

## The Question of Desurbanisation versus Reurbanisation of the Syrian Jazirah in the Late Third and Early Second Millennium BC

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### Abstract

*At the site of Tell Mozan, ancient Urkesh, the German team working in the central Upper City (Area C2) was able to document an uninterrupted stratigraphical sequence from the Early to the Middle Bronze Age, extending from around 2500 to around 1700 BC (levels C 16 to C 4). This sequence can be precisely dated by pottery typology, by numerous seal impressions from different phases (Early Dynastic – Akkadian – Ur III), and by an Ur III cuneiform tablet. The most interesting chronological observation is the evidence of a direct continuity from the end of the third millennium to the beginning of the second millennium within one single building, indicated by superimposed floors and a modification of interior walls. Although there is an architectural continuity of single buildings we can observe a decisive change in the principles of urbanism at Tell Mozan/Urkesh during this time. The presented evidence of climate and environment also clearly shows that no abrupt climatic change occurred in the late third millennium BC and no “collapse” of the urban system of a total settled region happened. This can be concluded from more or less stable environmental data and from the lack of radical change in the urban structure of one of the major sites of the region, Tell Mozan. Instead, there is evidence for gradual, long-term developments. So, the excavators propose a new model for the transition of the Early to the Middle Bronze Age in Tell Mozan, namely a model of endogenous reurbanisation, in which the dynamics of sociopolitical organisation enabled the population to adapt to new situations and to avoid collapse.*

### 1 The existing theories on desurbanisation

Generally, the course of urban development in the Syrian Jazirah towards the end of the third millennium BC is understood as a process of desurbanisation (figure 1). Many settlements, large and small, were abandoned.<sup>1</sup> The reasons and the extent of these processes have been highly disputed in recent discussions. Most prominent is the “urban collapse” theory developed

by Harvey Weiss and his collaborators.<sup>2</sup> This theory centres on the idea that an abrupt climatic change happened at around 2200 BC. Being caused by an episode of *tephra* fall the climatic conditions in the region would have become more arid in such a dramatic extent that the agricultural productivity of the land was deteriorated. This would have led to a rapid abandonment of cities resulting in the collapse of the urban system of northern Mesopotamia. It needed – according to the collapse-theory – 300 years until ecological conditions improved again and new urban structures could arise in the Middle Bronze Age.

In the meantime, important evidence has been brought up to contradict or at least adjust this picture.

Akkermans and Schwartz have clarified that, on the one hand, certain regions, such as the Middle Khabur area, were already completely abandoned earlier, possibly – as they argue – as a consequence of a “disastrous impact” of the political expansion of the Akkadian empire.<sup>3</sup> On the other hand, they pointed out that there were conspicuous exceptions of the rule of collapsing cities, such as Tell Mozan/Urkesh or Tell Brak/Nagar.<sup>4</sup> They want, however, to explain the continuity of those places by the specifics of their geographical location with regard to interregional trade routes,<sup>5</sup> and not as principle contradiction to the climatic deterioration theory.

Koliński<sup>6</sup> recently added more sites where evidence of a continuity of settlement during the Early Jazirah V period, i.e. during the last century of the third millennium BC is observable, such as Tell Chagar Bazar, Tell Arbid, Tell Barri and Tell Hamoukar in the central, northern and eastern parts of the Khabur Basin (figure 1). He concluded that, for this reason, Harvey Weiss’ collapse theory can no longer be maintained,<sup>7</sup> but, on the other hand, he points out that there would be a “Dark Age” in the immediately following time, the Old Jazirah I period, i.e. the first two centuries of the second millennium BC. There would be no settlement that could archaeologically be attributed to this period, which leads him to conclude that, probably, at this point in time a total abandonment of settlements

1 The general settlement trend resulting in the abandonment of many settlements is best visible in survey data; see: Hamoukar-Survey (Ur 2002), Beydar-Survey (Wilkinson 2000; Ur – Wilkinson 2008), Leilan Survey (Risvet 2008; Risvet – Weiss 2005; Stein – Wattenmaker 2003), the Euphrates region (Peltenburg 2007).

2 Weiss *et al.* 1993; Weiss – Courty 1993; Weiss 1997; 2000; Weiss – Bradley 2001; Risvet – Weiss 2000; 2005.

3 Akkermans – Schwartz: 2003, 282.

4 *Ibid.*: 284-286.

5 *Ibid.*: 286.

6 Koliński 2007: 347, 351-353.

7 *Ibid.*: 352.

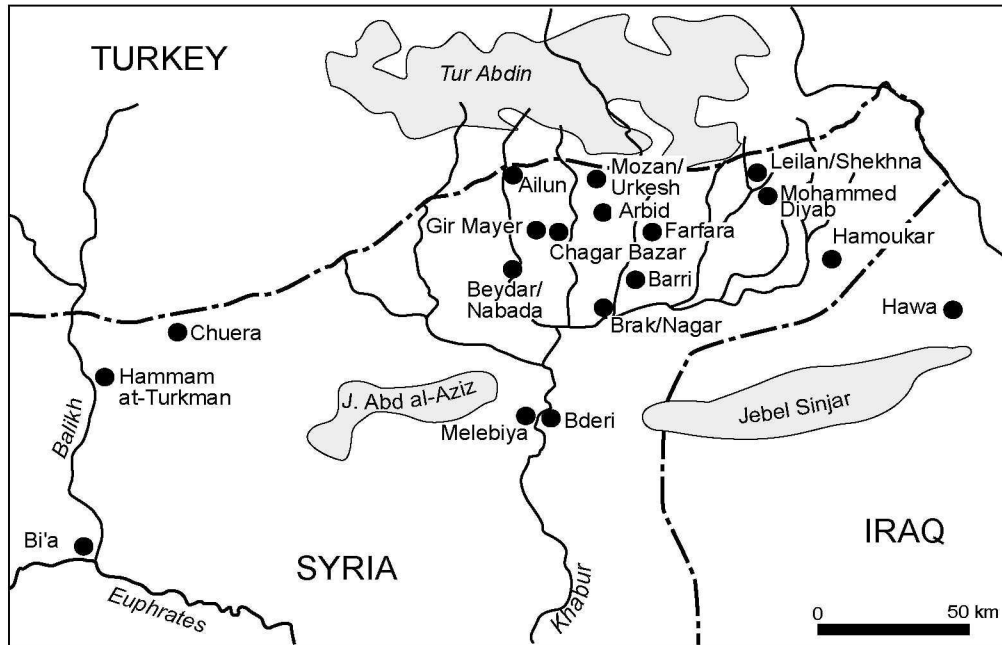


Figure 1: Map of the Syrian Jazirah with sites of the late third and early second millennium BC.

in the Syrian Jazirah took place due to environmental stress.<sup>8</sup>

Peltenburg disagrees with Weiss' theory in saying that desertion of many sites would not mean depopulation of a whole region.<sup>9</sup> He, instead, proposes a more complex picture for late third millennium social and settlement developments composed of combined effects of contraction, destruction, abandonment and dispersal. As a consequence, this would have led from an agglomerated to a dispersed settlement pattern in Upper Mesopotamia.<sup>10</sup> For the Syrian Jazirah Peltenburg more specifically presents the highly attractive theory that the indigenous political and economic infrastructure of the region was ruined by the Akkadian imperial impact, which finally resulted in a marked reduction of social complexity and an episode of dispersed settlement.<sup>11</sup>

Wilkinson was one of the first scholars to contradict the general applicability of the collapse-theory by challenging both the archaeological and geo-climatic data in Weiss' line of argumentation stating that the situation at Tell Leilan, the prime example for Weiss' study of the collapse, was a very specific one because the agricultural production in this sub-region approached a maximum capacity and therefore was very vulnerable to collapse in case of a prolonged drought.<sup>12</sup> Wilkinson and Ur provided a highly con-

vincing and extremely useful reconstruction of the agricultural system of urban centres in the Syrian Jazirah during the Early Jazirah III to V periods, i.e. the second half of the third millennium BC (2600–2000), on the basis of a reconnaissance and interpretation of hollow ways.<sup>13</sup> However, they are, unfortunately, as yet unable to differentiate the survey data between the single Early Jazirah phases.<sup>14</sup> Nevertheless, they observe a “dramatic collapse” of the nucleated third millennium settlement pattern in the late third and early second millennium BC.<sup>15</sup> Here, however, one needs to add that this pretended dramatic collapse might appear much more gradual if a finer chronological resolution of the settlement patterns would have been achieved in the survey material.

Wilkinson tries to explain the abandonment of certain parts of the Khabur Region in the Middle Bronze Age as an intra-regional shift of population in between sub-regions and as a trend towards pastoralism within specific sub-regions of the Khabur Basin in the early second millennium BC.<sup>16</sup> Interestingly enough, based on a recently presented modeling Wilkinson *et al.* stress the ability of the Early Jazirah agricultural systems to maintain their integrity even through a severe five-years drought by adaptive strategies, leading to the conclusion that these systems were principally rather resistant with regard to short-term environmental stress.<sup>17</sup>

8 Ibid.: 353-354, 361-364, see especially Tab. IV.

9 Peltenburg 2000: 185.

10 Ibid.: 184-186.

11 Ibid.: 200.

12 Wilkinson 1994: 499, 501, 504; see also the controversial discussion between Weiss/Courty and Wilkinson on pp. 512- 516 of the comments part of the same article.

13 Wilkinson 2000; Ur – Wilkinson 2008: 307-308, 310-315.

14 Ur – Wilkinson 2008: 307, Fig. 6, 8.

15 Ibid.: 308-309.

16 Wilkinson 2002: 368-370.

17 Wilkinson *et al.* 2007: 65-66.

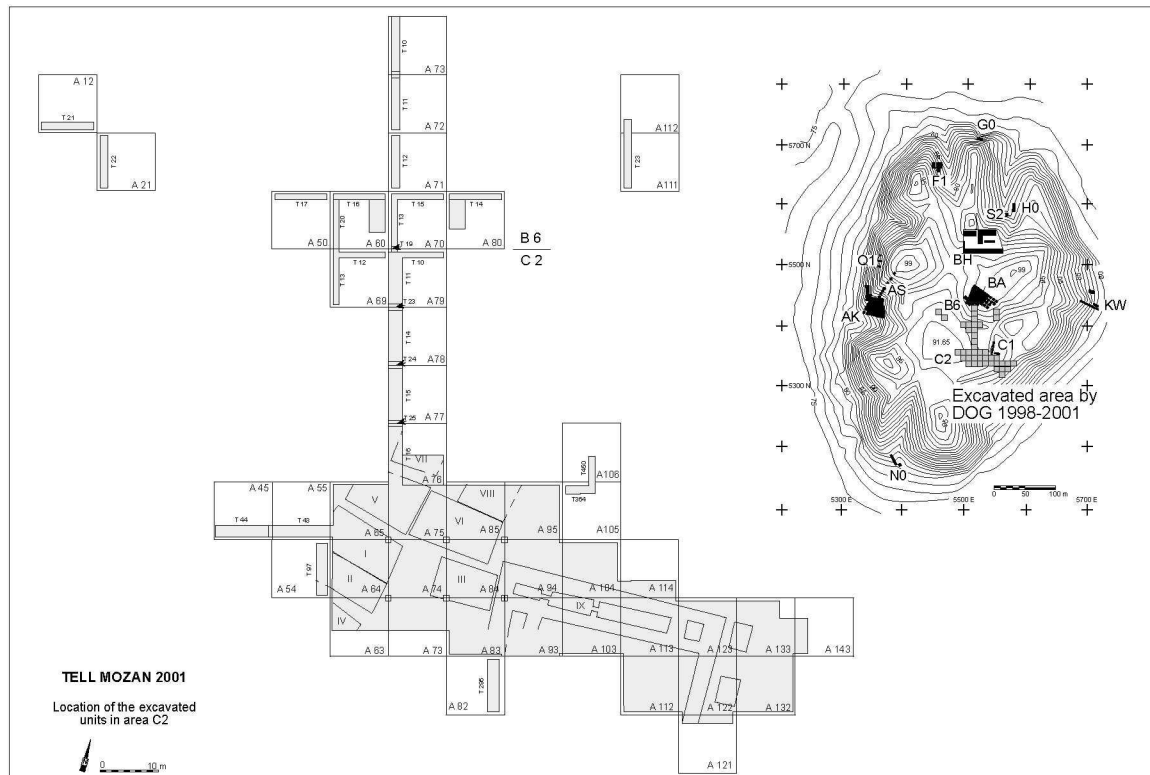


Figure 2: Tell Mozan, plan of the upper city with DOG-excavation field in areas B6 and C2.

## 2 Tell Mozan as a case study for desurbanisation processes

Many scholars already have argued that theoretically the site of Tell Mozan, ancient Urkesh, would be an ideal candidate to study the processes and agents of urban development particularly at the end of the third millennium because of its long continuity of settlement. In fact, Tell Mozan has long been recognised as a place where the “Dark Age” in the late third millennium is filled out by the assumed existence of an early Hurrian kingdom.<sup>18</sup> Therefore, Urkesh might be, on the one hand, an exception of the alleged rule of a general abandonment of the Khabur Basin. On the other hand, it is one of the very few sites where the situation and conditions in the period under dispute can archaeologically and environmentally be studied, simply because the city did exist during this obscure time. It is a place where there is the chance to observe what happened during the relevant period with regard to the material inventory of the settlement, the population, the agricultural activities, the surrounding landscape, and the climate. Furthermore, it principally offers the possibility to study the pace and the extent of social and environmental developments during the period of the so-called “urban collapse”.

Questions on the development of urbanism in the Syrian Jazirah during the third millennium BC were

18 E.g.: Michalowski 1986: 138-139, 141; Akkermans – Schwartz 2003: 284-285.

the main reason for the present author to initiate, in the name of the Deutsche Orient-Gesellschaft (DOG), the collaboration with the American excavators of Tell Mozan, Giorgio Buccellati and Marilyn Kelly-Buccellati. A cooperation project between the DOG and the IIMAS (International Institute of Mesopotamian Area Studies) enabled four seasons of excavations at Tell Mozan (1998–2001) carried out on behalf of the DOG by a team from the University of Tübingen and directed by Peter Pfälzner and Heike Dohmann-Pfälzner, followed by two seasons of study work and geomagnetic prospections (2002–2003).<sup>19</sup>

The specific aim of the DOG-project was to find out what kind of principles of city planning were applied at Urkesh, how the architectural, spatial and functional structure of the city centre was formed, and how these major urban elements changed in the course of the third millennium BC. Phases of an intensification of urbanisation should be identified, processes of a weakening of urban structures or a decrease of population should be distinguished, and eventual phases of new urban stimuli should be detected. For this purpose the central upper city of Tell Mozan was selected as excavation area of the DOG-project (figure 2). Here, the clearest picture of city planning and urban structuring was to

19 I wish to use this opportunity to again cordially thank Giorgio Buccellati and Marilyn Kelly-Buccellati to agree to this cooperation and to grant us the best possible conditions to carry out our research between 1998 and 2003.

PERIOD	DATE	TELL MOZAN - Settlement sectors			
		Domestic area C2	Max-Mallowan-Place	Tempel terrace area	Palace area AA
MJ I	1550 – 1300	-	C 3	State VII - VIII	Phase 6: houses
OJ II	1800 – 1550	C 4	C 4	State VI	Phase 5 c: great collapse Phase 5 a-b: last settlement
OJ I	2000 – 1800	C 6 - 5	C 6 - 5	State V	
EJ V	2100 – 2000	C 7	C 7	State IV	Phase 4 a-b: first settlement
EJ IV	2300 – 2100	C 11 - 8	C 8	State III	Phase 3: palace-reuse Phase 2: Tupkiš-palace AP
EJ IIIb	2400 – 2300	C 12	-	State II	Phase 1: Pre-palace
EJ IIIa	2600 – 2400	C 16 – 13	-		-
EJ II	2800 – 2600	-	-	State I	-

Table 1: Chronological chart of Tell Mozan including the stratigraphy of the DOG-excavation areas and the American excavation area of palace AA

be expected. As a point to start, one functional (and chronological) aspect had already been known in this area due to the exposure of a mid third millennium Temple (BA) by the American team in earlier seasons (1984–1986).<sup>20</sup> A second initial indication connected with this area was the flat depression in the centre of the hill, called “Mittelsenke”, which was assumed to result from an open, non built-up place in the middle of the city. The excavation work of the DOG-team was pre-directed through these features and assumptions and aimed at both exposing a wide area in the centre of the ancient city (Areas B6 and C2) and following it down in time through a long stratigraphic sequence of occupational phases.

The results of the excavations demonstrate that the area was well chosen. The temple area (BA) proved to be the core of a huge temple precinct including a high terrace made of mud-bricks, on which the temple stood, and an oval stone wall enclosing the huge precinct (Area B6).<sup>21</sup> To the south of it, there was, indeed, a large open area occupying the centre of the city, which was labelled by us “Max-Mallowan-Place” to honour the first excavator of Tell Mozan<sup>22</sup> (Area C2-north). South of the place, opposite of the temple oval, there was an extended domestic quarter (Area C2), with varying functions over the long sequence of occupation.<sup>23</sup>

20 Buccellati 1988: 59-61, Fig. 9-11, ill. 6-13; Buccellati 1998: 18-21; Buccellati – Kelly-Buccellati 1995: 389, Fig. 3; Kelly-Buccellati 1990: 125-129.

21 See: Dohmann-Pfälzner – Pfälzner 2002: 168-181; Pfälzner 2008: 397-416; Pfälzner – Dohmann-Pfälzner in print.

22 See Dohmann-Pfälzner – Pfälzner 1999: 25-26; 2002: 170-172; Pfälzner – Dohmann-Pfälzner in print.

23 See Dohmann-Pfälzner – Pfälzner 2000: 190-196, 199-222; 2001: 105-138; 2002: 153-168.

Taken together, the central upper city with its three distinctive functional units, each of which being of major importance for the urban structure of the city, proved to be a very significant object for the study of urban development and urban change at ancient Urkesh, and for the question of late third millennium desurbanisation.

### 3 The third to second millennium BC urban transition as seen from Urkesh

The sequence attested in the excavations of the DOG-team in the central upper city of Tell Mozan extends over a long period of time from the Early Jazirah II period (2800–2600 BC) until the Middle Jazirah I period (1550–1300 BC). In this article, the focus is mainly on the phases connected to the transition from the Early to the Middle Bronze Age, i.e. the Early Jazirah V period (2100–2000/1950 BC) and the Old Jazirah I period (2000/1950–800 BC). The special importance of this part of the sequence at Tell Mozan is based on the fact that it is the only site in the Khabur Basin where it has been positively attested that there is no hiatus between the third and the second millennium BC occupation. The city is continuously occupied through the Early Jazirah V period (phase C 7) and the Old Jazirah I period (phases C 6 and C 5) (see table 1).

The evidence for these two periods is particularly clear and detailed at Tell Mozan, so that the period of transition between the Early and the Middle Bronze Age can be studied in a number of different aspects, such as stratigraphy, architecture, pottery, settlement, and – based on the analysis of botanical and zoological materials – environment and climate. These new data will be presented in the following. On this background old theories can be evaluated and new theories be built

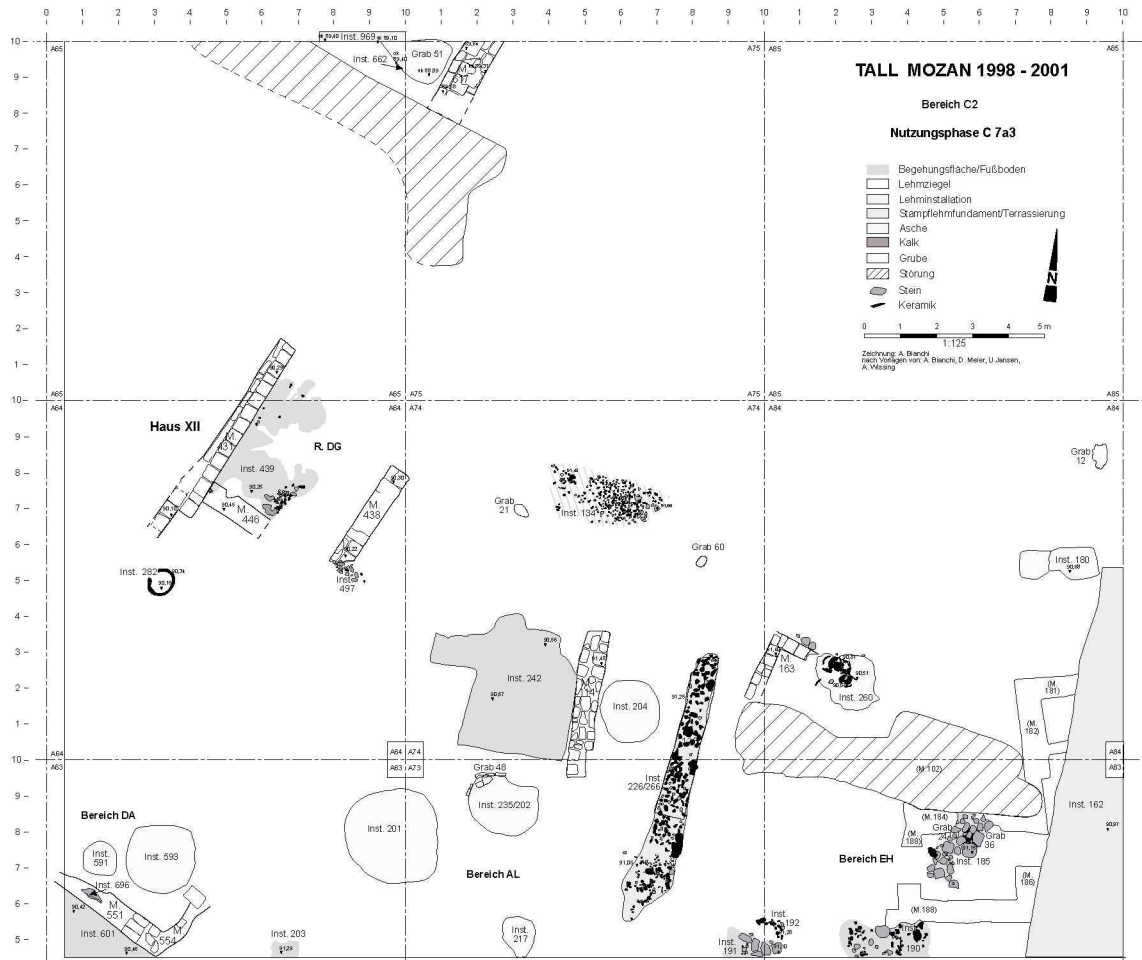


Figure 3: Plan of constructions and installations of phase C 7 (sub-phase C 7a3; Early Jazirah V) in the western portion of the domestic area C2.

up. Finally, a new model for the urban development at the turn of the third to the second millennium in the Syrian Jazirah will be presented.

### 3.1 The case of stratigraphy and chronology

Within the stratigraphy of the central upper city of Tell Mozan the sequence of levels in the domestic area to the south of the Max-Mallowan-Place shows a very fine resolution starting from the Early Jazirah IV period (2300–2100 BC), into which four levels of domestic houses (phases C 12 to C 8) can be dated. The occupation continues into the succeeding Early Jazirah V period (phase C 7), when the quarter is still domestic in character and contains a loose arrangement of domestic installations in the western portion that developed over five sub-phases (C 7e to 7a) (figure 3). At the same time, in the eastern portion of C2, a new, large building was erected, the so-called “Pusham House” (figure 4). It was set into the still standing walls of elder, Early Jazirah IV structures.<sup>24</sup> The well-constructed house

<sup>24</sup> See: Geith in print.

proved to be a merchants’ house as more than 250 seal impressions (figure 5) were found belonging to a person called Pusham, who obviously was a local clerk of a long distance trader (GA.EŠ<sub>2</sub>), and besides them fewer impressions of the seal of another merchant (dam-gàra) with illegible name (Ur-x-x).<sup>25</sup>

The typical Ur III style of the seal impressions,<sup>26</sup> the orthography of the seal inscriptions and the palaeography of a cuneiform tablet found in the Pusham House that date to the late-Sargonic/ early Ur III period,<sup>27</sup> and the homogenous pottery inventory of the building, closely to be compared to Ur III pottery from southern Mesopotamia<sup>28</sup> give a clear and incontestable date for the building, and thus for phase C 7, in the Ur III period. The chronological equation of the Early Jazirah V period with the southern Mesopotamian Ur III

<sup>25</sup> Volk 2004: 88-95; Dohmann-Pfälzner – Pfälzner 2001: 121-127, Abb. 18-19; 2002: 163-168; Pfälzner – Dohmann-Pfälzner in print.

<sup>26</sup> Dohmann-Pfälzner – Pfälzner 2001: 122-125.

<sup>27</sup> Volk 2004: 93, 97, 98.

<sup>28</sup> Schmidt this volume; and Schmidt 2008.

DATE	TELL MOZAN CENTRAL UPPER CITY				JAZIRAH PERIODISATION	MESOPOTAMIAN CHRONOLOGY
	AREA B6 (Temple terrace)		AREA C2 (domestic quarter)			
	North	South	West	East		
Modern	BN 1	BS 1	BSW 1	BO 1	C 1	
Medieval- Islamic	BN 2	BS 2			C 2	
Hiatus						
1300 BC						
1400		BS 3a 3b	BSW 2		C 3	Middle Jazirah I  Mittani / Middle-Babylonian
1500						
1600						Old Jazirah III  Late Old-Babylonian
1700		BS 4	BW 2		C 4	Old Jazirah II  Middle Old-Babylonian
1800			BSW 3		C 5 C 6	Old Jazirah I  Early Old-Babylonian / Isin-Larsa Period
1900						
2000				BO 2a 2b	C 7	Early Jazirah V  Ur III Period
2100						
2200	BN 3 4a 4b				C 8 C 9 C 10 C 11	Early Jazirah IV  Akkad (middle - late)
2300						
2400					C 12	Early Jazirah IIIb  Late ED III – Early Akkad
2500		BS 5			C 13 C 14 C 14 C 16	Early Jazirah IIIa  Late ED II – ED III
2600						
2700		BS 6a 6b		BO 3		Early Jazirah II  ED II
2800					not excavated	
EBA	not excavated					Early Jazirah I  ED I

Table 2: Stratigraphical chart of the central upper city of Tell Mozan (Areas C2 and B6) based on the DOG-excavations 1998–2001.

period is thus secured. Moreover, the clear chronological attribution of the typical pottery repertoire of the Pusham House and other features of phase C 7 to the time-span 2100–2000/1950 BC<sup>29</sup> is thereby also proven (table 2).

29 We hesitate to draw the end of the Early Jazirah V phase concurrent with the end of the Ur III phase in southern Mesopotamia, because this would seem to be too arbitrary, and because also in the south there are clear signs of a continui-

The succeeding Phase C 6 already belongs to the Old Jazirah I period, as a drastic change in the pottery repertoire demonstrates. Now, Khabur Ware is

ty of material culture – also with regard to pottery – into the 20<sup>th</sup> century, despite major political changes. Therefore, the upper end of the Early Jazirah V period can well lie within the 20<sup>th</sup> century, roughly between 2000 and 1950 BC (note that these dates are relevant when the Middle Chronology is used; otherwise, with the Short or Ultra Short Chronology, the dates additionally need to be lowered by 60 resp. 90 years).

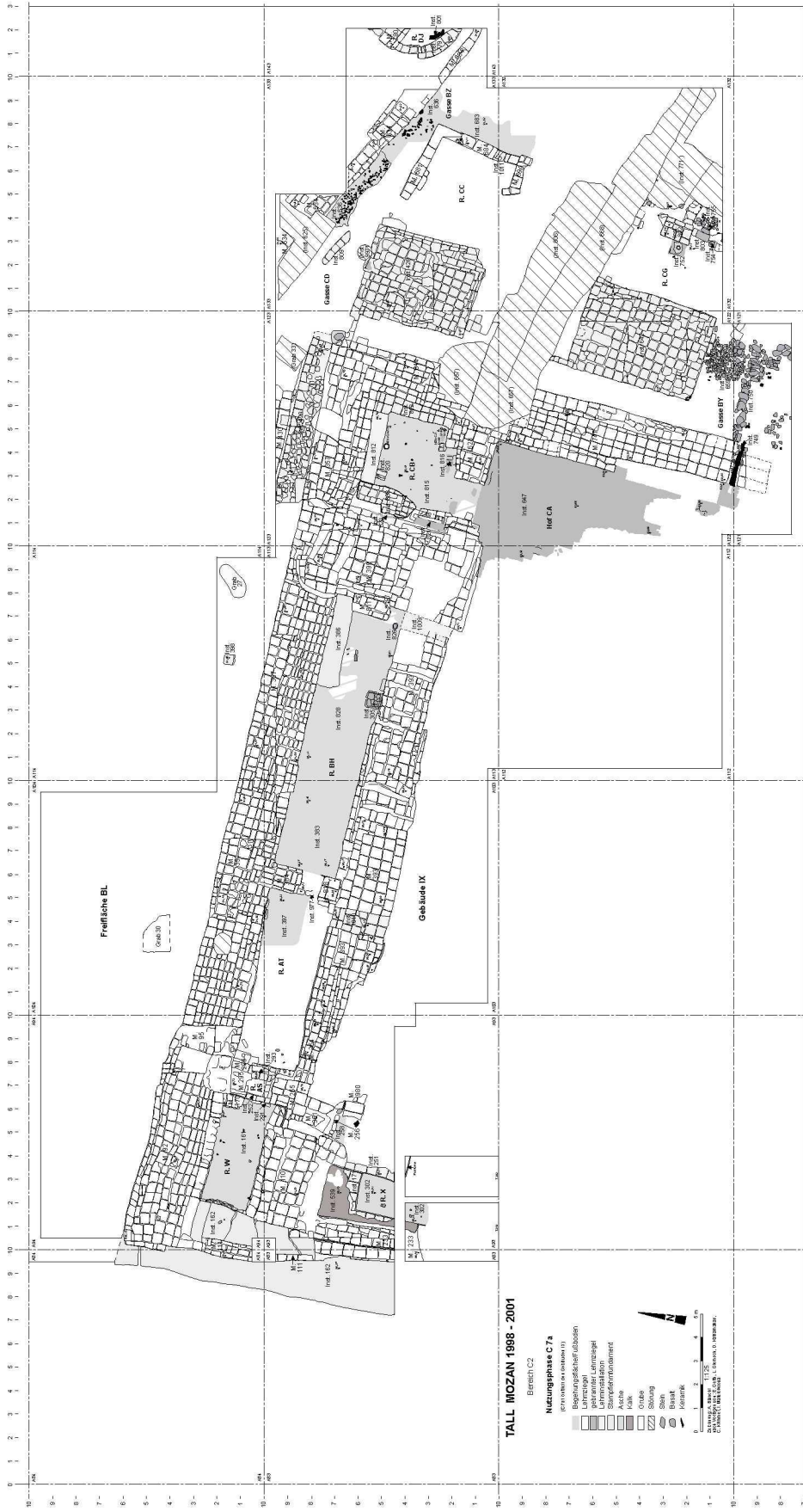


Figure 4. Plan of the Pusham House of phase C 7 (Early Jazirah V) in the eastern portion of the domestic area C2.

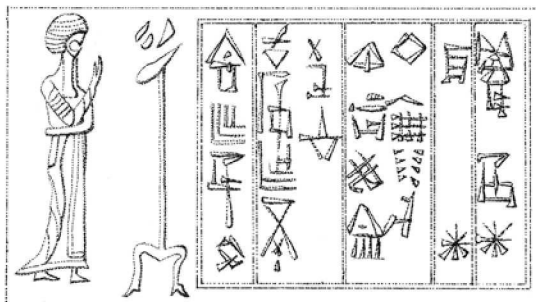


Figure 5: The Pusham seal found on impressions in phase C 7 (Early Jazirah V) of the Pusham House.

fully present in the inventory and other typical Middle Bronze Age types prevail. However, despite the radical change of pottery, there was no hiatus, not even the slightest interruption of the settlement. This becomes clear within the Pusham House. The building is reutilized in phase C 6 (figure 6). New floors were created, that were approximately 20 cm higher than the Early Jazirah V floors. The northern outer wall of the house was still standing and remained in use as outer wall of the new structure, while the interior layout of the building was changed by inserting new walls, which generated new rooms. The reused wall of the Early Jazirah V phase C 7 shows no traces of erosion or repair. Therefore, no time gap could have existed between the original use in the Early Jazirah V period and the reuse in the Old Jazirah I period.

This is a clear proof of the direct continuity of the two periods. For the general chronology this means that the period Old Jazirah I immediately started at the end of the Early Jazirah V period, i.e. around 2000/1950 BC. This means also that the new kind of (Middle Bronze Age) pottery was introduced at the site during the continued life of the settlement. Based on this important observation, one can even reach the conclusion that the change from Early to Middle Bronze Age material culture was not due to an exogenous influence or even intrusion, but an endogenous process that happened within the existing settlement. To conclude, Urkesh is an example of a city, which remained continuously settled from the Early to the Middle Bronze Age with the transition between the two periods happening as an internal process.

### 3.2 The case of pottery development

In the Pusham House and in the other parts of the domestic quarter C2 we can observe a significant transition of pottery between the Early and the Middle Bronze Age. The repertoire of the Early Jazirah V period, retrieved from phase C 7, is very homogeneous and characteristic at the same time (figure 8).<sup>30</sup> It is easily distinguishable from the Early Jazirah IV

repertory by the majority of shapes and the quality of fabric (figure 7). The very characteristic forms of slender jars with double grooved rims and the flat bowls with a very sharp carination below the rim are most characteristic and definitely not present in the previous Early Jazirah IV assemblages (compare figure 8). The latter bowls are often so strongly carinated that a sharp Z-shaped contour line occurs. As has been demonstrated by Schmidt<sup>31</sup> these shapes are known from Ur III southern Mesopotamia thus being a clear indicator of chronology.

Interestingly enough, the first Khabur Ware sherds already appear in phase C 7, i.e. during the Early Jazirah V period.<sup>32</sup> They are from secure, indisputable contexts, e.g. from the phase C 7 floors of the Pusham House. This is a clear proof that the Khabur Ware already existed at the end of the third millennium, in the 21<sup>st</sup> century BC. What is still more important in this discovery is that it demonstrates that the Khabur Ware was not introduced from outside together with a new, Middle Bronze Age repertoire of pottery at the beginning of the Old Jazirah I period. Instead, it was already present and used in the settlement during the Early Jazirah V period. This is a very strong link between the Early and Middle Bronze Age occupation of the site, with a high significance for the whole Khabur Region.

The Khabur Ware increases considerably in quantity with the very beginning of the Old Jazirah I period in phase C 6. It immediately reaches its high quantitative proportion characteristic also for other northern Khabur Basin sites in the Middle Bronze Age. Thus, the Khabur Ware, which had for long been mainly connected with the period of Shamshi Addu I and the expansion of the Old Assyrian empire in the 18<sup>th</sup>/17<sup>th</sup> cent. BC, can now be considered as a very typical ware of the Old Jazirah I period. Based on the dating of the Old Jazirah I period to the time between 2000/1950 and 1800 BC (see above) this observation will, as a consequence, result in a re-evaluation of the dating of many sites in the Syrian Jazirah. As Schmidt found out,<sup>33</sup> there is hardly a qualitative or quantitative development of Khabur Ware from the Old Jazirah I to the Old Jazirah II period, so that, in fact, it is very difficult to date isolated repertoires precisely.

Although the existence of Khabur Ware links the Early Jazirah V and the Old Jazirah I periods the pottery repertoire fundamentally changes between the two epochs. This is particularly striking with regard to jar rims and bowl types, such as the characteristic smoothly carinated bowls of the Middle Bronze Age, but it affects nearly all shapes of the pottery repertoire

<sup>30</sup> This pottery repertoire has been studied by Schmidt 2008; see also Schmidt this volume.

<sup>31</sup> Schmidt 2008 and Schmidt this volume; see also Schmidt 2005: 109-112.

<sup>32</sup> See: Dohmann-Pfälzner – Pfälzner 2002: 154; Schmidt 2008; Schmidt this volume (figure 4).

<sup>33</sup> Schmidt 2008; and this volume.





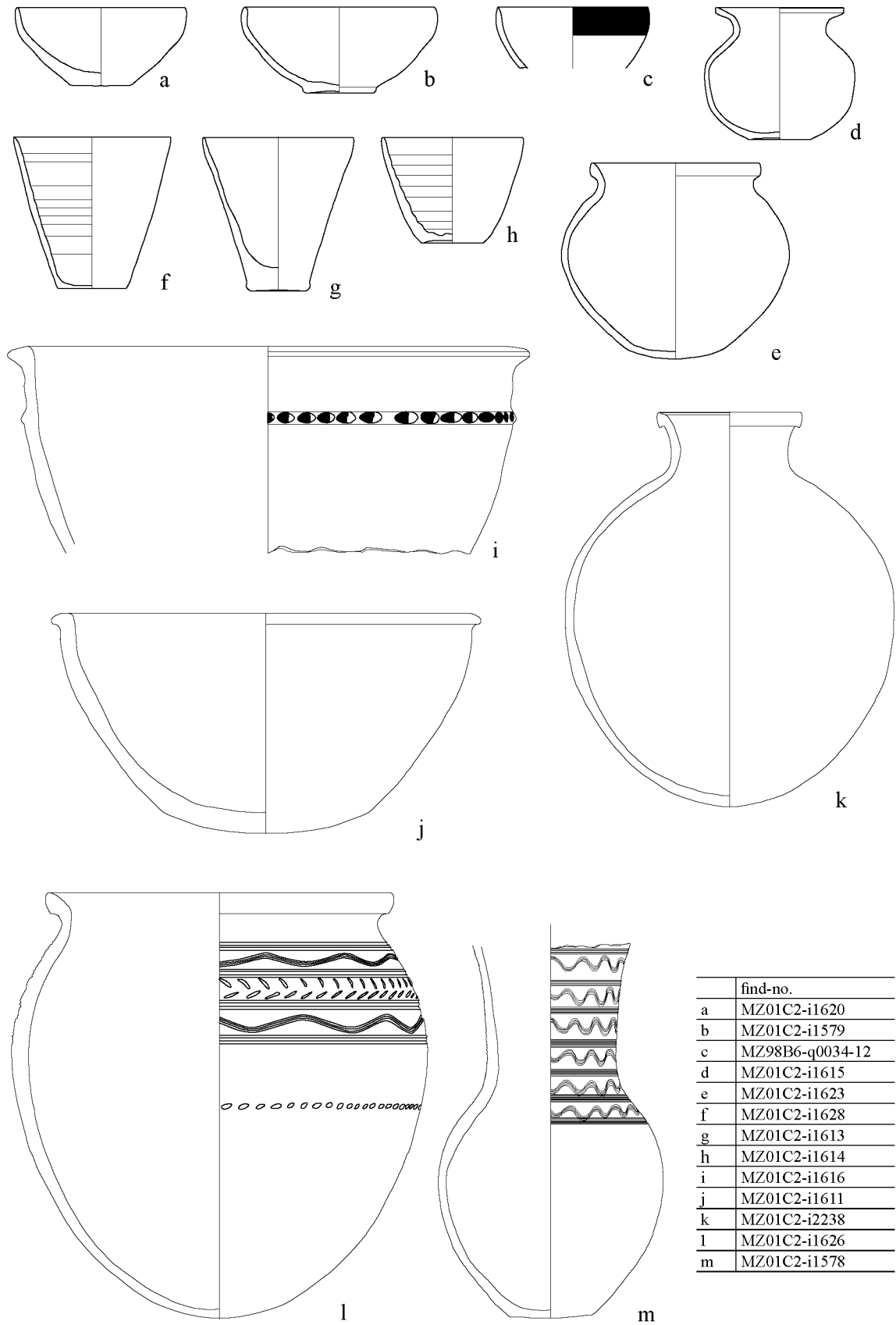
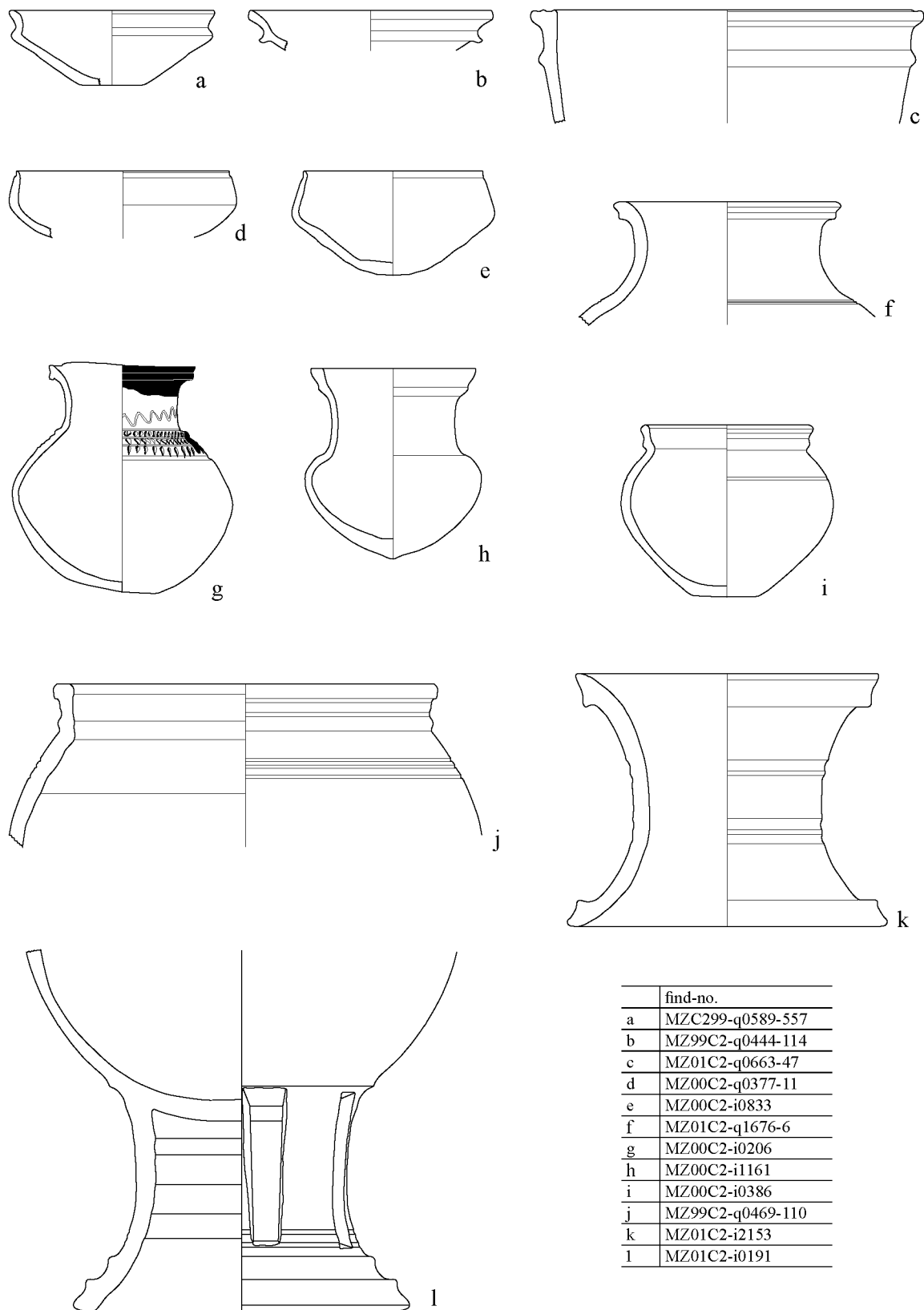


Figure 7: Pottery of the Early Jazirah IV period, from phase C 9 at Tell Mozan (objects a-h: scale 1:4; objects i-m: scale 1:5).



	find-no.
a	MZC299-q0589-557
b	MZ99C2-q0444-114
c	MZ01C2-q0663-47
d	MZ00C2-q0377-11
e	MZ00C2-i0833
f	MZ01C2-q1676-6
g	MZ00C2-i0206
h	MZ00C2-i1161
i	MZ00C2-i0386
j	MZ99C2-q0469-110
k	MZ01C2-i2153
l	MZ01C2-i0191

Figure 8: Pottery of the Early Jazirah V period, from phase C 7 at Tell Mozan (scale 1:4).

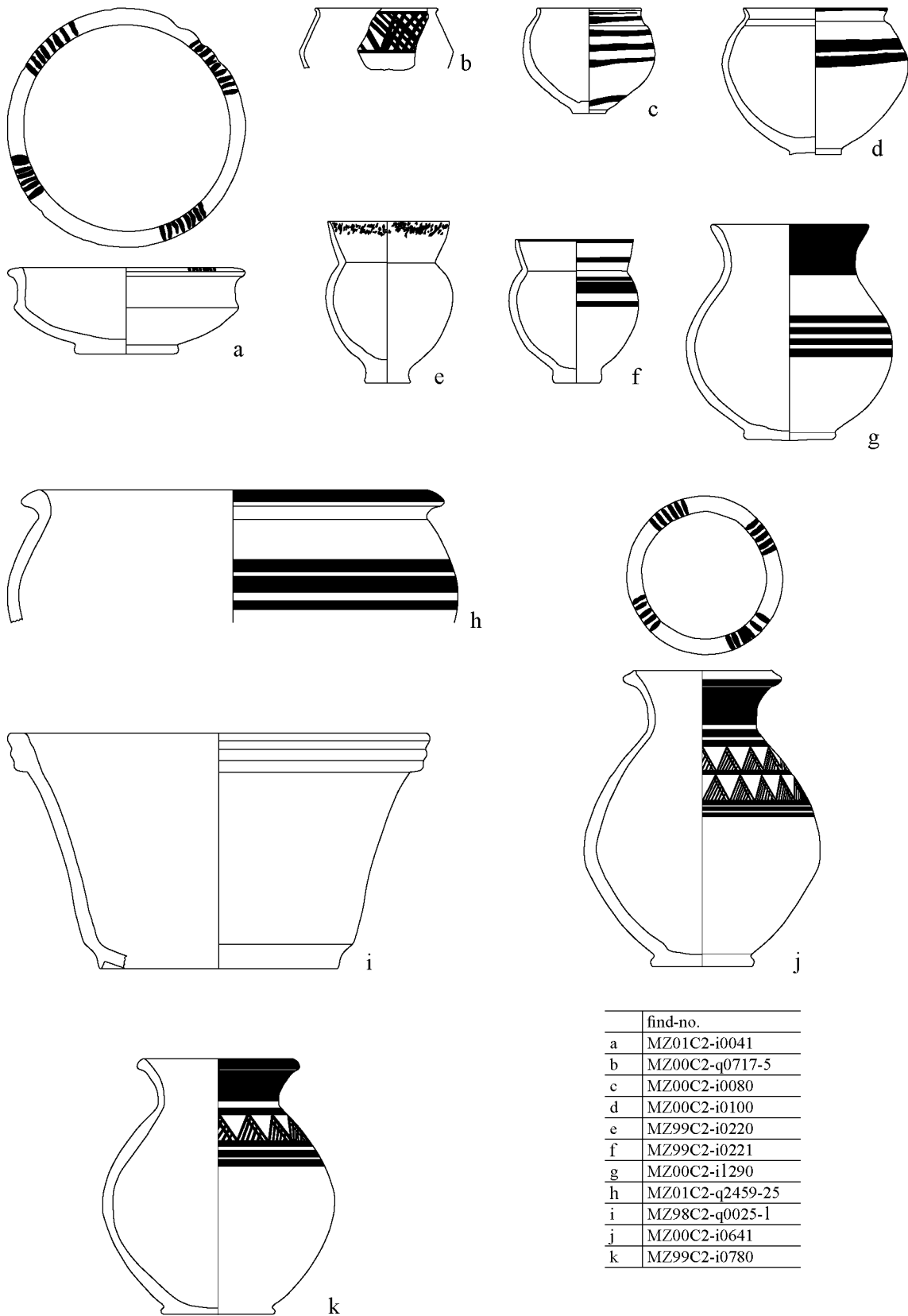


Figure 9: Pottery of the Old Jazirah I period, from phase C 6 at Tell Mozan (scale 1:4).

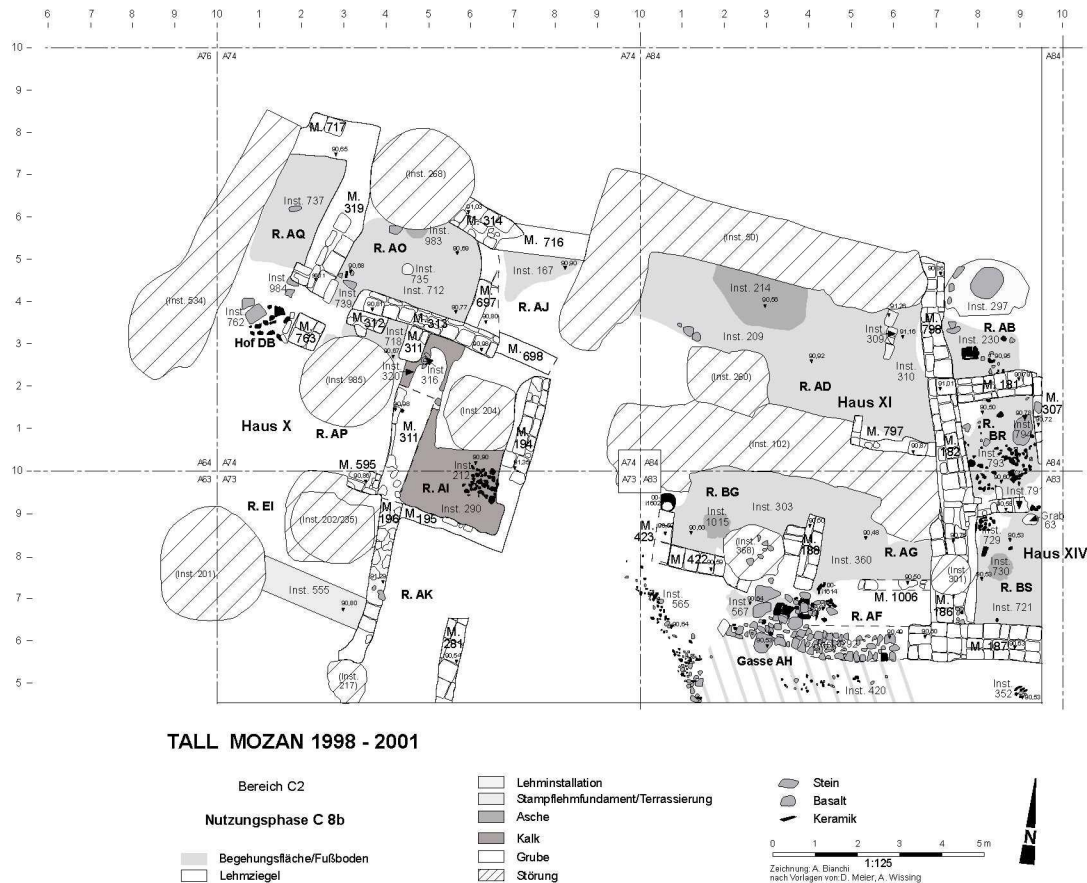


Figure 10: Domestic architecture of phase C 8 (Early Jazirah IV period) in area C2.

(figure 9). This supports the notion of a deep cultural change shortly after 2000 BC in the Syrian Jazirah.

But how can this be explained in view of the fact that there is no interruption of the occupation of the site, but instead a direct continuity between the periods, as can be concluded from the sequence of architectural structures? There is, for the same reason, no indication of the influx of a new population bringing a new kind of pottery with it. On the contrary, population decreases between the Early and the Middle Bronze Age. Based on the assumption of a principally continuous basic population group, the change of pottery needs to be explained by a change of the pottery production economy. Modified modes of production and new workshops would plausibly result in a typological change of the pottery.<sup>34</sup> The reorganisation of the pottery economy might have been related to a general shift in economic organisation at the beginning of the Middle Bronze Age (see below).

In conclusion, the development of pottery between the Early Jazirah V and the Old Jazirah I period demonstrates a fundamental typological change, which is however, neither related to settlement break nor the

result of an intrusion of new people, but needs to be understood in the frame of an economic reorganisation of the Syrian Jazirah.

### 3.3. The case of domestic architecture

The domestic architecture of the settlement area C2 in the upper city of Tell Mozan is characterized by different principles applied in different periods. During the Early Jazirah IV period, contemporary with the Akkadian time, the area C2 close to the city centre is for the first time occupied by dwelling houses (phases C 11 to C 8). They are comparably small in size, with thin walls and tiny rooms, and erected with a low input of material and labour (figure 10). The houses were built without foundations. They are clearly lower class dwellings, arranged in a dense quarter with narrow lanes.

In the Early Jazirah V period (phase C 7) the domestic use of the quarter continues, at least in the western portion. The quality of the house structures remains unchanged. However, open areas take up more space in the quarter, often functioning as outside working areas. The settlement structure becomes less dense, hinting at a decrease of population. On the other hand, a new building technique is introduced during

<sup>34</sup> Compare the theoretical considerations in Rice 1987: 168, 176.

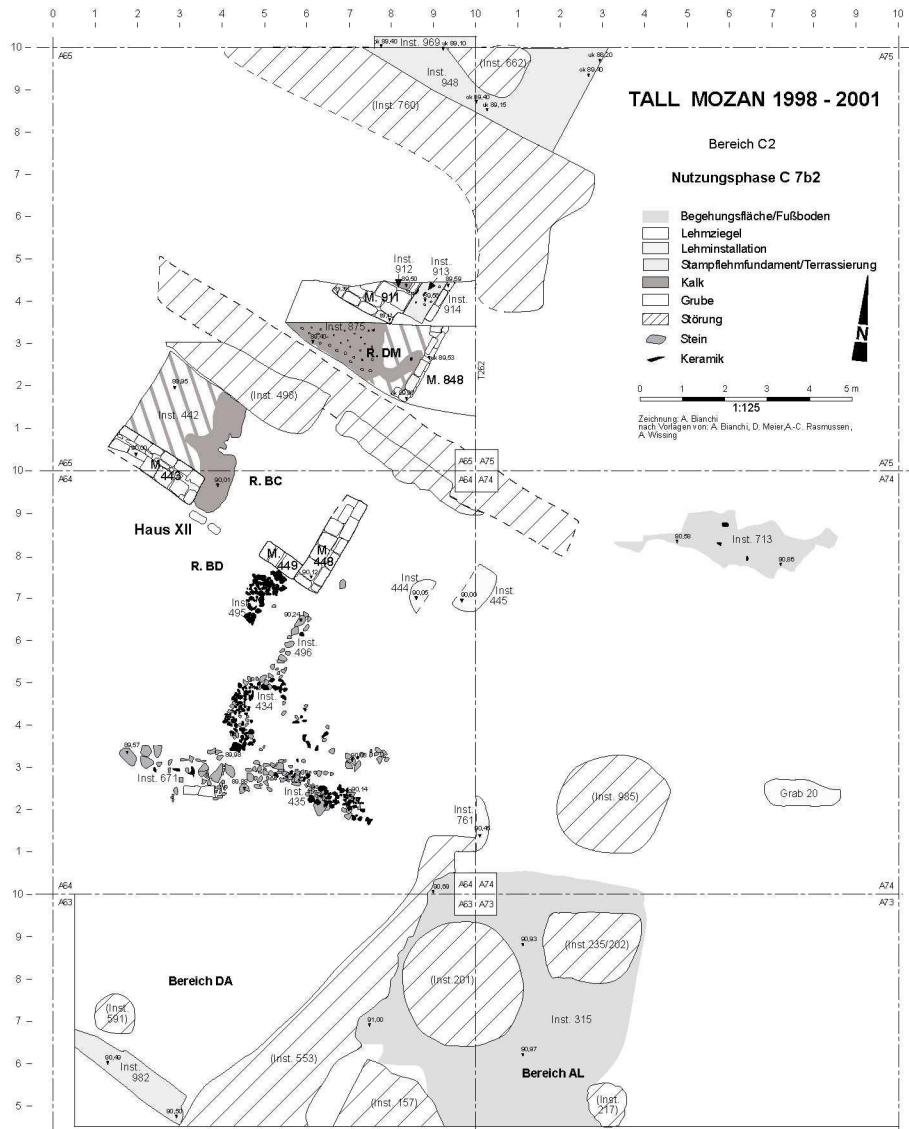


Figure 11: Plan of the architecture of phase C 7 (Early Jazirah V period) in the western sector of area C2 with rammed earth foundations.

this time: foundations of rammed earth. They are built below house walls and, as blocks, below rooms or installations. However, they are not the rule for constructing houses, but only appear in some positions (figure 11).

In the Old Jazirah I period (phase C 6) the whole dwelling quarter is rearranged. New houses are being built, integrated into a dense urban pattern and lined up in a roughly rectangular grid (figure 13). All houses are erected on top of packed earth foundations (figure 12), which now became a regular technique of house construction. The foundations support the walls of the main rooms or sometimes form a flat platform below part of the building. It is interesting to note that, as with the introduction of the Khabur Ware (see above), the new building technique has a predecessor in the Early Jazirah V period. It shows that this architectural innovation was not brought from outside, but

was developed internally, too. This strongly supports the assumption of an endogenous reorganisation of the city at the transition from the Early to the Middle Bronze Age.

The new houses of the Old Jazirah I period have a regular alignment in northwest-southeast direction. They are arranged along small, linear and parallel alleys forming a regular grid of opposed house plots, and the house plots are roughly comparable in size. The new habitations, furthermore, do not respect the former situation of the streets within the quarter and the previous orientation of the houses. This completely changes the structure of the dwelling quarter from an unplanned, chaotic arrangement during the previous phases of the Early Jazirah IV and V periods to a very uniform, planned layout in the Old Jazirah I period. It is a clear sign of strengthened urban planning, which is introduced into the city at this time. Thus, the Old

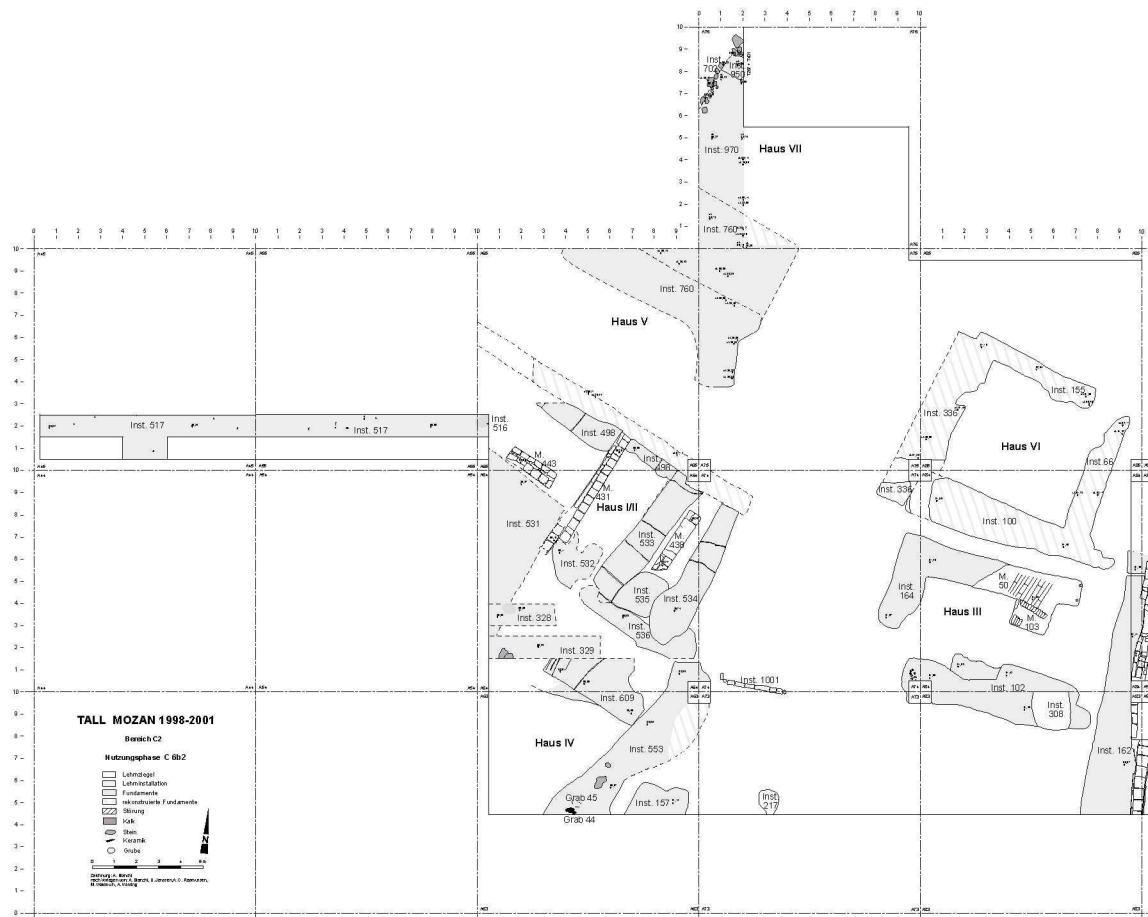


Figure 12: Plan of rammed earth foundations in the dwelling quarter C2 in Phase C 6b (Old Jazirah I period).

Jazirah I period is characterized by a process of reurbanisation. It aims at restructuring and reorganising the old city centre of Urkesh. As the other innovative features of the Old Jazirah I city demonstrate, and as the internal adoption of the rammed earth technique for the foundations clearly shows, the reurbanisation is an endogenous process, as well. It transforms an existing city structure into a new model, a project which probably intended to revitalize the city centre and thus to attract new occupants to this part of the city.

The occupants of the reurbanized quarter seem to have belonged to the wealthier segment of the urban population. This is shown by the comparable large size of the new houses, the stable building techniques on solid foundations, the thick and carefully built house walls, and the spaciousness of the rooms. This transformation must have enhanced the living quality and the social status of the domestic quarter in the central upper city. Thus, the reurbanisation process in the Old Jazirah I period was a well-directed action of a urban elite to adjust the living conditions in the upper city to the new organisational principles of the city. In conclusion, the transition from Early to Middle Bronze Age urbanism at Urkesh was not characterized by

abandonment, but by a process of endogenous reurbanisation.

### 3.4 The case of public architecture

The most conspicuous feature of the urban skyline of Urkesh was the temple oval in the middle of the upper city. This huge temple precinct, investigated between 1998 and 2002 by the DOG-team<sup>35</sup> and subsequently excavated by the American team in recent years,<sup>36</sup> can be traced in its layout through all major phases of the city of Urkesh. It is composed of a temple<sup>37</sup> on a high terrace, a surrounding oval perimeter wall of huge dimension, and a wide, representative stone staircase constructed on a high ramp protruding from the temple platform and also projecting from the oval wall into a wide open area (figure 14). This huge open area located to the south of the temple oval can be identified

35 Dohmann-Pfälzner – Pfälzner 2002: 168-181; for a summary and reconstruction see: Pfälzner 2008.

36 Buccellati 2005: 7-10; Buccellati – Kelly-Buccellati 2005: 28-29, 31-32, 35-37.

37 Temple BA, excavated by the American team in 1984-86; see: Buccellati 1988: 59-61, Fig. 9-11, ill. 6-13; Buccellati 1998: 18-21; Buccellati – Kelly-Buccellati 1995: 389, Fig. 3; Kelly-Buccellati 1990: 125-129.



Figure 13: Plan of the dwelling houses in area C2 in Phase C 6a (Old Jazirah I period).

as a public place (labelled “Max-Mallowan-Place”), which existed through all phases of the urban development of Urkesh from at least the Early Jazirah III to the Old Jazirah II period. Thus, the northern half of the central upper city of Tell Mozan was in all periods reserved for representative and monumental public architecture. Without exactly knowing what kind of activities were located on the Max-Mallowan-Place, we can assume that the temple and the place connected religious and social, probably even political and economic functions. It was a real city centre.

The major architectural components of the temple oval were completed at least since the Early Jazirah IV period, as is attested archaeologically. Probably, it was designed even earlier, in the Early Jazirah II period, in which there is archaeological evidence of the existence of, at least, the high terrace.<sup>38</sup> What is interesting for our discussion is the fact that the temple oval complex and the Max-Mallowan-Place were continuously reused during the Early Jazirah V (temple oval stage IV) and the Old Jazirah I periods (tem-

<sup>38</sup> Pfälzner 2008: 411-413.



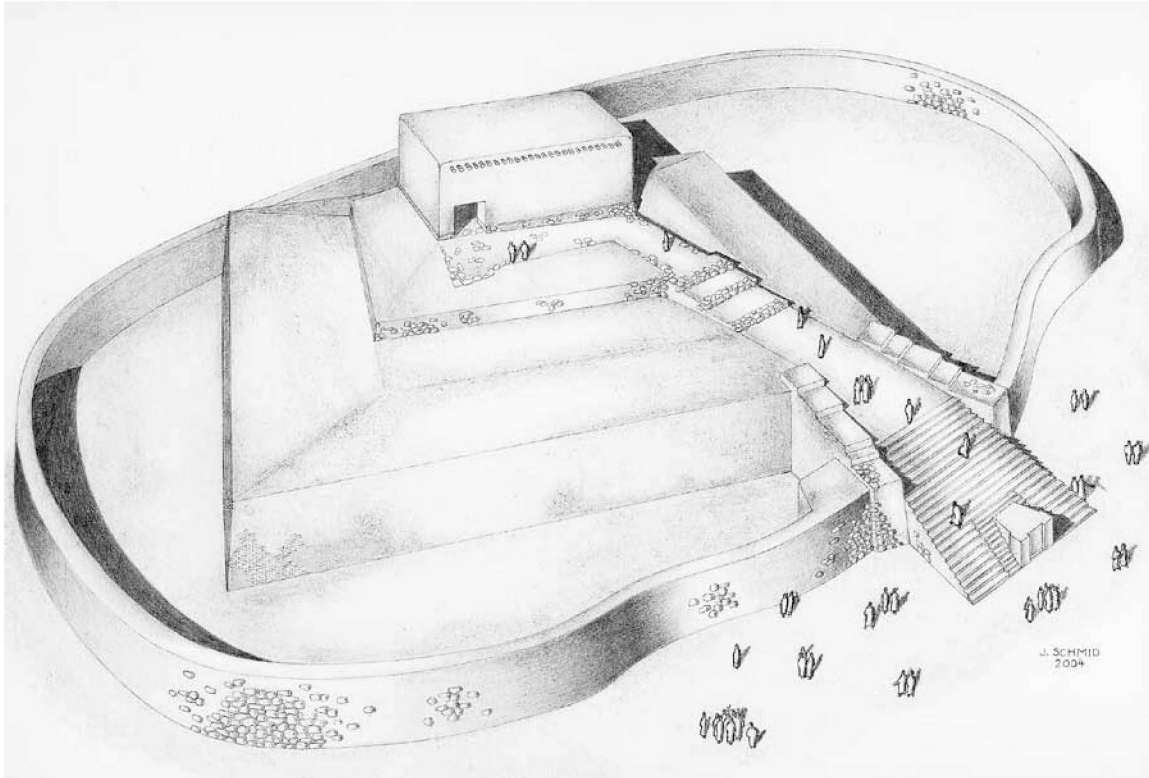


Figure 14: Reconstruction of the temple oval in the central upper city of Tell Mozan, as it existed through the Early Jazirah IV–V and the Old Jazirah I–II periods (concept: P. Pfälzner; drawing: J. Schmid).

ple oval stage V).<sup>39</sup> No alterations to the architectural layout were made in these two periods, except of the fact that the surface level of the surrounding place was gradually elevated by continued depositions of construction refuse, so that several new floor levels were formed over time. These continuously reduced the visible free-standing height of the oval perimeter wall and the staircase, but the general visual appearance and the representative aspect of the complex was not affected fundamentally.

The structural continuity of the public building complex in the city centre from the Early to the Middle Bronze Age is the clearest sign for the urban continuity and integrity of Urkesh at this transition between two epochs. First of all, this is evidence for an impressive religious continuity in the city. Furthermore, it means that the ideological significance connected with this central urban public complex was maintained though periods and phases of transition, when other aspects of material culture and organisational principles of the urban society (see above) fundamentally changed. We might even assume that the political organisation of the city might have been structurally transformed in the course of the establishment of Amurrite elements in northern Mesopotamia,<sup>40</sup> leaving no influence, how-

ever, on the visual appearance of the city centre. Possibly, it was a deliberate decision of changing political elites to retain the central public complex unchanged so that it could function as an ideological symbol for the integrity and continuity of the city though times of organisational transition.

### 3.5 The case of the urban layout

The general urban layout of ancient Urkesh has been reconstructed on the basis of a geomagnetic prospection and an accompanying intensive surface collection in the southeastern part of the lower city of Tell Mozan carried out in 2002 by the DOG-Team.<sup>41</sup> The results in this section, representing approx. 9 % of the total area of the lower town, were generalized in order to design a picture for the extent and the development of the whole lower city. It can be contrasted to the results concerning the structure of the upper city.

The lower city of Urkesh, which was created through an intensive process of urban expansion during the Early Jazirah III period, is the largest known lower city in the Syrian Jazirah measuring 120 hectares in size. Similar to the situation at Tell Leilan<sup>42</sup> it was the result of a systematic enlargement of the existing city in connection with a circumvallation of the lower

39 Pfälzner 2008: 413-414, Tab. 1; Pfälzner – Dohmann-Pfälzner in print.

40 See: Charpin 1990; Fleming 2004; Ristvet 2008.

41 Pfälzner – Wissing 2004.

42 Weiss 1990: 213.

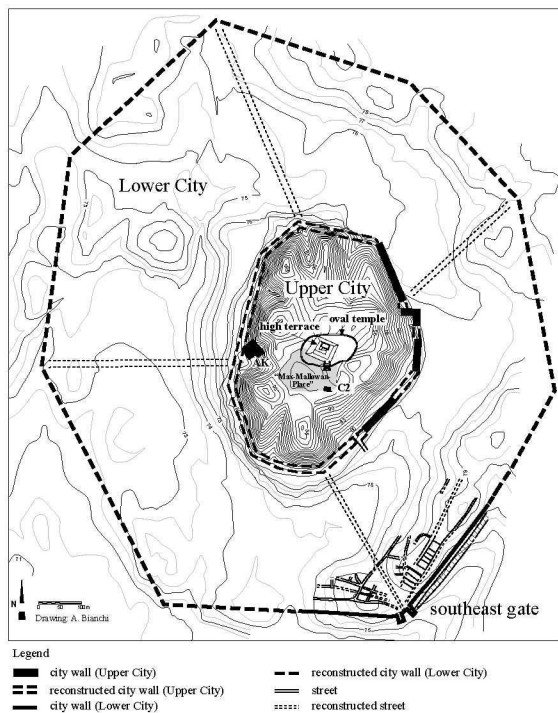


Figure 15: Reconstructed plan of the city of Urkesh during the Early Jazirah IV period (2300–2100 BC).

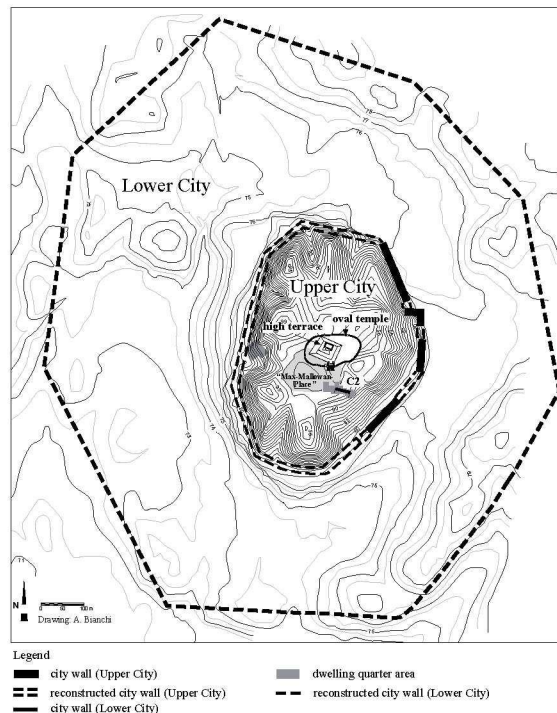


Figure 16: Reconstructed plan of the city of Urkesh during the Early Jazirah V period (2100–2000/1950 BC).

city. The form of the lower city can be reconstructed to have been polygonal – based on the geomagnetic evidence of a city gate located at the point where two linear wall segments of the outer city wall meet in a flat angle.<sup>43</sup> The Early Jazirah III period (2600–2300 BC) witnessed the maximum accumulation of population at Urkesh. In the succeeding Early Jazirah IV period (2300–2100 BC) a first decline of the population can be extracted from the survey material,<sup>44</sup> a process which is chronologically – and probably also socially – connected with the moving in of poorer segments of the urban society into the dwelling quarter C2 in the central upper city of Tell Mozan (see above) (figure 15).

Towards the end of the third millennium BC, in the Early Jazirah V period, the tendency of population decrease continues. Now, the lower town seems to be settled only sparsely (figure 16). However, it is important to note that even in this period, which is normally regarded as a phase of severe urban crisis, the lower town of Urkesh did not cease to exist. The picture perfectly conforms to the upper city, where an equally sparse domestic occupation of the central city area was recorded. The loss of population must have weakened the economic potential of the city in the last century of the third millennium, but structurally the city survived. Possibly, the establishment of the Pusham House as a long-distance trading institution<sup>45</sup>

in the upper city can be seen as an effective measure against this process of economic weakening by diversifying and redirecting economic activities

At the turn of the third to the second millennium the process of lower city desurbanisation continues. In the Old Jazirah I and II periods, which cannot be differentiated in survey pottery, the lower town seems to be nearly deserted, with the exception of sporadic habitation activities (figure 17).<sup>46</sup> We assume that the lower town city wall was not any longer in function. This is in sharp contrast to the reurbanisation attested in the upper city (see above). It proves that the reurbanisation process was limited to the upper city. No attempts were undertaken to revitalize the formerly extended lower city. This decision might have probably been taken by local urban institutions in awareness that there was not enough population in the vicinity that could be attracted to urban life by extended housing projects. Large areas of the western Khabur region seem to have been devoid of population at the beginning of the second millennium BC, as is attested for example in the Tell Beydar Survey located to the southwest of Tall Mozan.<sup>47</sup> Thus, not enough people were principally available in the larger region for deciding to lance a reurbanisation project at Urkesh, which would also have encompassed the lower city in addition to the upper city.

43 Pfälzner – Wissing 2004: 47-51, 78-81, Fig. 4-5, 22-23.

44 Ibid.: 67-71, 81-82, Fig. 24c.

45 See Schmidt 2005: 106-123.

46 Pfälzner – Wissing 2004: 71-76, 82; Fig. 19, 24d.

47 Wilkinson 2000: 363, 368-371; Ur – Wilkinson 2008: 308-309.

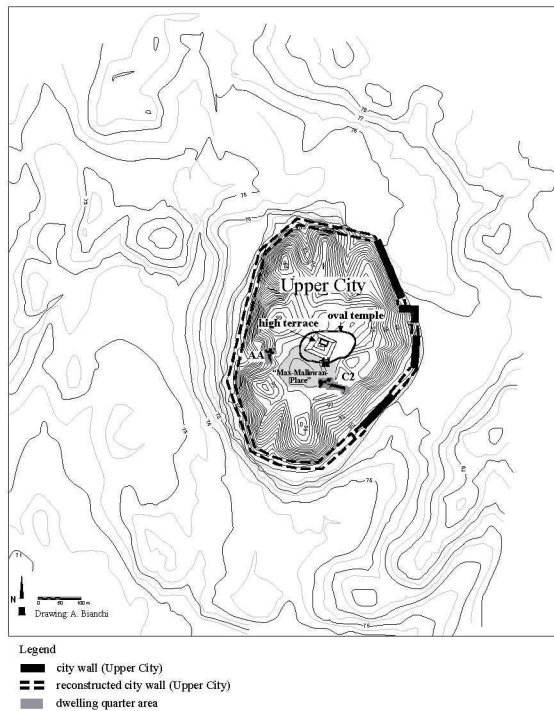


Figure 17: Reconstructed plan of the city of Urkesh during the Old Jazirah I–II periods (2000/1950–1650 BC).

Leaving the apparent difficulties of population supply aside, the evidence at Tell Mozan clearly shows that there was no interruption of occupation at Urkesh from the Early Jazirah V to the Old Jazirah I period, despite a dramatic contraction<sup>48</sup> of the city. The latter, however, seems to have been a very gradual process, an archaeological observation leaving no room for the idea of a sudden abandonment or even an urban collapse scenario.

### 3.6 The case of climate and environment

The background against which environmental studies at Tell Mozan have been initiated and interpreted is the existing paradigm of Weiss, Courty and colleagues that a radical environmental change happened after 2200 BC (i.e. during the Early Jazirah IV period), which was caused by a drastic increase in aridity following on an episode of *tephra*-fall.<sup>49</sup> This region-wide and abrupt climatic catastrophe led to the deterioration of agricultural productivity of large areas including the Khabur Basin.<sup>50</sup> If this was such an abrupt and drastic climatic change, which caused the large Early Jazirah IV city of Tell Lailan to collapse, as Weiss thinks, then

48 For the phenomenon of contraction of Upper Mesopotamian cities in the late third millennium BC see: Peltenburg 2000: 184.

49 Weiss *et al.* 1993; Weiss – Courty 1993; Weiss 1997; 2000; Weiss – Bradley 2001; Ristvet – Weiss 2000; 2005.

50 For the over-regional consequences of this climatic change see Peltenburg 2000.

the consequences must also be clearly noticeable at Tell Mozan, which is only 52 km to the west of Tell Lailan, in a very similar setting. As there is continuous occupation at Tell Mozan during the relevant periods before, during, and after the presumed abrupt climatic change, the environmental data from this site should reflect this dramatic ecological situation.

The environmental investigations at Tell Mozan have been carried out for the DOG-team by Simone Riehl (palaeo-botany), Monika Doll (archaeo-zoology) and Katleen Deckers (anthracology and geoarchaeology). The resolution of the analytical data is high: there are numerous samples from each excavated phase in B6 and C2 through the Early and Old Jazirah periods, due to a carefully applied stratigraphic sampling method. Thus, the environmental conditions and changes can be detected for each of the relevant periods separately.<sup>51</sup>

In order to understand long-term environmental developments we move here one step back in our examination of the third to second millennium BC transition and start the evaluation of the ecological data from Tell Mozan at the turn from the Early Jazirah III (2600–2300 BC) to the Early Jazirah IV period (2300–2100 BC).

From Early Jazirah III to Early Jazirah IV:

The palaeo-environmental data show continuity from the Early Jazirah III to IV period. The crop production remains stable with an emphasis on the cultivation of barley.<sup>52</sup> As this is principally a stress-resistant type of crop, one can conclude that the agricultural conditions, despite the clearly northern location of Tell Mozan within the Khabur Region, were not to be regarded as ideal. Also the deciduous oak woodland, which existed in the region around Tell Mozan, proved to be more or less stable between the Early Jazirah III and IV, however, it shows slightly less moisture indicators in the later period.<sup>53</sup> Also in the archaeo-zoological record no major shift is attested between Early Jazirah III and IV, both periods being dominated by a sheep/goat economy. Interesting to note is the comparatively large quantity of pigs being opposed to fewer cattle in both periods.<sup>54</sup> As pigs require a constant availability of water in their surroundings, one can conclude that water supply remained generally stable between the two periods. There is even testimony of a beaver in an Early Jazirah IV layer, which is another indicator of the abundance of surface water in the area, in this case

51 The results of these analyses have been published in a monograph: Doll – Deckers – Pfälzner – Riehl 2010.

52 Riehl 2010: 22, 57–59, 65–69.

53 Deckers 2010a: 176, Table 1.

54 Doll 2010: 197, 242–251.

necessarily connected to some kind of lush riverine vegetation being the natural habitat of beavers.<sup>55</sup>

These results hint at a stable climatic and ecological situation throughout the Early Jazirah III and IV periods. There are no indicators for a major change of agricultural practices and of the natural environment, on which an assumed abrupt climatic event around 2200 BC,<sup>56</sup> i.e. in the middle of the Early Jazirah IV period, would have necessarily left clearly discernible effects.<sup>57</sup> This, of course, does not exclude short-term, up to five years droughts in the region,<sup>58</sup> or gradual shifts in the overall climatic conditions.<sup>59</sup> These would not leave such a clear imprint on the material as would do abrupt climatic changes, especially because urban societies would have had the chance and the time to adapt to the gradually changing environmental conditions. In well-organised societies, not directed towards a maximum exploitation, or even over-exploitation, of the surrounding area, such adaptations would be easily accomplishable.<sup>60</sup>

From Early Jazirah IV to Early Jazirah V:

While in Early Jazirah IV barley was still the preferred crop at Tell Mozan, a significant change occurred with the Early Jazirah V period. Now, free-threshing wheat becomes the dominant crop.<sup>61</sup> Free-threshing wheat is a more demanding crop than barley and needs more humidity,<sup>62</sup> so that one can definitely infer that sufficient and stable annual precipitation must have been available during the Early Jazirah V period. This astonishingly but clearly contradicts the assumption of increased aridity in the Syrian Jazirah at the end of the third millennium BC. The opposite seems to be the case.

One might alternatively argue that - in view of the presumed aridity in the region - the free-threshing wheat might have been imported from outside, from another, more favoured region to the north in Anatolia, or to the south in Mesopotamia, where irrigated agri-

culture was practised. However, free-threshing wheat represents the majority of crop remains from the city, so that this would have meant a quasi total external supply of the population. This is practically impossible, because it would have needed a huge logistical and organisational effort, over a period of hundred years or more (the duration of the Early Jazirah V period), which would be far beyond the capacities of a Bronze Age urban society or city state.<sup>63</sup> Thus, this option is ruled out. There is still another piece of evidence that excludes this option: the weed proportions, at least with regard to a high number of taxa, are rather stable from the Early Jazirah IV to V period.<sup>64</sup> As the crop weeds come together with the harvest into the city, this, on the one hand, demonstrates that the local agricultural system remained to a large extent unchanged, and, on the other hand, that the cereals were definitely not imported, because the field weeds would have principally (in any higher concentration) not come along with processed grain as trade good.

When looking at the details of the frequencies of crop weeds some interesting observations can be made: weeds, which are typical for water-related habitats and which prefer moist or wet environments, such as river shores, alluvial flats or irrigation ditches, are particularly frequent in the Early Jazirah V period.<sup>65</sup> Club rush, for example, nowadays a typical weed of irrigated crops, has its main occurrence in the Early Jazirah V period, and canary-grass, some species of which are indicative for moist conditions and irrigated fields, prevails in the Early Jazirah V period.<sup>66</sup>

There are two possible explanations for this: the weed species could - like the free-threshing wheat - speak for principally moister conditions in the Tell Mozan area during the Early Jazirah V period, or they could indicate that around Tell Mozan, where normally rain-fed agriculture is at home, irrigation was additionally practiced during this time in order to optimize crop yields. Principally, the latter option would be possible, because: a) there was a wadi close to Tell Mozan<sup>67</sup>, the Wadi Mozan, a tributary to the Wadi Khanzir; b) the land around Tell Mozan is perfectly flat; c) there was a higher flow of water in the wadis of the Khabur Region during the mid-Holocene than today<sup>68</sup>; and d) the mountains of Tur Abdin, where the Wadi Mozan originates and runoff water can be

55 Ibid.: 198, 274-276, 279.

56 Courty (2001) recently proposed an earlier date for the assumed climatic event, at around 2350 BC, i.e. roughly at the turn from Early Jazirah III to IV. This, however, does not change the principally critical appraisal of this assumption based on the above mentioned observation of the stability of climatic and ecological conditions covering the two periods.

57 Pfälzner 2010: 1-12.

58 Such as they have been assumed by Wilkinson *et al.* 2007: 63-66, in a theoretical modeling, in order to evaluate their possible consequences for human settlement and agriculture in the Khabur Region.

59 See the presentation of archaeological evidence and environmental data by Peltenburg 2000 (*passim*); and the discussion by Riehl - Bryson - Pustuvoytov 2008 (*passim*).

60 Following Wilkinson *et al.* 2007: 61-62, 66-67; see also Riehl 2009 (*passim*) and Peltenburg 2000: 186-187.

61 Riehl 2010: 22, 57-59, 65-69, Fig. 70.

62 Riehl 2009: 100, Table 1.

63 Additionally, as Wilkinson (1997: 100) points out, the export of grain from neighbouring regions over a longer period of time would over-exploit this other region and deplete its soils.

64 Riehl 2010: 59, 67, Fig. 71.

65 Ibid.: 38, Table 4.

66 Ibid.: 41, 51.

67 Described by Deckers 2010b: 361-362, Fig. 2a-b, on the basis of CORONA images.

68 Deckers 2010b: 372-374 (for a very recent attestation of strong flow of water and flooding in Wadi Mozan see: Riehl - Deckers 2008: 179-180).

collected, are only 10 kilometres distant in northern direction. This situation would have facilitated the implementation of a local irrigation system around Tell Mozan supporting the growth of free-threshing wheat and thus ensuring the supply of the local population in a period of crisis.<sup>69</sup>

Whether moister conditions or irrigated agriculture is the background of the shift from barley to free-threshing wheat in the Early Jazirah V period is difficult to decide. To assume moister conditions would, at the first view, contradict the general perception of this period as an arid one, but would be supported by the modeled precipitation values for the Syrian Jazirah proposed by Bryson.<sup>70</sup> They show an accentuated peak of rainfall between 2250 and 1950 BC,<sup>71</sup> i.e. in the later part of the Early Jazirah IV and in the Early Jazirah V period. Thus, the preference of free-threshing wheat and the general climatic model would perfectly fit together. Furthermore, the assumption of an increase of rainfall at the end of the third millennium BC would not at all exclude the idea of additional irrigation. Rather, it would have even encouraged the application of irrigation through higher seasonal water flow rates in the wadi system of the northern Khabur Region.

There are more indicators of favourable climatic conditions during the Early Jazirah V period. The oak woodland, which since earlier times has been so characteristic of at least the northern part of the Khabur Region, where Tell Mozan is located, continued to exist during the Early Jazirah V period.<sup>72</sup> Thus, neither climatic nor human impact led to a decisive reduction of this woodland. The woodland was even populated by leopards, as is attested though bones from an Early Jazirah V context.<sup>73</sup> There is also no essential change in the animal husbandry at Tell Mozan. The only shift is marked by an increase of cattle at the expense of a slight reduction in the frequency of pigs during the Early Jazirah V period.<sup>74</sup> This is the beginning of a trend, which continues during the Old Jazirah I/ II periods. The still remaining considerable pig stock was in need of humid surroundings, which shows that the latter was obviously still guaranteed.

In conclusion, the environmental data from Tell Mozan for the Early Jazirah V period, which are the first ones available for this period from the whole of northeastern Syria, throw new light on this time in a surprising manner. The region is characterized by stable environmental and climatic conditions. The

availability of water and humidity even seems to have improved in this time. Either increased rainfall or local irrigation procedures have enabled a shift of the agricultural production to a preference for free-threshing wheat. The natural surroundings of Tell Mozan were not deteriorated; neither by catastrophic climatic events nor by disastrous human impact. This clearly contradicts earlier assumptions of prevailing aridity, agricultural decline and environmental deterioration during this period. From the environmental point of view there was no reason for desurbanisation, not to speak of the total abandonment of cities. Thus, the observable process of urban contraction at Tell Mozan and other cities (see above) needs to be explained other than assuming an environmental catastrophe.

#### From Early Jazirah V to Old Jazirah I/ II

At the turn of the Early Jazirah V to the Old Jazirah I/ II period<sup>75</sup> we can again observe a distinct change in relative crop quantities. Free-threshing wheat loses its importance, and is again replaced by barley, which had already played a prominent role before its decrease during the Early Jazirah V period. Besides barley, there is an increased amount of emmer.<sup>76</sup> Both crops are less demanding than free-threshing wheat in terms of humidity, they are more stress-tolerant.<sup>77</sup> This hints at increasing aridity, a fact, which is again supported by Bryson's modelled precipitation values for the Middle Bronze Age. They reflect a decrease in precipitation rates after 1900 BC,<sup>78</sup> i.e. starting with the Old Jazirah I period.

Stable carbon isotope analysis of botanical remains from Tell Mozan has contributed important new information for this question. The observable lower isotope values of crop plant samples from Middle Bronze Age levels at Tell Mozan demonstrate significantly higher water-stress for the plants during the second millennium as compared to the third millennium BC.<sup>79</sup> This result clearly indicates more arid conditions in the Middle Bronze Age than in the Early Bronze Age.<sup>80</sup>

Other observations point in the same direction. Lentils decrease in frequency, while bitter-vetch increases.<sup>81</sup> The latter is more stress-resistant than the water-sensitive lentils.<sup>82</sup> There is now also a remarkable change in the occurrence of crop weeds, which is a general indicator of a change in agricultural organisa-

69 Riehl, on the contrary, does not see enough evidence in the Tell Mozan samples to infer irrigation: "Large-scale irrigation in any of the phases at Tell Mozan seems unlikely, as typical indicators occur in only small numbers" (Riehl 2010: 67).

70 Bryson 1997.

71 Data after Riehl 2010: Table 1.

72 Deckers 2010: 176-177, Table 1.

73 Doll 2010: 198, 273, 279.

74 Ibid.: 197, Table 8-10, 14-19.

75 Both periods Old Jazirah I and II are treated together here, because the resolution of samples is not fine enough to allow for a differentiation.

76 Riehl 2010: 57-59, 67, Fig. 70.

77 Riehl 2009: 100, 111, Table 1.

78 After Riehl 2010: Table 1.

79 Riehl – Bryson – Pustuvoytov 2008: 1018.

80 Ibid.: 1020.

81 Riehl 2010: 59, 67, Fig. 70.

82 Riehl 2009: 100-101, 110.

tion.<sup>83</sup> Even the long-lasting deciduous oak woodland in the Syrian Jazirah was substantially diminished in the Old Jazirah I/ II periods.<sup>84</sup> This could have been – as Deckers argues<sup>85</sup> – a consequence of climatic drying and, at the same time, of human impact, when people – e.g. during a crisis of the food supply – enlarged the agricultural areas at the expense of woodland.

A significant change in animal husbandry occurred during the Old Jazirah I and II periods. Cattle became more important than in the Early Bronze Age, a trend that had already started in the Early Jazirah V period (see above). As cattle need less humidity than, for example, pig (which had higher frequencies in the third millennium) this trend could again reflect an increase in aridity. However, it can also be due to a stronger demand of cattle as working animals, e.g. for ploughing. This could be seen in connection with the decrease of the oak woodland, interpreted as a consequence of the enlargement of agricultural areas. Taken together, both sets of data can be interpreted as an adaptation to some kind of agricultural crisis resulting from more arid conditions.

In conclusion, the changes visible at the turn of the third to the second millennium point at increasing aridity in the region, the extension of agricultural areas as a response to a slight climatic change, and a reorganisation of agricultural activities as an adaptation to changed environmental conditions.

#### 4 Explaining late third millennium BC urban change in the Syrian Jazirah

##### 4.1 Processes of transformation and adaptation

The above presented evidence from Tell Mozan clearly shows that no abrupt climatic change occurred in the late third millennium BC and no “collapse” of the urban system of the settled region as a whole happened. This can be concluded from more or less stable environmental data and from the lack of radical change in the urban structure of one of the major sites of the region, Tell Mozan. Instead, there is evidence for gradual, long-term developments. These gradual developments appear at many sites of the Khabur Region, but they vary from place to place and from sub-region to sub-region.<sup>86</sup> Peltenburg classified them into four processes: contraction, destruction, abandonment, dispersal.<sup>87</sup> These processes happened differently at different places, but they were interconnected in what seems to be a pattern of general devolution in

the Jazirah towards the end of the third millennium BC.

The question, which will be tackled here, is what the cultural and social reactions to this devolution process were. Two principally different reactions can be distinguished.

The first one is abandonment. Sites and in some cases whole sub-regions are abandoned, if not completely, then at least partially. Tell Beydar and its region is a pronounced example of this.<sup>88</sup> It needs to be emphasized that Tell Leilan, normally regarded as the prototype of a collapsed city,<sup>89</sup> might probably not be an appropriate example for total abandonment, because in recent excavation and survey work evidence for Leilan Period Ie (2200–1900 BC), covering the Early Jazirah V period, has been recorded with scanty remains of occupation on the Acropolis of Tell Leilan<sup>90</sup> and in the surrounding region.<sup>91</sup>

The second strategy against devolution is transformation and adaptation. These are two connected processes, both initiated from within the society and both active on a long-term scale. Transformation is a prominent action, which is discernible in many aspects of the urban development of Tell Mozan. It is observable from the Early Jazirah IV period onwards, when the first decline of urban population is noticeable at the site. At the same time, a new palace is being constructed on the western edge of the upper city (Palace AA).<sup>92</sup> This fact hints at political and probably also ideological transformation. On the other hand, transformation is also visible in the admission of lower class dwellings to the southern part of the central upper city, where public buildings had existed before. This hints at a slackening of strict city planning principles. One could argue that the incipient decrease of population at Urkesh in this period was an adaptation to these changed urban and sociopolitical conditions. Probably, social order and secured supply was not maintained in a sufficient way to keep the whole population attracted to the city.<sup>93</sup> Definitely, in this case, the adaptation was not related to a changing environment, because the latter evidently remained stable (see above).

Transformation was still much stronger in the Early Jazirah V period. Within the central upper city new economic activities were initiated, as is evidenced by the Pusham trade house promoting interregional trading

83 Riehl 2010: 59-60, 67, Fig. 71.

84 Deckers 2010: 174.

85 Ibid.: 175.

86 As has been pointed out by Wilkinson (2002: 368-371) on the basis of survey material from different sub-regions of the Khabur Basin.

87 Peltenburg 2000: 184-185.

88 Wilkinson 2002: 362-368; Ur – Wilkinson 2008: 306-309.

89 Weiss 1997: 345; Ristvet – Weiss 2000: 94-97; 2005: 1.

90 Lauren Ristvet, personal communication in 2007 (Period Ie late occupation in the Dudu-Palace, Leilan Acropolis Operation I); see also Ristvet 2008: Fig. 7 (site no. 1 = Tell Leilan, classified as a “village” in Leilan Period Ie).

91 There are 13 sites for Leilan Period Ie (2200-1900 BC) in the Tell Leilan Regional Survey ranging from the “large town” to “village” categories; see Ristvet 2008: 594, Fig. 7.

92 Buccellati – Kelly Buccellati 2001: 60-63, Abb. 2; 2002: 106-113, Abb. 2; 2004: 14-15.

93 Pfälzner 2010: 1-12; Pfälzner – Dohmann-Pfälzner in print.

activities. The administration of trade in the Pusham House was probably even integrated into a local political system.<sup>94</sup> New building principles (rammed earth foundations) and new pottery wares (painted Khabur Ware) are introduced, both of which can be interpreted as endogenous innovations (see above). And, the most conspicuous, new agricultural choices were taken, as is demonstrated by the marked preference for free-threshing wheat in the Early Jazirah V period. On the other hand, Palace AA (the so-called Tupkish Palace) is abandoned in this period,<sup>95</sup> which hints at considerable political discontinuity. All this is accompanied by a drastic reduction of the population, observable both in the lower and the upper town. This situation cannot be explained by the worsening of climatic or environmental conditions. The latter shows no signs of deterioration, as is demonstrated by the crop economy. Therefore, the population decline, again, needs another explanation, presumably in the sociopolitical realm. It could be understood as an adaptation to political discontinuity or to changed economic principles, either commercial or agricultural.<sup>96</sup>

In the Old Jazirah I period trends of transformation are peculiarly prominent. The most striking process is the reurbanisation of the central upper city by planned houses in regular arrangements and uniformly equipped with solid foundations of rammed earth. Astonishingly enough, this can be interpreted as an internal process. At the same time, pottery production undergoes a fundamental transformation, hinting at a reorganisation of the pottery economy. However, the reurbanisation and reorganisation efforts were constricted to the upper city. In the same period, the lower city became nearly completely depopulated. Both trends seem to be contradictory, at the first view. Possibly, the reorganisation efforts in the upper city were a reaction to the dramatic depopulation of the lower city. The agricultural organisation receives a transformation as more stress-tolerant crops are preferred. This time, we might not be wrong to relate it to a worsening of climatic conditions, as precipitation rates decline. The more arid conditions led to the decision to change agricultural practices. The beginning of the Middle Bronze Age, thus, is an instructive example of the principle that agricultural decision-making constitutes an adaptation to environmental change.<sup>97</sup> Adaptation to a changing environment was the pivotal measure to prevent the decline of the urban system. Thus, climatic changes were and are not inevitably a reason for settlement decline, but they could have this effect if the social system fails to adapt.<sup>98</sup>

94 Pfälzner – Dohmann-Pfälzner in print.

95 Buccellati – Kelly-Buccellati 2002: 106-109, Figs. 2 and 3.

96 Pfälzner – Dohmann-Pfälzner in print.

97 Riehl 2009: 96-97, 111-112.

98 *Ibid.*: 111; Wilkinson 1994: 499-501.

As was demonstrated above, there are a lot of transformation processes to be identified between the periods Early Jazirah IV, Early Jazirah V and Old Jazirah I/ II. We are far from understanding their exact causes and interrelations. Some of them seem to be contradictory, while others are clearly in mutual dependence, but without disclosing, which one was active first. What is clear is that these transformations - as they can be so conspicuously seen at Tell Mozan - are responsible for the stability and continuity of the urban system, at least at some sites in the Khabur Region. This is exactly the reason, why the urban system at these places did not collapse at the end of the third millennium BC.

#### 4.2 Regional trends and diversities

The two major reactions towards environmental stress and cultural devolution – abandonment or transformation/ adaptation – need to be distinguished with regard to regions, sub-regions and single sites, as they did not apply uniformly. When identifying and locating the evidence from the late third and early second millennium BC geographically within the Khabur Region, two different regional trends become visible.

a) The first zone (Zone A) is characterized by aspects of transformation and adaptation. There are no traces of abandonment during the late third millennium B.C for the major sites in this area. The best recorded case is Tell Mozan, where there is continuous settlement during Early Jazirah IV, Early Jazirah V and Old Jazirah I and II. On a number of other large sites Early Jazirah V layers have been identified as well, demonstrating uninterrupted settlement during the second half of the third millennium. These are: Tell Chagar Bazar on the Wadi Khanzir, south of Tell Mozan; Tell Arbid, to the southeast of Tell Mozan; Tell Barri, on the Wadi Jaghjagh; Tell Brak, south of Tell Barri on the same wadi; Tell Hamoukar, in the eastern part of the Khabur headwaters region.<sup>99</sup> Even at Tell Leilan, there seems now to be some scanty evidence of this period (figure 18).<sup>100</sup> Until recently, there had been no secured attestation of the Old Jazirah I period (2000/1950–1800 BC) at these places.<sup>101</sup> Now, with a better understanding of the characteristic pottery of the Old Jazirah I period,<sup>102</sup> in which abundant quantities of Khabur Ware are already part of the ceramic repertoire, we have no more argument to deny an occupation at many of these sites during the first two centuries of the second millennium BC.

The mentioned sites define a region covering the northern strip of the Khabur Region (Tell Mozan, Tell Arbid, Tell Leilan) including its easternmost strip

99 For a presentation and relevant literature see: Koliński 2007: 347, 352-353, footnotes 21, 48.

100 See above, footnotes 90 and 91.

101 Koliński 2007: 353-354, 361-364.

102 Schmidt 2008; and this volume.

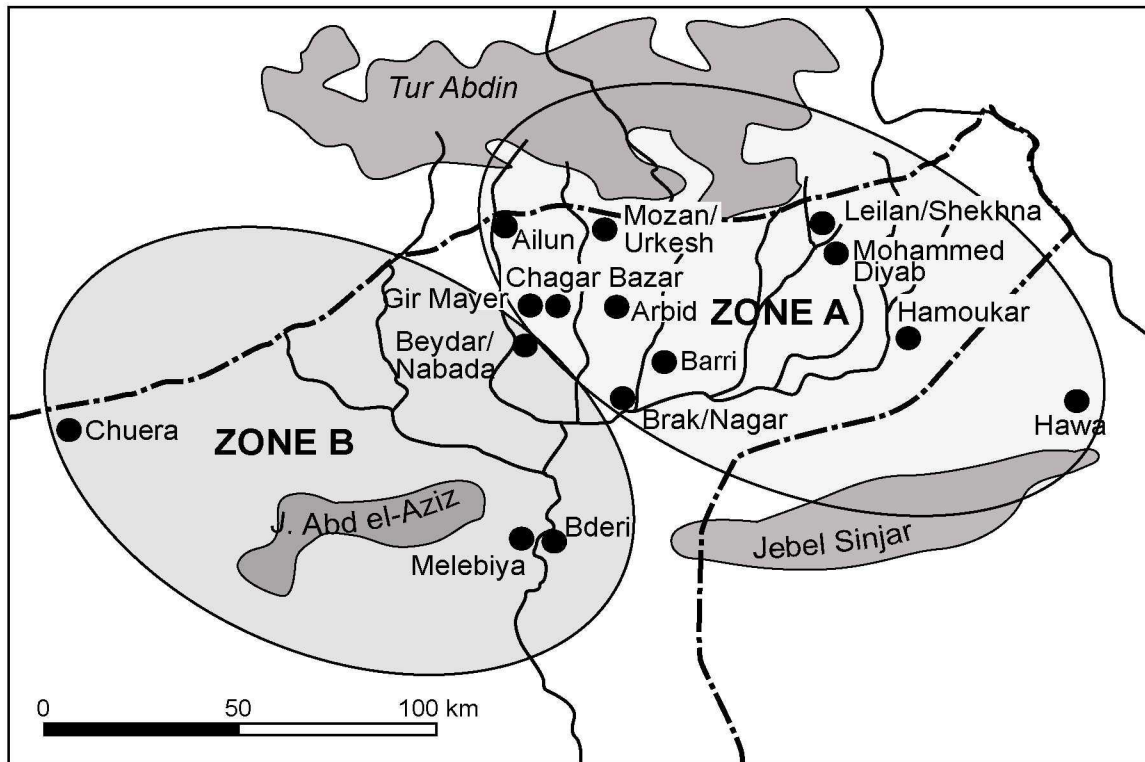


Figure 18: Map of the Syrian Jazirah at the end of the third and the beginning of the second millennium BC (periods Early Jazirah IV, Early Jazirah V and Old Jazirah I with zones of urban development).

(Tell Hamoukar) and the central part of the Khabur Triangle (Tell Barri, Tell Brak, Tell Chagar Bazar). The sites, today, lie in an area with more than 400 mm (Tell Mozan, Tell Arbid, Tell Leilan, Tell Hamoukar), respectively with more than 300 mm of mean annual rainfall (Tell Barri, Tell Brak, Tell Chagar Bazar).<sup>103</sup> Thus, they are in a relatively privileged position within the Syrian Jazirah. As the data from Tell Mozan show, we do not have any indication of a major and abrupt climatic change in this region during the late third millennium.

Of course, this does not mean, that all sites in the respective area have been uninterruptedly occupied. There are more or less severe settlement contractions at the mentioned large sites, and smaller sites in the hinterland of the cities could have possibly been abandoned in the late third or early second millennium,<sup>104</sup> but this is very difficult to trace in surface material of archaeological surveys.<sup>105</sup>

The example of Tell Mozan demonstrates that distinct measures of reurbanisation have been undertaken in both the Early Jazirah V and the Old Jazirah I

periods. Although this cannot be generalized for the whole region, it shows that late third millennium urban centres in the region actively initiated transformation and adaptation to changing cultural, economic, socio-political and environmental conditions, in one or the other way. According to modern social geography, “reurbanisation” is understood as an internal process of cities applying an investment in urban renewal aimed at increasing the attractiveness of the city centre in order to re-attract population, commerce and economic production. This is what the urban institutions of Tell Mozan could have had in mind when achieving the recorded transformations of urban live and structure. Therefore, Zone A of the Khabur Region is designated as a late third millennium BC “reurbanisation zone”.

b) The second zone (Zone B) contains settlements, where abandonment during the late third millennium, in the course of or at the end of the Early Jazirah IV period, has been definitely attested. The most prominent site is Tell Beydar, where occupation ends at the end of the Early Jazirah IV/ beginning of the Early Jazirah V period.<sup>106</sup> At Tell Chugera, where an intensive urbanisation by constructing domestic quarters based on the systematic layout of allotment houses had been accomplished during the Early Jazirah IIIa period,<sup>107</sup> abandonment is attested during the Early Jazirah IV

<sup>103</sup> Compare the precipitation and soil map in: Weiss 1986: Fig. 6.

<sup>104</sup> Ristvet 2008: 594, Fig. 7-8; Wilkinson 2002: 368-370.

<sup>105</sup> For the principal difficulty in identifying late third and early second millennium material in archaeological surveys in the Khabur region see: Wilkinson 2002: 361; and Ur – Wilkinson 2008: 307.

<sup>106</sup> Lebeau – Rova 2003: 8, Tab. II-V.

<sup>107</sup> Pfälzner 1997b: 249-254; 2001: 325-348; 2002.



period following on a phase of urban contraction.<sup>108</sup> Also the sites in the Middle Khabur Region, such as Tell Bderi<sup>109</sup> and Tell Melebiye<sup>110</sup>, are abandoned at the same time.

It is remarkable that both Tell Beydar and Tell Chuera are “*Kranzhügel*”-types of settlements.<sup>111</sup> Maybe it is not accidental that these were primarily exposed to abandonment. First, they had not occurred gradually, but had been artificially founded, as is demonstrated by their regular circular layout; and second, they lay in regions with (modern) annual precipitation rates below 300 mm. Obviously, they were not so robust towards environmental and sociopolitical change. Remarkably, also the wider region around Tell Beydar shows a particularly effective depopulation at the end of the third and at the beginning of the second millennium BC as opposed to other sub-regions of the Khabur Basin.<sup>112</sup> Also Tell Melebiye and Tell Bderi are situated in a critical region of (modern) annual rainfall below 250 mm, and they were also urbanised according to the principle of the allotment houses, which hints at top to bottom-organised institutional processes.<sup>113</sup> Both facts support the principal environmental and sociopolitical fragility of these Middle Khabur settlements and their lesser ability for transformation and adaptation.

It is noticeable that the mentioned settlements, which were abandoned before the Early Jazirah V period, concentrate in the western and the southern part of the larger Khabur Region. Although we are presently far from being in a position to tell whether in fact all settlements in this region were abandoned during the late third millennium, we, at least, see in these areas a certain trend to this end. This wider region, Zone B, is thus designated as a late third millennium “*desurbanisation zone*”.

#### 4.3 The pace of change

With regard to Zone A, the “*reurbanisation zone*”, it is important to get an understanding of the pace of developments. When we look at the example of Tell Mozan, we realize that no abrupt changes occurred in the development of the city. At no point there occurred a radical change of the urban structure. This is best demonstrated by the fact that the arrangement of public space in the city centre, the temple oval and the Max-Mallowan-Place were never modified in the course of urban development, but were maintained as a stable factor of the city structure from the Early Jazirah III/IV periods throughout all succeeding phases until the Middle Jazirah I period in the second half of the sec-

ond millennium BC. All transformations observed can be principally identified as gradual processes, with interconnected reasons and consequences. However, the transformations and adaptations specially occur and concentrate in two time segments, which can be designated as “*turns*” – as opposed to breaks – in the development of the city of Urkesh, and probably also in a wider regional context of Zone A. We will focus in the following on these “*turns*”, where developments have a quicker pace than in other phases, but before we will look at a phase with changes at a slower rate, the Early Jazirah IV period.

The transition from Early Jazirah III to IV is characterized by strong continuity. The urban system inherited from the Early Jazirah III period was maintained in its principal structural elements. This principally reflects stability in the sociopolitical realm. One can interpret this as an indication that Akkadian imperial and administrative influence was not as strong as is often supposed.<sup>114</sup> Exceptions are clearly to be seen at Tell Brak, where direct Akkadian presence is attested.<sup>115</sup> At Tell Mozan, a special constellation is visible. Here, a local political entity seems to have been in association, probably even in political alliance, with the Akkadian empire, as has been argued on the basis of Akkadian seal impressions of Tar'am-Agade from Akkad found in the local Tupkish Palace<sup>116</sup>. Probably, the concept of local sociopolitical systems being in indirect association with the Akkadian empire is a plausible model also for other cities of the Khabur Region.

This would account for the urban continuity observed at Tell Mozan, with the general layout of the city remaining unmodified and embedded in a stable environmental situation. Despite this overall continuity, transformations in the city, which had reached its maximum extension in the Early Jazirah III period, become visible already in the Early Jazirah IV period. The most conspicuous aspect is the construction of the palace of Tupkish,<sup>117</sup> which demonstrates an ostentatious power increase of the local political system. There is an incipient decrease of lower city occupants at Mozan, accompanied by the moving of poorer segments of the society into the central upper city. Formerly public space in the southern part of the city centre is being converted for these new constructions.

108 Pfälzner 1997b: 260, Fig. 1, 17-18 (in this article, the Akkad period was still labelled Early Jazirah III c, which was later changed into Early Jazirah IV).

109 Pfälzner 1997b: 254-260.

110 Lebeau 1993: 23, Tb. 1; 225, Tb. 10.

111 Moortgat-Correns 1972: map; Orthmann 1986: 61-62.

112 Wilkinson 2002: 362-368; Ur – Wilkinson 2008: 307-309.

113 Pfälzner 1997b: 249-254; 2001: 281-305; 395-397.

114 Senior – Weiss 1992/93: 16-20; Weiss – Courty 1993: 139-141; Ristvet – Weiss 2000: 94-96; The “*sila bowls*” have been regarded as a characteristic tool of Akkadian administration (Senior – Weiss 1992/93: 17). However, this type represents as typical local Early Jazirah III b and IV pottery shape (e.g.: Pfälzner *et al.* 1988: 268-269, 374-375, Fig. 16-17) and thus can not be seen as evidence of a foreign administrative system in the Khabur region.

115 Koliński 2007: 358-360 (with more literature).

116 Buccellati – Kelly-Buccellati 2000: 139, 153-155.

117 Buccellati – Kelly-Buccellati 2001: 60-63, Fig. 2; 2002: 106-113, Fig. 2; 2004: 14-15.

### The “First Turn”

As has been shown above, the transition from the Early Jazirah IV to the Early Jazirah V period is not a time of collapse. This view is supported by the stable environmental and climatic situation attested for the Early Jazirah V period. The beginning of the Early Jazirah V period can rather be seen as a “turn”, primarily in sociopolitical terms. It is the “*First Turn*” of the Early to Middle Bronze Age transition in the Syrian Jazirah.<sup>118</sup> It is characterised by an internal reorganisation of agricultural activities, as is demonstrated by the selection of free-threshing wheat as main crop. New economic institutions were incorporated into the cities, as is evidenced by the Pusham House at Tell Mozan. At the same time, new innovative cultural elements, such as a new foundation technique and the new painted Khabur Ware, were integrated into the urban system.

On the other hand, this “*First Turn*” was accompanied by a dramatic loss of population in the cities. This fact cannot be explained by unfavourable climatic or environmental conditions or a crisis of the agricultural production. Instead, it can be explained by an erosion of local sociopolitical systems.<sup>119</sup> The urban elites were obviously no longer capable of keeping a large population well-integrated into the local urban society, due to a possible organisational deficiency to procure order, safety and regular supply of basic products. This picture gets support in view of the fact that the palace of the Early Jazirah IV period at Urkesh (Palace AA) destroyed<sup>120</sup> and ordinary habitation areas occupied its place during the Early Jazirah V period.<sup>121</sup> This is a very clear sign of a changed sociopolitical order in this time.<sup>122</sup>

### The “Second Turn”

A “*Second Turn*” took place between the Early Jazirah V and the Old Jazirah I period.<sup>123</sup> It is again characterized by a reorganisation of the urban society. This comprises several spheres: The agricultural production was reorganized through the repelling of the free-threshing wheat and the renewed popularity of barley and emmer. There was also a possible extension of agricultural areas, as can be concluded from the reduction of the oak woodlands. This is seen as an

adaptation towards increasing aridity. Even the growing amount of cattle can be related to this tendency.

At the same time an intensive reurbanisation process was launched in the upper city of Tell Mozan. New dwelling areas with solid foundations and a regular layout were constructed, obviously planned and commissioned by a well-organised urban institution. It aimed at attracting higher-class population to the upper city. This can be best understood as a response to the meanwhile nearly complete depopulation of the lower city.

Possibly, the multi-faceted reorganisation of urban activities was stimulated by a newly established sociopolitical system at the very beginning of the second millennium BC. This could probably be seen in the frame of the formation processes of new political entities under Amorite influence, which were going to dominate the history of the Middle Bronze Age in Syria and Mesopotamia.

### 4.4 The new model: Endogenous reurbanisation and sociopolitical reorganisation

To sum up the above discussions, a new model for the transition of the Early to the Middle Bronze Age in the Syrian Jazirah can be proposed. It is the model of “*endogenous reurbanisation*”.

The model is based on the assumptions of system theory, as it has been applied in anthropology and archaeology. Plog distinguished – in the frame of a system theory approach – four dimensions of sociocultural change: Population, Differentiation, Integration, and Energy.<sup>124</sup> Plog used this concept to explain sociocultural change in prehistoric cultures. The concept was adapted by Pfälzner for the explanation of urban change.<sup>125</sup> It describes mechanisms of change in urban systems based on the forces of endogenous processes. The latter are embedded in the four main dimensions Population, Differentiation, Integration, and Energy, which are active in urban systems and which react in mutual dependency of each other.<sup>126</sup> This is based on the assumption that a change in one of the four main dimensions of the system is a sufficient condition for a change in one or more of the three other dimensions of the urban system (figure 19).<sup>127</sup> The model implies that in general, urban systems change gradually through endogenous processes, while they would only change rapidly through an additional impact of exogenous processes.

As has been demonstrated in detail above, gradual, slow processes are attested in the Syrian Jazirah during the second half of the third and the first half of

118 Pfälzner 2010: 1-12.

119 Ibid.

120 Buccellati – Kelly-Buccellati 2002: 106-109, Figs. 2 and 3.

121 Ibid.: 113-114; *ibid.* 2004: 15, Fig. 8d; 2005: 29; Buccellati 2005: 23.

122 As generally accepted, this is the time of the Hurrian kings Shatar-mat und Atal-shen (Buccellati – Kelly-Buccellati 2001: 91-92, Fig. 19; 2002: 113-115; 2005: 42-44, Table 2), although there is just one king, a certain Rimush, attested archaeologically for the Early Jazirah V period (Pfälzner – Dohmann-Pfälzner in print).

123 Pfälzner 2010: 1-12.

124 Plog 1974: Tables 6.1 and 6.2.

125 Pfälzner 1997a: 76-80.

126 For the specific meaning and content of the four dimensions in an urban system see: *Ibid.*: Fig. 3.

127 *Ibid.*: 81-82, Fig. 5

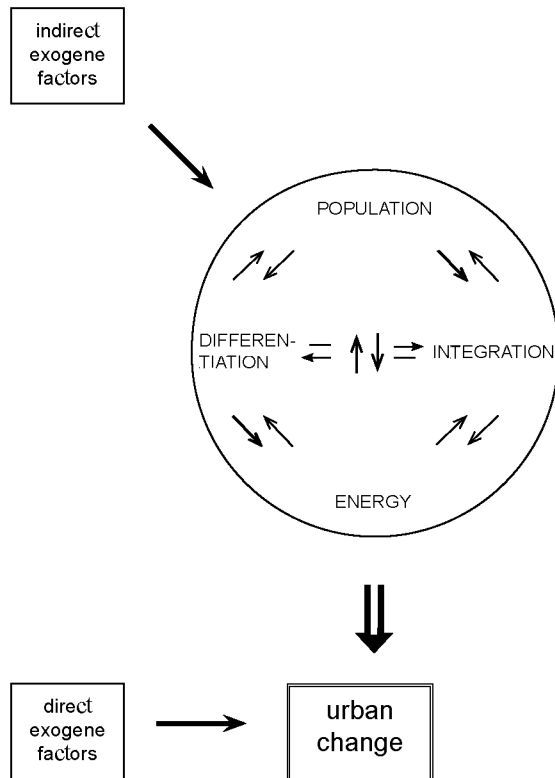


Figure 19: A model of the four dimensions of endogenous urban change.

the second millennium BC. This hints at endogenous processes. Thus, the four-dimensional systemic model will be applied for explaining urban change in late third millennium urban systems, particularly those in Zone A, the northern/central Khabur Region, as this is the zone, where transformation and adaptation took place. The four-dimensional model will help to understand the modes of change from the Early to the Middle Bronze Age in these areas.

There are several factors active in the urban system, which belong to different dimensions of the system. The agricultural system is embedded in the dimension of Energy. Agricultural reorganisation is observable during the First Turn and during the Second Turn. This could have had effects on Population (size and density), Differentiation (e.g. status, social or economic differences within the urban society) and Integration (including the social order and the political system). Pottery production is also part of the dimension of Energy. Equivalent effects can thus be expected from a reorganisation of the pottery production, and vice versa. The political system is an aspect of the dimension of Integration. A change in political organisation, as it was reconstructed for the First and the Second Turn through the erection and abandonment of the palace AA of Urkesh, thus affects the dimensions Population, Differentiation and Energy (including all economic activities). Urban planning

also belongs to the dimension of Integration, as the latter includes all rules, norms and values of a society. If we take urban planning into consideration, the reorganisation of domestic quarters attested during the Second Turn, might have had an effect on Population, Differentiation and Energy. Finally, the size and density of Population, defined as an own dimension, which was affected by considerable change during the First Turn and the Second Turn, will definitely have caused change in the dimensions of Differentiation, Integration and Energy (e.g. as labour force).

The reurbanisation processes of the First Turn and the Second Turn in the Khabur Region, thus, can be explained as a consequence of endogenous changes within the urban system. Therefore, we can speak of an “*endogenous reurbanisation*”. The actions of reorganisation resulted, during the First Turn, in a reactivation of the city centre through economic input (the Pusham House) intending a stimulation and strengthening of the economic activities in the upper city of Tell Mozan. They were directed towards a revitalisation of urban live. This is one type of *endogenous reurbanisation*. Interestingly enough, it left the ideology of the urban system unchanged, as is manifest in the maintained and un-modified city centre public complex at Mozan. This principle supported continuity and legitimisation in the newly organised urban system during the First Turn.

The second type of *endogenous reurbanisation* was active during the Second Turn. It was characterized by a reactivation of the city centre of Urkesh through the attraction of higher class population. For this aim new housing areas in the central part of city were laid out. This helped to raise the attractiveness of the city and to attract new population. This also was directed towards a revitalisation of urban live. It is noteworthy, that also with this variant of *endogenous reurbanisation* the general urban ideology remained unchanged, because no modifications were applied to the city centre public complex. As in the previous phase of the First Turn, the presumed new sociopolitical system deliberately used this kind of representative architecture in the centre of the city as a conspicuous symbol for tradition and legitimacy of the reorganised urban system.

As we saw, one of the most effective motors for change in the urban system of the late third and early second millennium BC was sociopolitical organisation. The four-dimensional model, however, illustrates that this did not create one-sided, mono-directional effects. The sociopolitical system changed the city structure, and a changed city structure could, in return, have changed the sociopolitical system. This creates the dynamics of sociopolitical live in complex urban societies. And this is what enables a system to survive, to adapt to new situations, to evolve, and – most important – to avoid collapse.

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