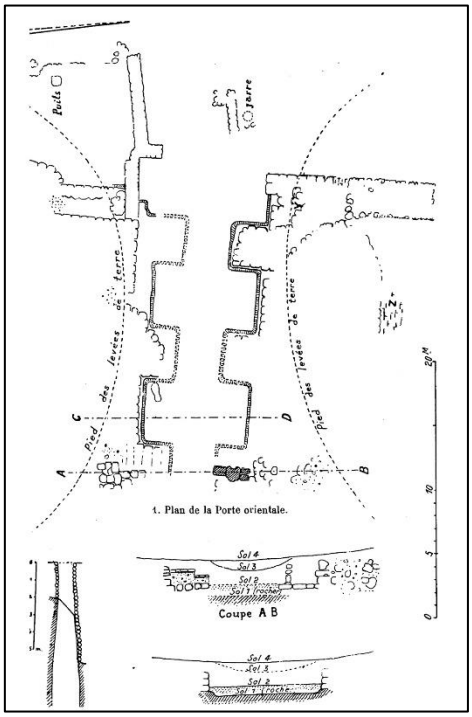

Fig 142: The eastern gate in Tell Mishrifeh/ Qatna (Du Mesnil du Buisson 1927: PL LX).

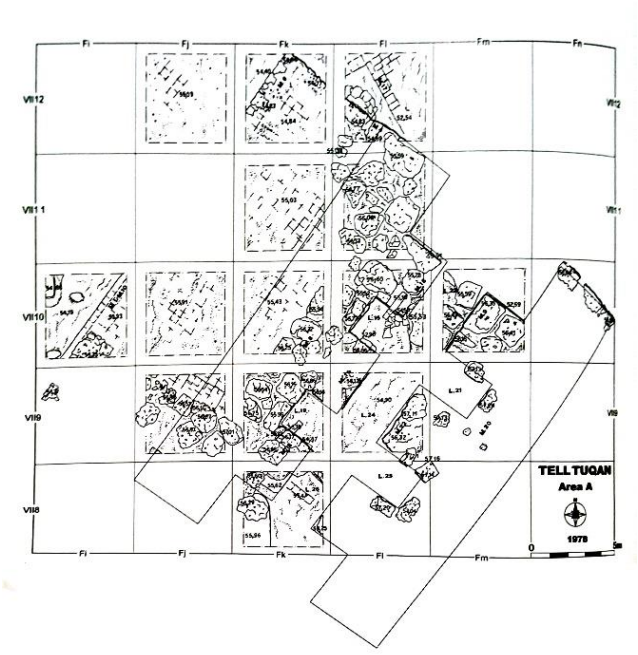

Fig 143: The north-east gate in area A in Tell Touqan, (Baffi 2013: 178).

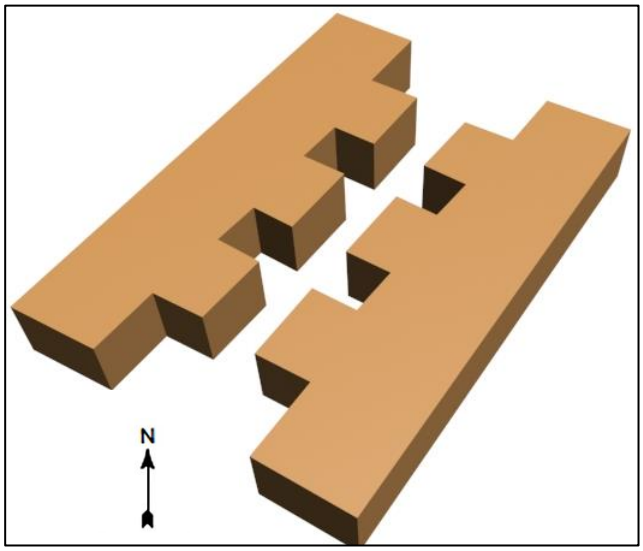

Fig 144: 3D drawing of the north-east gate in area A in Tell Touqan, (Drawn by the student).

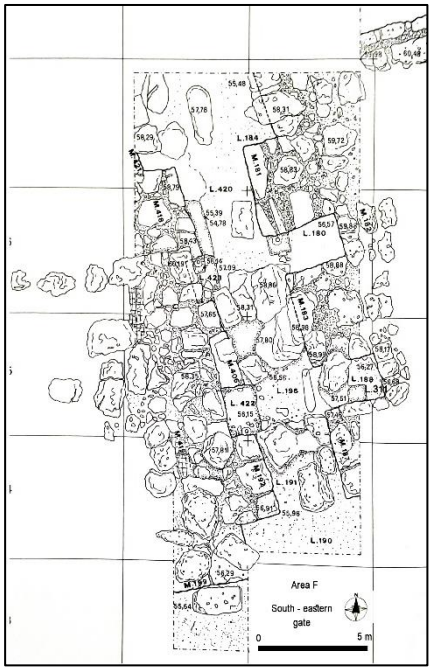

Fig 145: The south-east gate in area F in Tell Touqan, (Baffi 2013: 180).

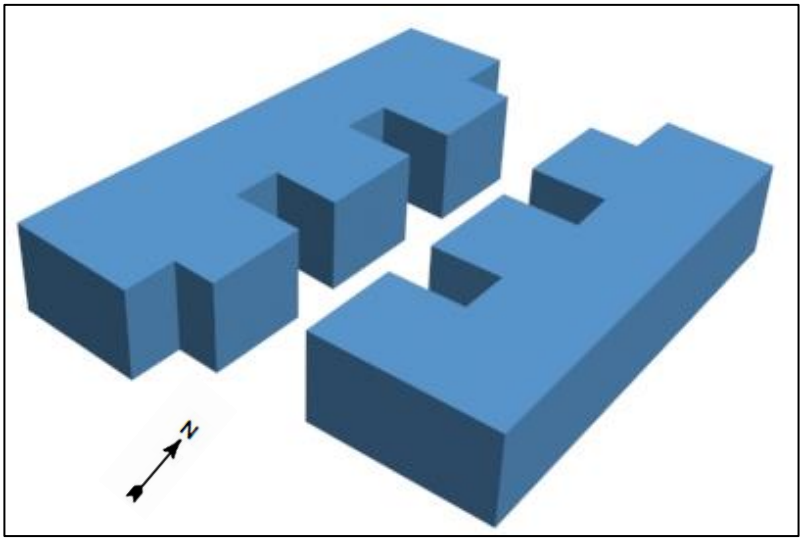

Fig 146: 3D drawing of the south-east gate in area F in Tell Touqan, (Drawn by the student).

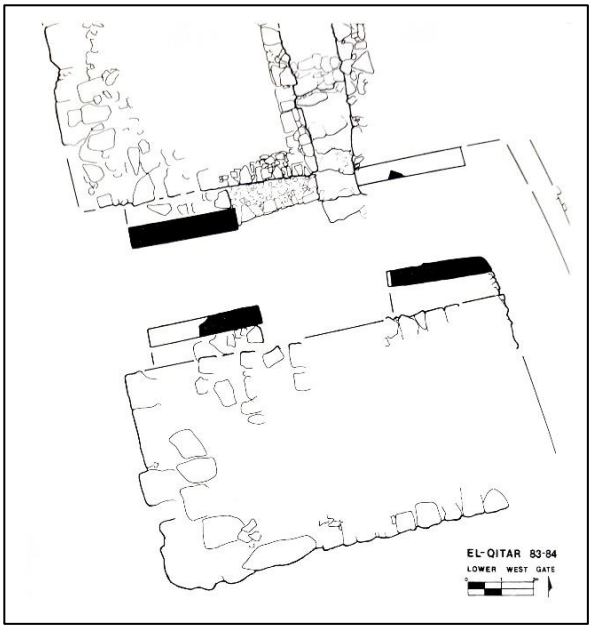

Fig 147: The outer gate in the western complex gate in Tell el-Qitar, (Mcclellan 1984/85: 64).

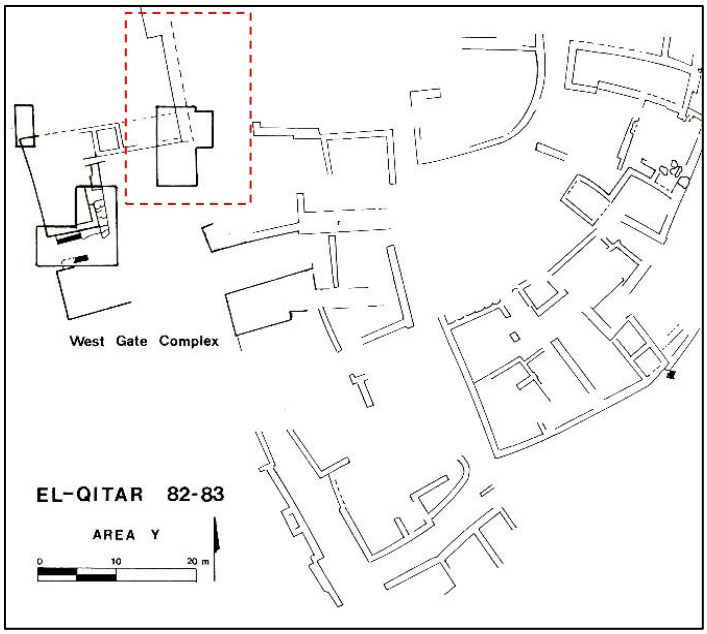

Fig 148: The inner gate in the western complex gate in Tell el-Qitar, (Mcclellan 1984/85: 64).

Fig 149: The inner gate in the northern part of the acropolis of Tell Umm el-Marra, (Schwartz et al 2003: 343).

Fig 150: The outer gate in the north-west part of Tell Umm el-Marra, (Schwartz et al 2012: 181).

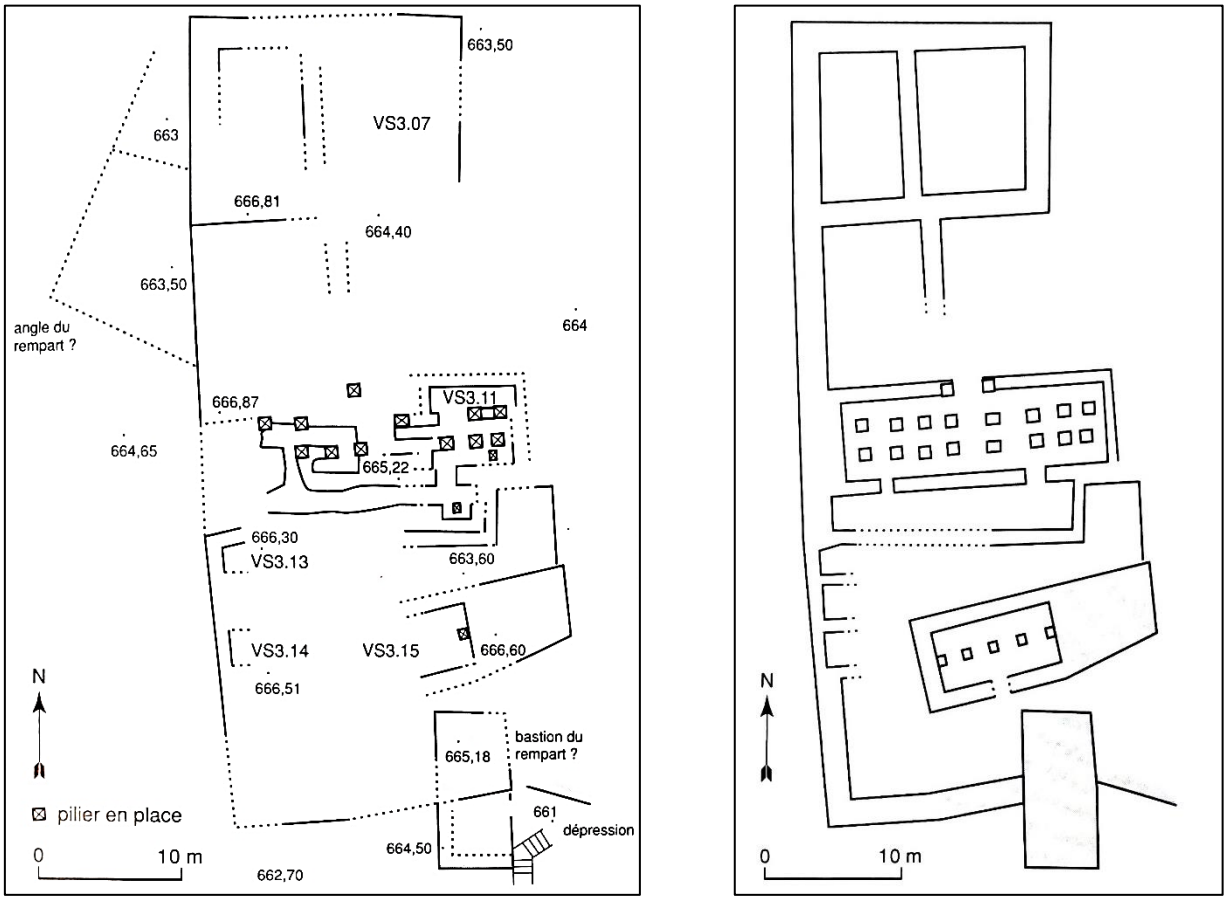

Fig 151: The south-west citadel in Khirbet el-Umbashi, (Braemer et al. 2004: 61).

Fig 152: The western fort and fortress in area V of Tell Mardikh/Ebla, (Ebla's expedition office).

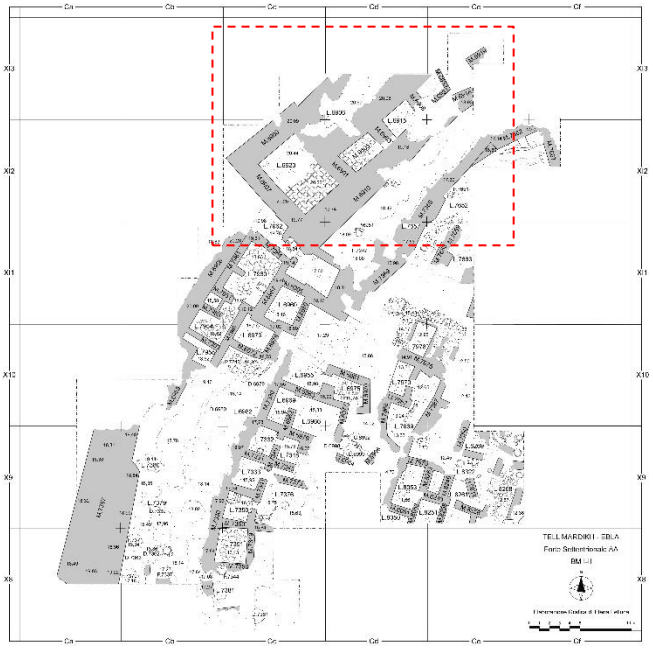

Fig 153: The northern fort and fortress in area AA of Tell Mardikh/Ebla, (Ebla's expedition office).

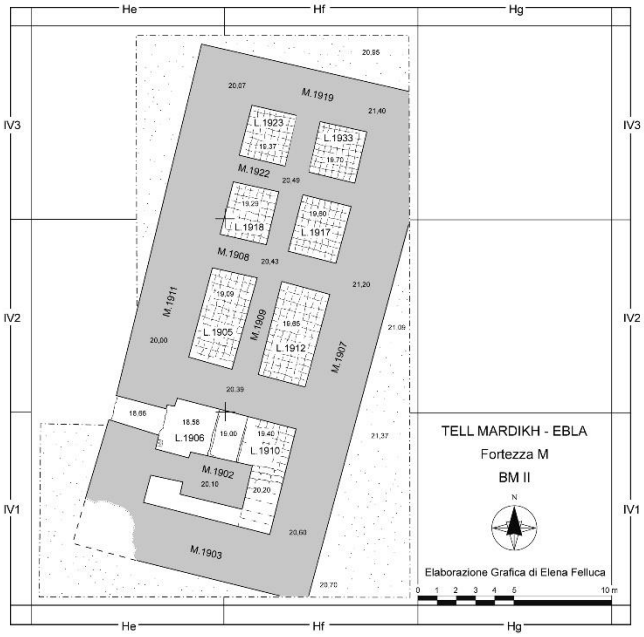

Fig 154: The east-south fortress in area M of Tell Mardikh/Ebla, (Ebla's expedition office).

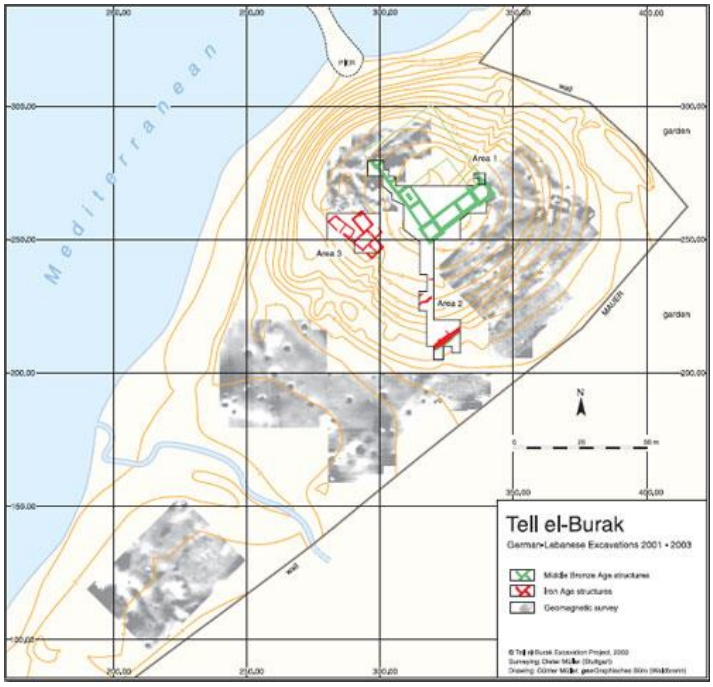

Fig 155: Plan of Tell el-Burak
(Badreshany, Kamlah 2014: 92).

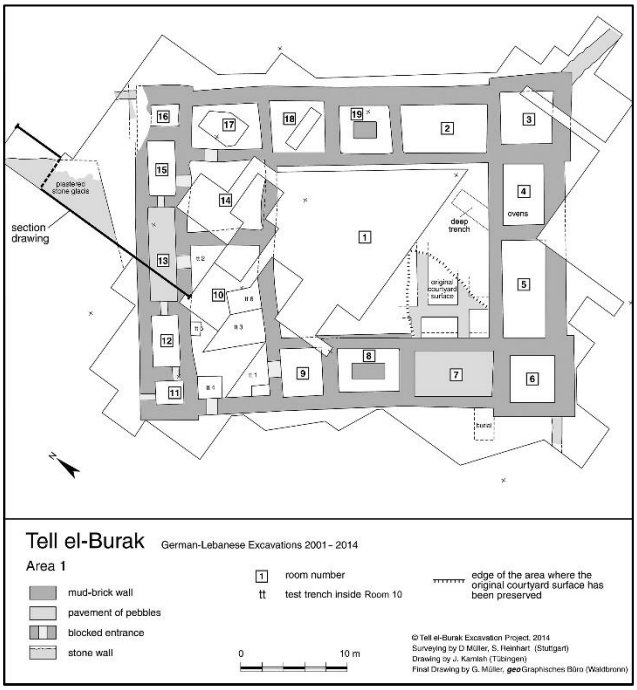

Fig 156: The fort of Tell el-Burak
(Höflmayer et al 2016: 55).

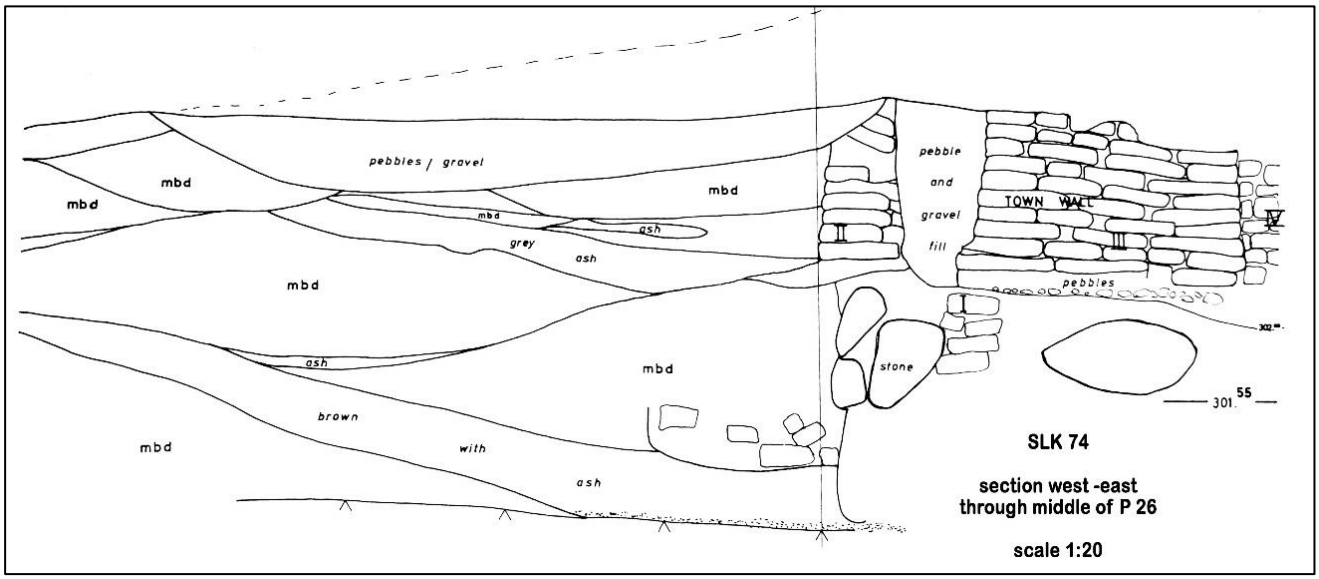

Fig 157: Section west-east through the city wall in area B (Sq O-Q 26) in Tell Selenkahiye,
(Van Loon 2001: 3.52).

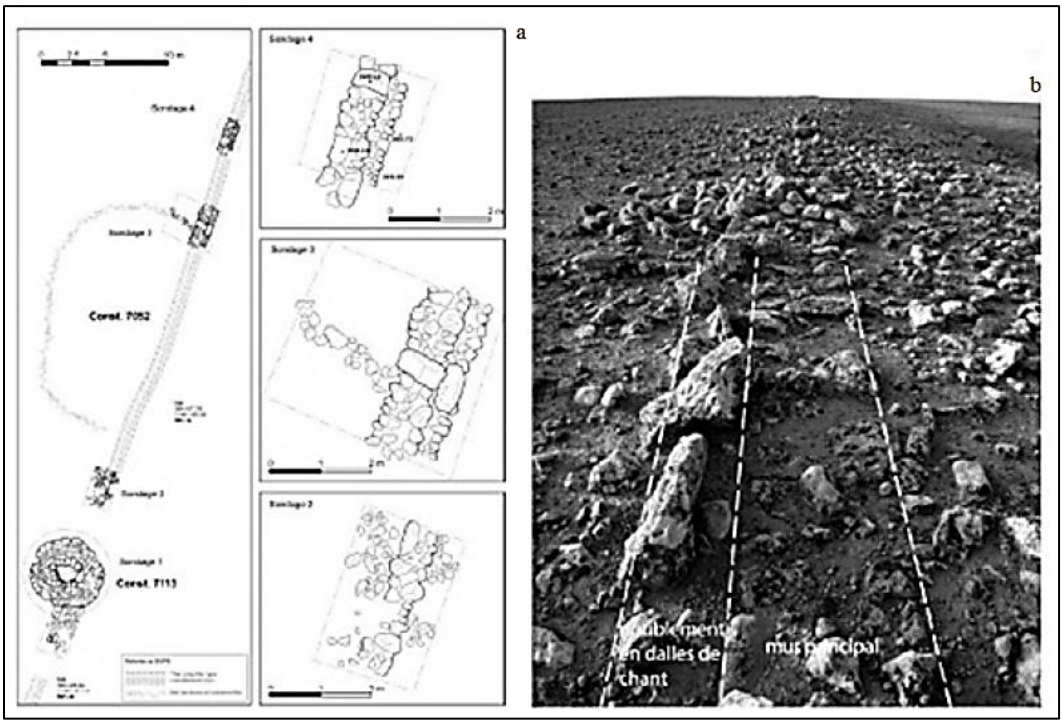

Fig 158: The structure of long fortification wall (TLM) (Très Long Mur), (Castel et al. 2014: 14).

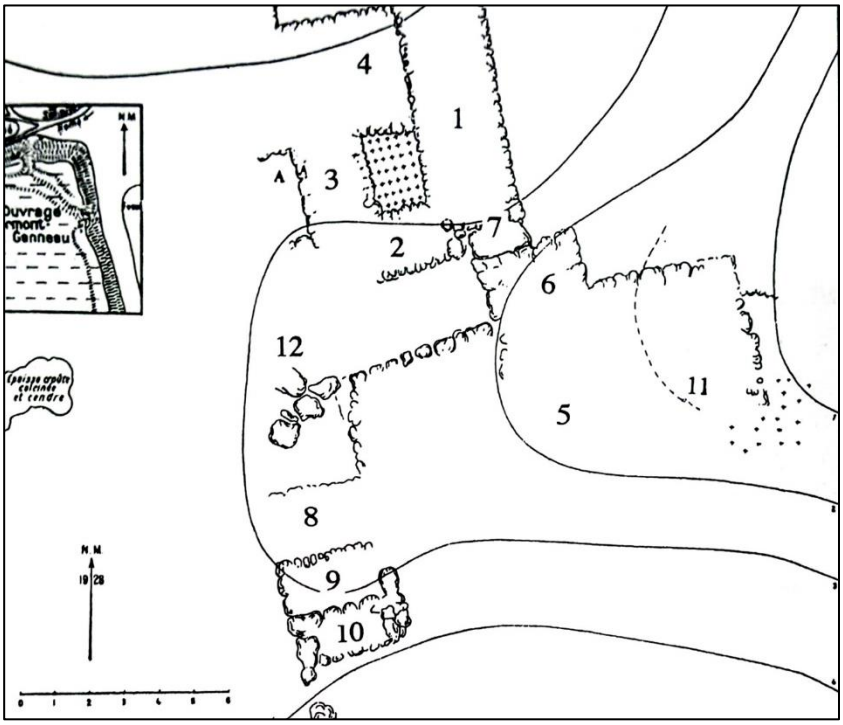

Fig 159: The Southern and northern complex in Tell Mishrifeh/ Qatna, (Al-Maqdissi 2001: 133).

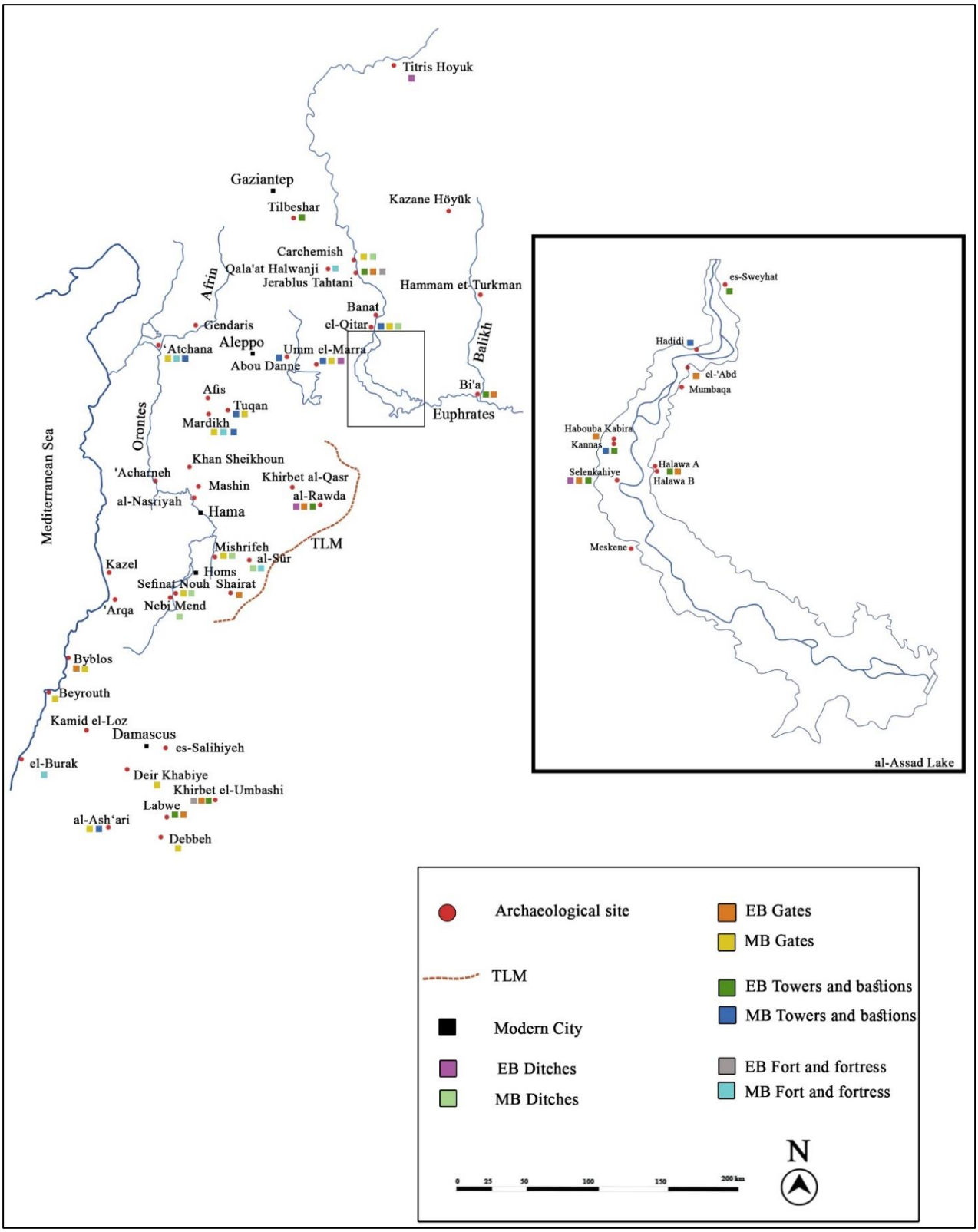

Fig 160: The spread of the defensive elements (gates, towers, bastion, fort, fortress and ditches) in the Euphrates region, the Upper and lower Northern Levant during the EB and MB, drawn by the student according to (Steiner, Killebrew 2014: 279,293,417,435). / (Finkbeiner et al.2015: 10).

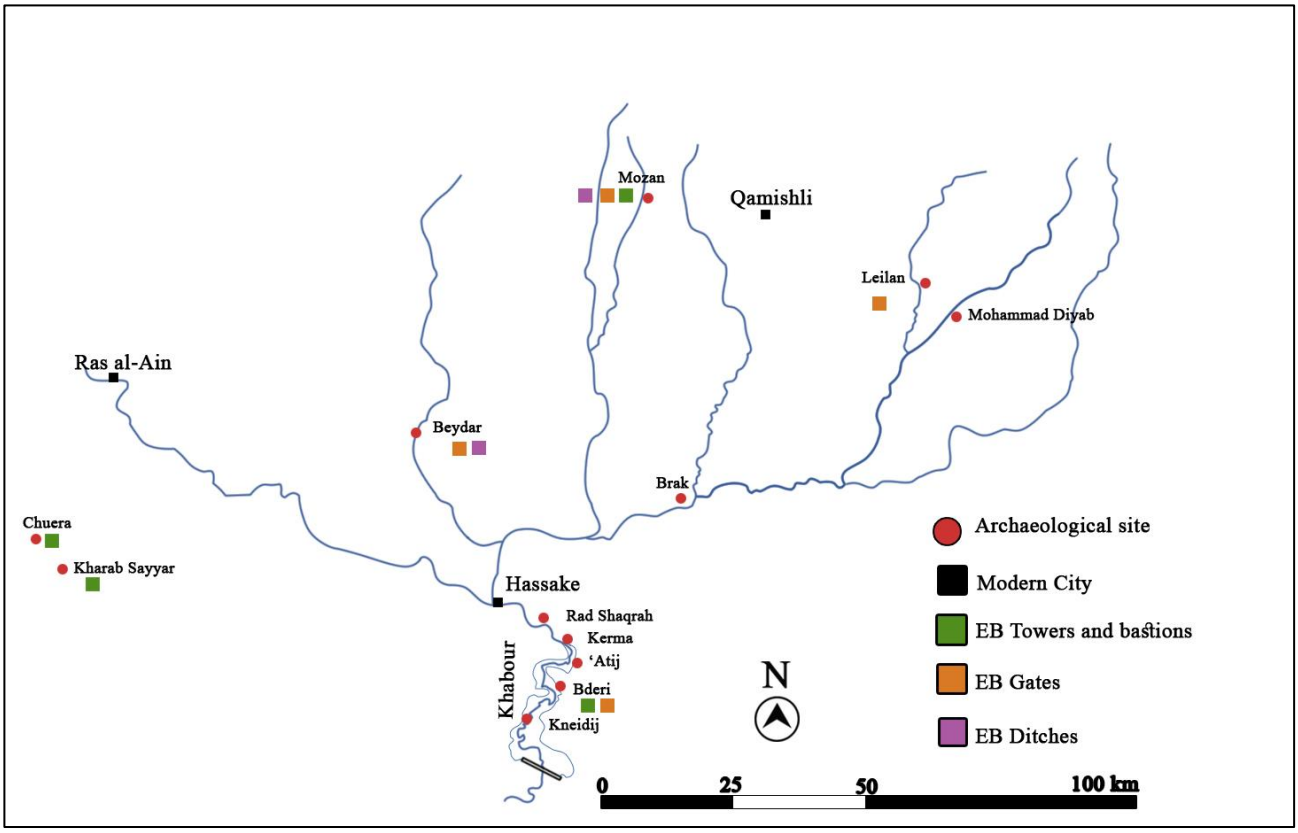

Fig 161: The spread of the defensive elements (gates, towers, bastion and ditches) in Syrian Jazirah during the EB and MB, drawn by the student according to (Lebeau et al. 2011: 4, 7, 8, 20).

BIBLIOGRAPHY

Affanni, Michele 2009.

The Development of defence strategies at Tell Afis (Syria) from Chalcolithic to Iron Age. Rome, pp. 39-54.

Akkermans, Schwartz 2003.

The archaeology of Syria From complex hunter-gatherers to early urban societies (c. 16000 - 300 BC).

Algaze et al. 2001.

Algaze, Dinkan, Hartenberger, Matney, Pournelle, Rainville, Rosen, Rupley, Schlee, Vallet. Research at Titris Höyük in Southeastern Turkey: the 1999 season. *Anatolica,* Band 27, pp. 23-106.

Algaze et al. 1995.

Algaze, Goldberg, Honca, Matney, Misir, Rosen, Schlee, Somer. Titris Höyük, a Small EBA Urban Center in SE Anatolia: the 1994 Season. *Anatolica,* Band 21, pp. 13-64.

Al-Maqdissi, Braemer 2006.

Labwe (Syrie) : une ville du Bronze Ancien 2 du Levant Sud. *Paléorient,* Band 32/1, pp. 113-124.

Al-Maqdissi et al. 2010.

Al-Maqdissi, Parayre, Sauvage. Mission archéologique syro-française de l'Oronte. La campagne 2008 à Tell Al-Nasriyah. *Studia Orontica,* Band VII-VIII, pp. 8-20.

Al-Maqdissi et al. 2009.

Al-Maqdissi,Parayre,Sauvage. La mission conjointe Syro-Française de l'Oronte première campagne (aout 2007). *Studia Orontica,* Band VI, pp. 42 -50.

Al-Maqdissi 2001.

Kurzbericht über die syrischen Ausgrabungen in Mišrife-Qatna. *Mitteilungen der deutschen Orient-Gesellschaft,* Band 133, p. 141–155.

Al-Maqdissi 2010.

Al-Mishrefeh -Qatna. *Chronique Archéologique en Syrie,* Band 4, pp. 31-44.

Assaf 1997.

Mishrifeh. In: Meyers, ed. *The Oxford Encyclopaedia of Archaeology in the Near East.* s.l.:Oxford University, p. 35–36.

Bachelot et al. 1990.

Bachelot, Castel, Charpin, Sauvage . Tell Mohammed Diyab, campagnes 1987 et 1988. *Société pour l'étude du Proche Orient ancien,* pp. 9-46.

Badre et al. 1990.

Badre, Gubel, Al-Maqdissi, Sader. Tell Kazel, Syria, Excavations of the AUB Museum 1985-1987, Preliminary Reports. *Berytus Archaeological Studies,* Band 38, pp. 10-124.

Badre 1997.

Bey 003 Preliminary Report: Excavations of the American University of Beirut Museum. *Bulletin d'Archéologie et d'Architecture Libanaises,* Band 2, pp. 6-94.

Badre 2006.

Tell Kazel-Simyra: A Contribution to a Relative Chronological History in the Eastern Mediterranean during the Late Bronze Age. *Bulletin of the American Schools of Oriental Research,* Band 343 , pp. 65-95.

Baffi, Peyronel 2013.

Trends in Village Life The Early Bronze Age Phases at Tell Tuqan. In: M. Marchetti, Hrsg. *Ebla and its landscape Early State Formation in the Ancient Near East*, pp. 95 -214.

Baffi 1990.

Tell Touqan, une ville paléosyrienne. *Annales Archéologiques Arabes Syriennes,* Band 40, p. 64–75.

Baffi 2013 .

The Defences at Tell Tuqan in the 2nd Millennium B.C.. Lecce, pp. 163-188.

Bertemes 1986.

Die „Mittelbronzezeitliche" Stadtmauer am Osthand des Tell Kamid el-Loz. In Kamid el-Loz 1977–81. In: *Bericht über die Ergebnisse der Ausgrabungen in Kāmid el-Lōz in den Jahren 1977 bis 1981*, p. 77–100.

Bevan 1997.

A Conductivity Survey at Tell Banat.

Bielinski 1992.

The first campaign of excavations on Tell Rad Shaqrah (Hasake Southern dam basin). *Polish Archaeology in the Mediterranean,* Band PAM III, pp. 77-85.

Bielinski 1993.

Tell Rad Shaqrah 1992 - the fifth season of exploration on north east Syria. *Polish Archaeology in the Mediterranean,* Band (PAM IV) , pp. 119-127.

Bielinski 1994.

Tell Rad Shaqrah: Excavations 1993. *Polish Archaeology in the Mediterranean,* Band (PAM V), pp. 154-163.

Bounni 1974.

Preliminary Report on the Archeological Excavations at Tell al-'Abd and 'Anab al-Safinah (Euphrates) 1971-72. *Annales Archéologiques Arabes Syriennes,* Band 24 , pp. 53-67.

Bounni 1979.

Preliminary Report on the Archeological Excavations at Tell al-'Abd and 'Anab al-Safinah (Euphrates) 1971-72. *Annual of the American Schools of Oriental Research,* Band 44, pp. 49-61.

Bounni 1997.

Tell Kazel. In: Meyers, Hrsg. *The Oxford Encyclopedia of Archaeology*. s.l.:Oxford University, pp. 275-276.

Bourke 1993.

The Transition from the Middle to Late Bronze Age in Syria : The Evidence from Tell Nebi Mend. *Levant,* Band 25, pp. 155-195.

Braemer et al. 2004

Braemer, Echallier, Taraqji. *Khirbet Al Umbashi, Villages et Campements de pasteurs dans le „desert noir"(Syrie) a l'age du Bronze.* Beyrouth.

Braemer et al. 1993

Braemer, Taraqji, Echallier. Khirbet el Umbashi (Syrie). Rapport préliminaire sur les campagnes 1991 et 1992. *Syria*, 70(3-4), pp. 415-430.

Braemer 1984.

Prospections archéologiques dans le Hawrân (Syrie). *Syria,* 61(3-4), pp. 219-250.

Braemer 1993.

Prospections archéologiques dans le Hawran (Syrie). III. *Syria,* 70(1-2), pp. 117-170.

Brandt et al. 2005.

Brandt, Ossen, Martin. *Tall Knedig, Ergebnisse der Ausgrabungen des Vorderasiatischen Museums Berlin in Nordost-Syrien von 1993 bis 1998.*

Buccellati, Kelly-Buccellati 1997.

Urkesh: The First Hurrian Capital. *Biblical Archaeologist,* 60(2), pp. 77-94.

Buccellati, Kelly-Buccellati 1988.

Mozan 1: The Soundings of the First Two Seasons. Mailbu: Udena Publications.

Buccellati 1997.

Tell Mozan. In: Meyers, Hrsg. *The Oxford Encyclopedia of Archaeology in the Near East.* s.l.:Oxford University Press, p. 60–63.

Buccellati 1998.

Urkesh as Tell Mozan: Profiles of the Ancient City. In: B. e. Kelly-Buccellati, Hrsg. *Urkesh and the Hurrians: Studies in Honor of Lloyd Cotsen. Urkesh/Mozan Studies 3,.* Malibu: Bibliotheca Mesopotamica, pp. 11-34.

Burke 2004.

The Architecture Of Defense: Fortified Settlements Of The Levant During The Middle Bronze Age. Chicago: The University Of Chicago.

Burke 2008.

Walled Up to Heaven: The Evolution of Middle Bronze Age Fortification Strategies in the Levant, Winona Lake, Indiana: Brill Academic Pub.

Burke, 2014

'Introduction to the Levant during the Middle Bronze Age', in Steiner, M. L. and Killebrew, A. E. (eds.) *The Oxford Handbook of the Archaeology of the Levant c. 8000-332BC*. Oxford: Oxford University Press, pp. 403–413.

Butterlin & Rey 2016

Mari and the Development of Complex Defensive Systems in Mesopotamia, in In: *Focus on Fortifications New Research on Fortifications in the Ancient Mediterranean and the Near East,* Frederiksen et al. (ed). s.l.:OXBOW BOOKS, Oxford, pp. 23-33.

Castel et al. 20014.

Castel, Awad, Barge, Brochier, Calastrenc, Couteau. Rapport préliminaire sur les activités de la Mission archéologique franco syrienne d'Al Rawda, travaux 2007-2010 (Part 2). *Akkadica*, Band 135 , pp. 1-36.

Castel 2004.

Prospection géophysique à al-Rawda et urbanisme en Syrie au Bronze ancien. *Paléorient,* 30(2), pp. 93-109.

Castel 2008 a.

Al-Rawda a Town in the steppe (Central Syria Early Bronze Age IV). Berlin, pp. 302-312.

Castel 2008.

Rapport préliminaire sur les activités de la mission archéologique franco-syrienne dans la micro-région d'Al-Rawda (Shamiyeh) :quatrième et cinquième campagnes (2005 et 2006). *Akkadica*, Band 129, pp. 5-24.

Cecchini et al. 2006.

Cecchini, Affanni, Di Michele. *Tell Afis. The walled acropolis (Middle Bronze Age to Iron Age I). A work in progress.* Madrid,pp. 383-392.

Cooper 1997.

The middle bronze age of the Euphrates valley, Syria: chronology, regional interaction and cultural exchange. s.l.:National Library of Canada.

Cooper 1997.

The middle bronze age of the Euphrates valley, Syria: chronology, regional interaction and cultural exchange".

Cooper 2006 .

Early Urbanism On The Syrian Euphrates. New York.

Creekmore 2010.

The structure of Upper Mesopotamian cities: insight from fluxgate gradiometer survey at Kazane Höyük, southeastern Turkey. *Archaeological Prospection,* 17(2), pp. 73-88.

Cremaschi et al. 2002.

Cremaschi, Trombino, Sala, "The Geoarchaeology of Tell Mishrifeh," in Excavating Qatna, Al-Maqdissi, Ed., Damascus, 2002, pp. 17-24.

Culican, Mcclellan 1983/84.

El-Qitar: First season of excavations, 1982-83. *Abr-Nahrain,* Band 22, pp. 29-63.

Culican, Mcclellan 1983.

El-Qitar 1982-83. *Annales Archéologiques Arabes Syriennes,* Band 33, pp. 289-297.

Curvers, Schwartz 1997.

Umm el-Marra, A Bronze Age Urban Center in the Jabbul Plain, Western Syria. *American Journal of Archaeology,* 101(2), pp. 201-239.

Curvers, Stuart 1997.

The BCD Infrastructure Archaeology Project, 1995.. *Bulletin d'Archéologie et d'Architecture Libanaises,* Band 2, pp. 167- 205.

Oates et al. 2001

D.Oates, J. Oates, H. Mcdonald. *Excavations at Tell Brak, Nagar in the 3rd Millennium BC.* Oxford: Oxbow Books.

Oates et al. 1997

D. Oates, J. Oates, Mcdonald. *Excavations at Tell Brak, The Mitanni and Old Babylonian Periods.* Oxford: Oxbow Books.

Deckers et al. 2010.

Deckers, Doll, Pfälzner, Riehl. *Development of the Environment, Subsistence and Settlement of the City of Urkeš and its Region.* Wiesbaden.

Dornemann 1979a.

Tell Hadidi: A Millennium of Bronze Age City Occupation. In: Freedman, Hrsg. *Archaeological Reports from the Tabqa Dam Project-Euphrates Valley, Syria.* Cambridge,: Annual of the American Schools of Oriental Research, pp. 113-151.

Dornemann, 1979b.

Tell Hadidi: An Important Center of the Mitannian Period and Earlier, pp. 217-234.

Dornemann 1985.

Salvage Excavations at Tell Hadidi in the Euphrates Valley. *Biblical Archaeologist,* 48(1), pp. 49-59.

Du Mesnil du Buisson 1926.

Les ruines d'el Mishrifé au nord-est de Homs (Émèse). *Syria,* Band 7, pp. 289-325.

Du Mesnil du Buisson 1927.

L'ancienne Qatna ou les ruines d'el Mishrifé au nord-est de Homs (Émèse), deuxième campagne de fouilles. *Syria,* Band 8, pp. 277-301.

Du Mesnil du Buisson 1932.

Une campagne de fouilles à Khan Sheikhoun. *Syria,* 13(2), pp. 171-188.

Du Mesnil du Buisson 1935a.

Souran et Tell Masin. *Berytus Archaeological Studies,* Band 2, pp. 121-134.

Du Mesnil du Buisson 1935.

Le site archéologique de Mishrifé- Qatna, Collection de textes et documents d'Orient, Éditions de Boccard. Paris.

Dunand 1961.

Rapport préliminaire sur les fouilles de Byblos en 1959. *Bulletin du Musée de Beyrouth,* Band XVI, pp. 81-85.

Eichler et al. 1984.

Eichler, Frank, Machule, Mozer Pape. Ausgrabungen in Tall Munbaqa 1983. *Mitteilungen der deutschen Orient-Gesellschaft,* Band 116, p. 65–93.

Eidem 2013.

Qala'at Halwanji (Northwestern Syria), 2008-2009. *Anatolica,* Band 39 , pp. 1-24.

Emberling, Mcdonald 2001.

Excavations at Tell Brak 2000: Preliminary Report. *Iraq,* Band 63, pp. 21-54.

Ernest 2011.

Tell Umm el-Marra (Syria), Seasons 2000-2006. *Bioarchaeology of the Near East,* Band 5, pp. 1-10.

Fachard 2016.

Regional fortifications and the fortification of regions. In: *Focus on Fortifications New Research on Fortifications in the Ancient Mediterranean and the Near East,* Frederiksen et al. (ed). s.l.:OXBOW BOOKS, Oxford, pp. 413-416.

Falb 2012.

Die Unverzierte Frühislamische Keramik Aus Kharab Sayyar, Nordostsyrien.

Finet 1972.

Apercu sur les Fouilles Belges Du Tell Kannas. *Annales Archéologiques Arabes Syriennes,* Band 22, pp. 63-74.

Finet 1979.

A. Ferrill, Bilan provisoire des fouilles belges du Tell Kannas. In: Freedman, Hrsg. Cambridge: American Schools of Oriental Research, pp. 79-97.

Fink 2010.

Late Bronze Age Tell Atchana (Alalakh): Stratigraphy, Chronology, History.

Finkbeiner, Leisten 1999/00.

Emar & Balis 1996-1998, Preliminary Report of the Joint Syrian-German Excavations with the Collaboration of Princeton University I, Emar 1996 and 1998. *Berytus,* Band 44, pp. 5-57.

Finkbeiner et al. 2015.

Finkbeiner, Novák, Sakal, Sconzo, Marchesi, Bouso, Felli, Lebeau, Thomalsky, Genz, Sakal, Squadrone, Pruß. *Middle Euphrates, Associated Regional Chronologies for the Ancient Near East and the Eastern Mediterranean.*

Finkbeiner, sader 1997.

Bey 020 Preliminary report of the excavations 1995. *Bulletind'Archéologie et d'Architecture Libanaises,* Band 2, pp. 114-166.

Finkbeiner, Sader 2001.

The Tell el-Burak Archeological project. Preliminary Report on the 2001 season. *Bulletin d'Aecheologie et d'Architecture Libanaises,* Band 5, pp. 173-194.

Finkbeiner, Sakal 2003.

Emar 2002 : Bericht über die 5. Kampagne der Syrisch-Deutschen Ausgrabungen. *Baghdader Mitteilungen,* Band 34 , pp. 9-100.

Finkbeiner 1995.

Tell el. Abd. Vorlaufiger Bericht über die Ausgrabungen 1992 und 1993. *Damaszener Mitteilungen,* Band 8, pp. 51-85.

Fortin, Cooper 1994.

Canadian Excavations at Tell 'Atij (Syria) 1992-1993. *Bulletin of the Canadian Society for Mesopotamian Studies,* Band 27, pp. 33-50.

Fortin, Cooper 2006.

La Mission canadienne a Tell ‘Acharneh (Syrie): À la recherche de l’ancienne Tunip. *Mouseion,* 6(III), pp. 163-201.

Fortin 1991a.

Tall Atij. *Archiv Für orientforschung,* pp. 208-212.

Fortin 1991.

Récentes recherches archéologiques dans la moyenne vallée du Khabour (Syrie). *Bulletin of the Canadian Society for Mesopotamian Studies,* Band 21 , pp. 5-15.

Fortin 1998.

New Horizons in Ancient Syria: The View from ʿAtij. *Near Eastern Archaeology,* 61(1), pp. 15-24.

Fortin 2006.

Tell 'Acharneh 1998-2004, Rapports préliminaires sur les campagnes de fouilles et saison d’études. Preliminary Reports on Excavation Campaigns and Study Season. *Subartu,* Band 18, pp. 1-20, 80-139.

Geyer et al. 2007

Geyer, al-Dbiyat, Awad, Barge, Besançon, Calvet, Jaubert, The Arid Margins of Northern Syria: Occupation of the Land and Modes of Exploitation in the Bronze Age. in D. Morandi Bonacossi (ed.), Urban and Natural Landscapes of an Ancient Syrian Capital. Settlement and Environment at Tell Mishrifeh/Qatna and in Central-Western Syria. Udine: Forum pp269-281.

Greenberg 2014.

‘Introduction to the Levant during the Early Bronze Age’, in Steiner, M. L. and Killebrew, A. E. (ed.) *The Oxford Handbook of the Archaeology of the Levant c. 8000-332BC*. Oxford: Oxford University Press, pp. 269–277.

Hachmann 1989.

Kamid el-Loz 1963-81: German Excavations in Lebanon. *Berytus Archaeological Studies,* 37(1 -197).

Heinrich et al. 1970.

Heinrich, Ludwig, Strommenger, Opificius, Sürenhagen. Die Grabung auf dem Habuba Kabira. *Mitteilungen der Deutschen Orient- Gesellschaft,* Band 102, pp. 30-58.

Heinrich et al. 1971.

Heinrich, Schmid, Kara, Strommenger, Sürenhagen, Hecker, Machule, Rentschler. Die Grabung auf dem Tell Habuba Kabira. *Mitteilungen der Deutschen Orient- Gesellschaft,* Band 103, pp. 8-58.

Heinrich et al. 1969.

Heinrich, Schular, Schmid, Ludwig, Strommenger, Seidl. Die Frühjahrskampagne 1969 in Habuba Kabira. *Mitteilungen der Deutschen Orient- Gesellschaft,* Volume 101, pp. 37 -67.

Helms, Meyer 2016.

Fortifying a Major Early Bronze Age Centre: The Construction and Maintenance of Tell Chuera’s (Northern Syria) Outer Defence Works. In: *Focus on Fortifications New Research*

on Fortifications in the Ancient Mediterranean and the Near East. Frederiksen et al. (ed) s.l.:OXBOW BOOKS, Oxford, pp. 142-158.

Helms 2018.

Fortress Communities of the 3rd Millennium BCE: The Example of Tell Chuera, NE Syria. Vienna, pp. 337-356.

Hempelmann 2013.

Tell Chuēra, Kharab Sayyar und die Urbanisierung der westlichen Gazira. Wiesbaden.

Heusch 1979.

Tall Habuba Kabira im 3. und 2. Jahrtausend, die, pp. 159-178.

Höflmayer et al. 2016.

Höflmayer, Kamlah, Sader, W. Dee, Kutschera, Wild, Riehl. New Evidence for Middle Bronze Age Chronology and Synchronisms in the Levant: Radiocarbon Dates from Tell el-Burak, Tell el-Dabʿa, and Tel Ifshar Compared. *Bulletin of the American Schools of Oriental Research,* Band 375, p. 53–76.

Holland 1976.

Preliminary Report on Excavations at Tell es-Sweyhat,Syria, 1973-1974. *Levant,* Band 8, pp. 36-70.

Holland 1977.

Preliminary Report on Excavations at Tell es-Sweyhat, Syria, 1975. *Levant,* Band 9, pp. 36-65.

Joukowsy 1997.

Byblos. In: Meyer, Hrsg. *The Oxford Encyclopedia of Archaeology in the Near East.* s.l.:Oxford University, pp. 390-394.

Kamlah, Sader 2003.

The Tell el-Burak Archeological project, Preliminary Report on the 2002 and 2003 seasons. *Bulletin d'Aecheologie et d'Architecture Libanaises,* Band 7, pp. 145-173.

Kamlah, Sader 2008.

Tell el-Burak Archeological project, Preliminary Report on the 2005, 2008 and 2009 seasons. *Bulletin d'Aecheologie et d'Architecture Libanaises ,* Band 12, pp. 17-34.

Karam 1997.

Bey 013 Rapport preliminaire. *Bulletind'Archéologie et d'Architecture Libanaises,* Band 2, pp. 95-113.

Kelly-Buccellati 1990.

A New Third Millennium Sculpture from Mozan. *Studies in Ancient Oriental Civilization,* Band 47, p. 149–154.

Kelly-Buccellati 1990a.

Three Seasons of Excavation at Tell Mozan. In: E. e. al, Hrsg. *Tall al-Hamidiya 2.* Göttingen: Orbis biblicus et orientalis, series, p. 119–132.

Kepinski et al. 2006.

Kepinski, Bulgan, Gailhard, Herveux, Perello. Travaux menés à Tilbeshar en 2005 (Sud-Est anatolien). *Anatolia Antiqua,* Band 4, pp. 251-259.

Kepinski 2005.

Tilbehar. A Bronze Age City in the Sajur Valley (South-East Anatolia). *Anatolica,* Band 31, pp. 145-159.

Kepinski 2010.

Tilbeshar, a major city of the Early and Middle Bronze Ages, west to the big bend of the Euphrates (South-Eastern Turkey): Results from 2005 and 2006 seasons. Wiesbaden, pp. 303-316.

Klengel 1992.

Syria 3000-300 B.C A Handbook of political History.

Kropp, Mohammad 2006.

Dion of the Decapolis. Tell al-Ashʿarī in southern Syria in the light of ancient documents and recent discoveries.. *Levant,* Band 38, pp. 125-144.

Lauffray 2008a.

Fouilles de Byblos, L'urbanisme et l'architecture, Atles de plans et coupes. Beyrouth: Presses de l'IFPO.

Lauffray 2008.

Fouilles de Byblos, L'urbanisme et l'architecture. Beyrouth: Presses de l'IFPO.

Lawecka 1998.

Tell Rad Shaqrah (north Syria), sector F. *Swiatowit,* Band 41, pp. 81-89.

Lebeau et al. 2001.

Lebeau, Bianchi, Franke, Meyer, Pfälzner, Pruß, Quenet, Ristvet, Rova, Sallaberger, Thomalsky, 2011. *Jezirah, Associated Regional Chronologies for the Ancient Near East and the Eastern Mediterranean.*

Lebeau, Rova 2003.

Periodistion de Tell Beydar,. *Tell Beydar The 1995-1999 Seasons of Excavations, A Preliminary Report, Subartu,* Band 10, pp. 6-15.

Lebeau, Suleiman 2005.

Tell Beydar / Nabada, An Early Bronze Age City in the Syrian Jezirah: 10 Years of Research (1992–2002). Damascus.

Lebeau 1997.

a situation géographique, la topographie et les périodes d'occupation de Tell Beydar. *Tell Beydar, Three Seasons of Excavations (1992–1994) Subartu ,* Band 3, p. 7–19.

Leriche 2016.

Studying Ancient Fortifications: A Promising and Expanding Field. In: *Focus on Fortifications New Research on Fortifications in the Ancient Mediterranean and the Near East.* Frederiksen et al. (ed) s.l.:OXBOW BOOKS, Oxford, pp. 9-20.

Liverani 2014.

The ancient near east history, society and economy. Tr (Tabatabai).

Machule 1971.

Arbeiten in Mumbaqat und Beobachtungen in der Umgebung. *Mitteilungen der deutschen Orient-Gesellschaft,* Band 103, p. 48–58.

Machule 1983.
Tell Munbaqa 1968-1979. *Annales Archéologiques Arabes Syriennes,* 33(1), pp. 123-130.
Machule 1993.
Ausgrabungen in Tall Munbaqa/Ekalte 1991. *Mitteilungen der deutschen Orient-Gesellschaft,* Band 125, p. 69–101.
Marchetti 2012.
Karkemish On The Euphrates: Excavating a City's History. *Near Eastern Archaeology,* 75(3), pp. 132-147.
Marchetti 2013.
The 2011 Joint Turco-Italian Excavations at Karkemish. *Kazı Sonuçları Toplantıs,* Band 1, p. 349–364.
Marchetti 2014a.
A Century of Excavations at Karkemish: Filling the Gaps. In: Marchetti, Hrsg. *Karkemish An Ancient Capital on the Euphrates*, pp. 21- 43.
Marchetti 2014.
The 2012 Joint Turco-Italian Excavations at Karkemish. *Kazi Sonuçlari Toplantisi,* p. 233–248.
Marfoe 1995.
Kamid el-Loz, The Prehistoric and Early Historic Context of the Site.
Margueron, Sigrist 1997.
Emar. In: Meyer, Hrsg. *The Oxford Encyclopedia of Archaeology in the Near East.* s.l.:Oxford University, pp. 237-239.
Matthiae 1965.
Mission archéologique de l'Université de Rome à Tell Mardikh, Rapport sommaire de la première. *Annales Archéologiques Arabes Syriennes,* 15(2), pp. 83-100.
Matthiae 1979.
Sondages à Tell Touqan (Syrie). *Akkadica,* Band 14, pp. 6-10.
Matthiae 1982.
Fouilles de 1981 à Tell Mardikh-Ebla et à Tell Touqan : l'architecture paléosyrienne du Bronze Moyen I–II. *Comptes rendus des séances de l'Académie des Inscriptions et Belles-Lettres,* 126(2), pp. 299-331.
Matthiae 1989/90.
Tell Tuqan. *Archiv für Orientforschung,* Band 36-37, pp. 335-339.
Matthiae 1998.
Les fortifications de l'Ébla paléo-syrienne : fouilles à Tell Mardikh, 1995-1997. *Comptes rendus des séances de l'Académie des Inscriptions et Belles-Lettres,* 142(2), pp. 557-588.
Matthiae 2001.
Fouilles A Tell Mardikh-Ebla,1997. *Annales Archéologiques Arabes Syriennes ,* Band 44, pp. 47-61.
Matthiae 2002.

A preliminary Note on the MB I-II Fortifications System at Ebla. *Damaszener Mittelungem,* Band 13, pp. 29-51.

Matthiae 2013.

Long Journey. Fifty Years of Research on the Bronze Age at Tell Mardikh/Ebla. In: M. Matthiae, Hrsg. *Ebla and its landscape Early State Formation in the Ancient Near East*, pp. 35 -48.

Mazzoni, 1994.

Afis. *American Journal of Archaeology,* 98(1), pp. 146-149.

Mazzoni 2002/03.

Tell Afis: A walled town of many phases. *Annales Archéologiques Arabes Syriennes,* Band 45-46, pp. 99-106.

Mazzoni 2002.

Tell Afis : Siria 2000 - 2001.

Mazzoni 2013.

Tell Afis : History and Excavations. *Near Eastern Archaeology,* 76(4), pp. 204-212.

Mcclellan 1984/85.

El-Qitar: Second Season of Excavations 1983-1984. *Abr-Nahrain,* Band 23, pp. 39-72.

Mcclellan 1986.

El-Qitar: Third Season of Excavation, 1984-1985. *Abr-Nahrain,* Band 24, pp. 83-106.

Meijer 1979.

The Excavations At Tell Selenkahiye, pp. 117-126.

Meyer 2007.

Town planning in 3rd Millennium Tell Chuera. Münster, pp. 129-142.

Meyer 2010.

Tell Chuera: Vorberichte zu den Grabungskampagnen 1998 bis 2005.

Meyer 2014

The Round Cities: Foundation and Development. A View from Tell Chuera, in Mari, ni Est ni Ouest?. P. Butterlin et al. (ed), Actes du Colloque tenu les 20-22 Octobre 2010 à Damas, Syrie (Syria supple.2), Beirut 201, PP 13-25.

Michael 2014.

Architektur und Struktur des nordöstlichen Stadtgebietes von Kharab Sayyar, Nordsyrien.

Michele, Pedrosi 2012.

Fortification and burial grounds in Tell Afis (Syria) between middle Bronze Age and Late Bronze Age. s.l., Universitat Autònoma de Barcelona Servei de Publicacions Bellaterra, pp. 169-182.

Mielke 2012

Fortifications and Fortification Strategies of Mega-Cities in the Ancient Near East, in R. Matthews and J. Curtis (eds), Proceedings of the 7th International Congress on the Archaeology of the Ancient Near East, 12 April-16 April 2010, the British Museum and UCL, London, Wiesbaden 2012, 73-91.

Miglus, Strommenger 2002 .

Tall Bi'a-Tuttul VIII: Stadtbefestigungen, Häuser und Tempel.

Mouamar 2013.

Tell Al Sur/Al-Sankari: une nouvelle agglomeration circulaire du Bronze ancien IV a la lisiere de la steppe syrienne. Lecce, pp. 95 -114.

Mouamar 2016.

Tell Sḥaīrat: une ville circulaire majeure du IIIème millénaire av. J.-C. du territoire de la confédération des Ib'al. *Studia Eblaitica Studies on the Archaeology, History, and Philology of Ancient Syria,* pp. 71-102.

Mousli 1986/87.

Tall Safinat-Nouh Preliminary Report excavations in 1982/1981. *Annales Archéologiques Arabes Syriennes,* Band 36, pp. 73-85.

Mousli 1989/90.

Tall Safinat-Nouh. *Archiv für Orientforschung,* Band 36-37, pp. 300-308.

Müth 2016.

Functions and semantics of fortifications. In. *Focus on Fortifications New Research on Fortifications in the Ancient Mediterranean and the Near East,* Frederiksen et al. (ed). s.l.:OXBOW BOOKS, Oxford, pp. 183-192.

Nicolle 2006.

Tell Mohammed Diyab 3, Travaux de 1992-2000 sur les buttes A et B.

Nicolle 2010.

Rapport préliminaire de la campagne de l'automne 2008 de la mission de Tell Mohammed Diyab. *Chronique Archéologique en Syrie,* Band IV, pp. 159-170.

Nieuwenhuyse, Suleman 2002/03.

Ecums rescue excavations at Tell Beydar III. *Annales Archéologiques Arabes Syriennes,* Band 45-46, pp. 41-46.

Novák 1995.

Die Stadtmauergrabung. In: *Ausgrabungen in Tell Chuera in Nordost- Syrien I : Vorbericht über die Grabungskampagnen 1986 bis 1992.* Saarbrücken: Vorderasiatische Forschungen der Max Freiherr von Oppenheim- Stiftung 2, pp. 173-182.

Orthmann, Meyer 1983.

Halawa 1980- 1982. *Annales Archéologiques,* 33(1), pp. 93-110.

Orthmann 1981.

Halawa 1977 bis 1979 : vorläufiger Bericht über die 1. bis 3 Grabungskampagne. Bonn.

Orthmann 1982.

Ausgrabungen 20 Halawa 1978. *Annales Archéologiques Arabes Syriennes,* Band 32, pp. 143-176.

Orthmann 1989.

Halawa 1980 bis 1986: Vorläufiger Bericht über die 4.-9. Grabungskampagne. Bonn.

Orthmann 1997.

Tell Chuera. In: Meyers, Hrsg. s.l.:Oxford University Press, pp. 491-492.

Parr 1968

The Origin of the Rampart Fortifications of Middle Bronze Age Palestine and Syria, Zeitschrift des Deutschen Palastina-Vereins (ZDPV), Band 84, pp. 18-45.

Parr 1983.

The Tell Nebi Mend Project. *Annales Archéologiques,* 33(2), pp. 99-117.

Parr 1991.

The Tell Nebi Mend Project: A Progress Report on the Institute of Archaeology's Excavations at Ancient Kadesh on the Orontes in Syria. *Journal Of The Ancient Chronology Forum,* Band 4, pp. 78-85.

Parr 1997.

Tell Nebi Mend. In: Meyers, Hrsg. *The Oxford Encyclopedia of Archaeology in the Near East.* s.l.:Oxford University Press, pp. 114-115.

Parr 2015.

The Enclosure. In: Parr, Hrsg. *Excavations at Tell Nebi Mend, Syria*, pp. 345-360.

Peltenburg et al. 1995.

Peltenburg, Campbell, Croft, Lunt, Murray, Watt. Jerablus-Tahtani, Syria, 1992–4: Preliminary Report. *Levant,* Band 27, pp. 1-28.

Peltenburg et al. 1996.

Peltenburg, Bolger, Campbell, Murray, Tipping. Jerablus-Tahtani, Syria, 1995: Preliminary Report. *Levant,* Band 28, pp. 1-26.

Peltenburg et al. 1997.

Peltenburg, Campbell, Carter, Stephen, Tipping. Jerablus-Tahtani, Syria, 1996: Preliminary Report. *Levant,* Band 29, pp. 1-18.

Peltenburg et al. 2000.

Peltenburg, Eastaugh, Hewson, Jackson, McCarthy, Rymer. Jerablus Tahtani, Syria, 1998–9: Preliminary Report. *Levant,* Band 32, pp. 53-75.

Peltenburg 2006.

Rescue Archaeology in the Middle Euphrates Valley. *Bulletin for the Council for British Research in the Levant,* 1(1), pp. 18-21.

Peltenburg 2008.

Tell el-Burak: Cypriot mid-second millenium B.C. forts in a Levantine context. *Report of the Department of Antiquities,* pp. 145-157.

Pennells 1983.

Middle Bronze Age Earthworks: A Contemporary Engineering Evaluation. *Biblical Archaeologist,* 46(1), p. 57–61.

Peyronel 2000.

The Middle Bronze II Fortress V At Tell Mardikh-Ebla (Syria), Preliminary Analysis of Architectural Contexts and Archeological Materials. Rome, pp. 1353 -1376.

Peyronel 2015.

The "Outer Town" of Ebla during the Old Syrian Period. A Preliminary Analysis of the Off-Site Survey 2010. *Studia Eblaitica,* Band 1, pp. 131-164.

Pfälzner et al 2004.

Pfälzner, Wissing, Hübner. Urbanismus in der Unterstadt von Urkeš. Ergebnisse einer geomagnetischen Prospektion und eines archäologischen Surveys in der südöstlichen Unterstadt von Tall Mozan im Sommer 2002. *Mitteilungen der Deutschen Orient Gesellschaft,* Band 136, pp. 41-86.

Pfälzner 1987a.

A Short Account of the Excavation of Tell Bderi 1985. *Annales Archéologiques Arabes Syriennes* , pp. 276-291.

Pfälzner 1987b.

A Short Account of the Excavation of Tell Bderi 1986. *Annales Archéologiques Arabes Syriennes,* pp. 292-303.

Pfälzner 1989/90.

Tall Bderi 1985-1987. *Archiv für Orient-forschung,* Band 36-37, pp. 212-221.

Pfälzner 1990.

Tell Bderi - the development of a Bronze Age town. *The Near East in Antiquity: German Contributions to the Archaeology of Jordan, Palestine, Syria, Lebanon and Egypt,* pp. 63-79.

Pinnock 2001.

The Urban Landscape of Old Syrian Ebla. *Journal of Cuneiform Studies,* Band 53, pp. 13-33.

Porter 1995.

The Third Millennium Settlement Complex at Tell Banat: Tell Kabir. *Damaszener Mitteilungen,* Band 8, pp. 15-163.

Porter, Mcclellan 1998.

A. Porter et T. McClellan, The third millennium settlement complex at Tell Banat: Results of the 1994 excavations. *Damaszener Mitteilungen,* Band 10, pp. 11-63.

Quenet 1997.

La séquence stratigraphique du IIIe millénaire (chantier G), Tell Beydar. *Tell Beydar, Three Seasons of Excavations (1992–1994) Subartu,* Band 3, pp. 169-177.

Ristvet 2007.

The Third Millennium City Wall at Tell Leilan, Syria: Identity, Authority, and Urbanism. Münster, pp. 198-204.

Sala 2013.

The Middle Bronze Age Stone Glacis at Byblos. *Scienze Dell'antichità, Fascicoli,* 19(2/3), pp. 179-186.

Schwartz , Miller, 2007.

The "Crisis" of the Late Third Millennium B.C : Ecofactual and Artifactual Evidence from Umm el-Marra and the Jabbul Plain. *Publications de l'Institut Français d'Études Anatoliennes* , Band 19, pp. 179-203.

Schwartz et al. 2003.

Schwartz, Curvers, Dunham, Stuart. A Third-Millennium B.C. Elite Tomb and Other New Evidence from Tell Umm el-Marra, Syria. *American Journal of Archaeology*, 103(3), pp. 325-361.

Schwartz et al. 2012.

Schwartz, Curvers, Dunham, Weber. From Urban Origins to Imperial Integration in Western Syria: Umm el-Marra 2006, 2008. *American Journal of Archaeology*, 116(1), pp. 157-193.

Schwartz et al. 2000.

Schwartz, Curvers, Gerritsen, MacCormack, Miller, Weber. Excavation and Survey in the Jabbul Plain, Western Syria: The Umm el-Marra Project 1996-1997. *American Journal of Archaeology*, 104(3), pp. 419-462.

Schwartz 2013.

Memory and its Demolition: Ancestors, Animals and Sacrifice at Umm el-Marra, Syria. *Cambridge Archaeological Journal*, 23(3), pp. 495 - 522.

Sconzo, Falsone 2007.

The ‘champagne-cup’ period at Carchemish. A review of the Early Bronze Age levels on the Acropolis Mound and the problem of the Inner Town. In: Peltenburg, Hrsg. *Euphrates River Valley Settlement The Carchemish sector in the third millennium BC.* s.l.:OXBOW BOOKS, pp. 73-93.

Sconzo 2013.

Final Reports of the Syrian-German Excavations at Tell el-'Abd / Pottery and Potmarks at an Early Urban Settlement of the Middle Euphrates River Valley, Syria.

Seevers 2007.

Four-Chamber Gates in the Ancient Near East from the Middle Bronze through the Iron Ages. Omaha, pp. 1-56.

Staebler 2016.

Physical surroundings, technique and building experience. In. *Focus on Fortifications New Research on Fortifications in the Ancient Mediterranean and the Near East,* Frederiksen et al. (ed). s.l.:OXBOW BOOKS, Oxford, pp. 123-128.

Stein 1991.

The City Wall. In 1985 Excavations at Tell Leilan Syria. *American Journal of Archaeology* , 94(4), p. 547–555.

Steiner, Killebrew 2014.

The Oxford Handbook Of The Archaeology Of The Levant, C. 8000-332 Bc. s.l.:Oxford University Press.

Strommenger 1975.

Tall Bi‘a bei Raqqa,. *Mitteilungen,* Band 107, pp. 5-14.

Strommenger, 1979.

Ausgrabungen der Deutschen Orient-Gesellschaft in Habuba Kabira. In: Freedman, Hrsg. Cambridge: Annual of the American Schools of Oriental Research, pp. 63-78.

Strommenger 1980.

Habuba Kabira Eine Stadt vor 5000 Jahren.

Strommenger 1981/82.

Tall Bi'a. *Archiv für Orientforschung,* Band 28, pp. 210-212.

Strommenger 1990.

Ergebnisse der Palastgrabung in Tall Bi'a bis 1987. *Annales Archéologiques Arabes Syriennes,* Band 40, p. 100 – 110.

Suleiman 2003.

The Northern Stratigraphical Sounding (Field G), Tell Beydar, 1995-1999 Seasons of Excavations, A Preliminary Report. *Subartu,* Band 10, pp. 301-313.

Sürenhagen 1999.

Tell Gindaris and the Western Afrin Valley. *Annales Archéologiques Arabes Syriennes,* Band 43, pp. 159-167.

Tefnin 1978/79.

Tall Abu Danna. *Archiv für Orientforschung,* Band 26, p. 145–147.

Tefnin 1979a.

Deux campagnes de fouilles au Tell Abou Danné (1975–1976).. Strasbourg, p. 179–199.

Tefnin 1979b.

Tell Abou Danné, une ville fortifiée de l'âge du bronze du Syrie du nord. *Archéologia,* Band 129, p. 42–50.

Tefnin 1979c.

Exploration archéologique au nord du lac de Djabboul (Syrie): une campagen de sondages sur le site d'Oumm el-Marra, 1978. *Annuaire de l'Institut de Philologie et d'Histoire orientales et slaves,* Band 23, p. 71–94.

Tefnin 1981/82.

Tall Abu Danna. *Archiv für Orientforschung,* Band 28, pp. 201-202.

Tefnin 1983.

Aperçu sur neuf campagnes de fouilles belges aux Tells Abou Danne et Oumm el-Marra (1975–1983). *Annales Archéologiques Arabes Syriennes,* 33(2), p. 141–152.

Thalmann 1978.

Tell 'Arqa (1978-1979), Rapport Provisoire. *Bulletin du Musée de Beyrouth,* Band 30, pp. 61-75.

Thalmann 1991.

L'âge du Bronze a Tell 'Arqa (Liban), Bilan et. *Berytus Archaeological Studies,* Band 39, pp. 21-38.

Thalmann 2006a.

Tell Arqa -I : les niveaux de l'âge du Bronze (Planches). Beyrouth: Institut français du Proche-Orient.

Thalmann 2006.

Tell Arqa - I : les niveaux de l'âge du Bronze (Texte). Beyrouth: Institut français du Proche-Orient.

Van Loon 1968.

First results of the 1967 Excavations At Tell Selenkahiye. *Annales Archéologiques Arabes Syriennes,* Band 18, pp. 21-36.

Van Loon 1979.

1974 and 1975 Preliminary Results of the Excavations at Selenkahiye Near Meskene, Syria. *Archeological Reports from the Tabqa Dam Project: Euphrates Valley, Syria,* Band 44, pp. 97-112.

Van Loon 1983a.

Hammam Et Turkman on the Balikh first results of the university of Amsterdam 1984 excavation. *Annales Archéologiques Arabes Syriennes,* 33(2), pp. 299-314.

Van Loon 1983.

Hammam Et Turkman on the Balikh. *Annales Archéologiques Arabes Syriennes,* 33(1), pp. 131-152.

Van Loon 1986/87.

Hammam Et Turkman and Sabi Abyad on the Balikh the university of Amsterdam 1986 excavation. *Annales Archéologiques Arabes Syriennes,* Band 36-37, pp. 309-314.

Van Loon 1988.

Hammam et-Turkman I: Report on the University of Amsterdam's 1981-1984 Excavations in Syria. s.l.:Publications de l'Institut historique-archéologique néerlandais de Stamboul 63, Leiden.

Van Loon 2001.

Selenkahiye: Final Report on the University of Chicago and University of Amsterdam Excavations in the Tabqa Reservoir, Northern Syria, 1967-1975. s.l.:l'Institut historique-archéologique néerlandais de Stamboul 91, Nederlands Institut voor Het Nabije Oosten Leiden.

Von der Osten 1956.

Svenska Syrienexpeditionen, 1952/1953, Die Grabung von Tell es-Salihiye. Lund: CWK Gleerup.

Weiss et al. 1991.

Weiss, Akkermans, Stein, Parayre, Whiting. In 1985 Excavations at Tell Leilan Syria. *American Journal of Archaeology,* 94(4), p. 529–555.

Weiss 1990.

Tell Leilan 1989: New Data for Mid-Third Millennium Urbanization and State Formation. *Mitteilungen der Deutschen Orient-Gesellschaft,* Band 122, pp. 193-218.

Weiss 1991.

Archaeology in Syria. *American Journal of Archaeology,* 95(4), p. 683–740.

Weiss 1994.

Archaeology in Syria. *American Journal of Archaeology,* 98(1), p. 101–158.

Weiss 1997a.

Archaeology in Syria. *American Journal of Archaeology,* 101(1), pp. 97-148.

Weiss 1997.

Tell Leilan. In: Meyers, Hrsg. *The Oxford Encyclopedia of Archaeology in the Near East.* s.l.:Oxford University Press, pp. 341-347.

Werner et al. 1998.

Werner, Busch, Klengel, Mayer . *Tall Munbaqa: Bronzezeit in Syrien.* Neumünster: Wachholtz Verlag .

Wilkinson et al. 2012

Wilkinson, Galiatsatos, Lawrence, Ricci, Dunford and Philip. Late Chalcolithic and Early Bronze Age Landscapes of Settlement and Mobility in the Middle Euphrates: A Reassessment. *Levant,* 44(2), pp. 139-185.

Woolley 1921.

Carchemish: Town Defences Report on the Excavations at Jerablus on Behalf of the British Museum.

Woolley 1955.

Alalakh: An account of the excavations at Tell Atchana (Hatay), 1937-1949. Oxford.

Wossink 2009.

Challenging climate change Competition and cooperation among pastoralists and agriculturalists in northern Mesopotamia (c. 3000-1600 BC).. Leiden: Sidestone Press.

Wright, 1985.

Ancient Building in South Syria and Palestine. s.l.:E.J. Brill.

Yener 2010.

Tell Atchana, Ancient Alalakh The 2003–2004 Excavation Seasons. s.l:Ege Yayinlari.

Zettler 1997.

Subsistence and settlement in a marginal environment: Tell es-Sweyhat, 1989-1995 preliminary report. Philadelphia: MASCA research papers in science and archaeology; University of Pennsylvania.