4. City Planning

Jan-Waalke Meyer

4.1. Introduction

The emergence of urbanisation in Upper Mesopotamia has long been the subject of debate. Central to this controversy is the existence of Uruk-culture settlements founded along the middle Euphrates during the second half of the 4th millennium. One popularly held theory is that Mesopotamian cultural influence was the primary trigger for urban development in this area. An alternative hypothesis is that an indigenous development of urban communities in today's arid and semi-arid regions of Syria began much earlier, around 3000 B.C. Despite extensive archaeological research in the past two decades that dates the beginning of urbanisation in the region to the Late Chalcolithic period[1] this theory has received much less attention. Archaeological evidence demonstrates the existence of an irreversible, independent process of urbanisation beginning as early as the 4th millennium.[2]

In this paper the so-called "Kranzhügelgebiet" in the W, and the "Ninevite 5" cultural area in the E will be discussed separately (Fig. 1).

A fundamental problem with regard to this topic is the uneven distribution of evidence: whilst the second half of the 3rd millennium (EJZ 3-5) is well documented, the first half of the 3rd millennium (EJZ 0-2) lacks sufficient information.

4.2. Kranzhügelgebiet

4.2.1 Definition

Planned urban centres in Upper Mesopotamia emerged in the Early Bronze Age, during the last centuries of the 4th millennium. Archaeological evidence of this development is restricted to the site of Khuera and, with certain limitations, to Kharab Sayyar. Until now no predecessor to the structure of these cities has been found.

These early urban centres are of a settlement type referred to as "Kranzhügel". Known to have originated in the Northern JZ, their striking topology consists of an elevated central-town called "Oberstadt", which is encircled by a lower town, also with a circular outer perimeter, referred to as "Unterstadt". The latter is commonly surrounded by massive mounds, probably the remains of an outer city wall. Besides Khuera and Kharab Sayyar only a few other contemporary sites have been investigated, including Beydar and Mabtuh Sharqi.

The "Kranzhügel" settlement type appears to be limited to a small strip between the Balikh and Khabur and also S of the Djebel Abd el Aziz.[3] To the N, sites of comparable material culture, mostly defined by ceramic typology, can be found all the way up to the Taurus Mountains, but none of these are cities of the "Kranzhügel" type.[4]

The latest excavations at Khuera yielded two important results. Firstly, they provided evidence indicating that the founding of Kranzhügel-type settlements can be dated as far back as Period EB I at the end of the 4th millennium. Secondly, the excavations have informed our understanding of the internal development of these kinds of settlements. The lower part of the city, the "Unterstadt" seems to have been a secondary phenomenon created by the expansion of the town, and is to be observed at only some sites. In Khuera this expansion can be dated to EB II (Khuera Period IB, EJZ 2), around 2650 B.C.

4.2.2 Khuera

The foundation of Khuera (possibly the ancient city *Abarsal*) dates back to around 3100 BC (Khuera Period IA = EJZ 0-1) [4]. At this time, the settlement consisted of only the upper part of the site, although this still constituted an area of approximately 50ha. There are already clear signs of town planning at this stage (see Fig. 2) which

[1] Ur 2010.

[2] Schwartz 1994b:154; Ur 2010:24.

[3] Possibly even Mari, Ville I belongs to this type of settlement, Margueron 2004: 49-123.

[4] This dating is supported by radiocarbon data.

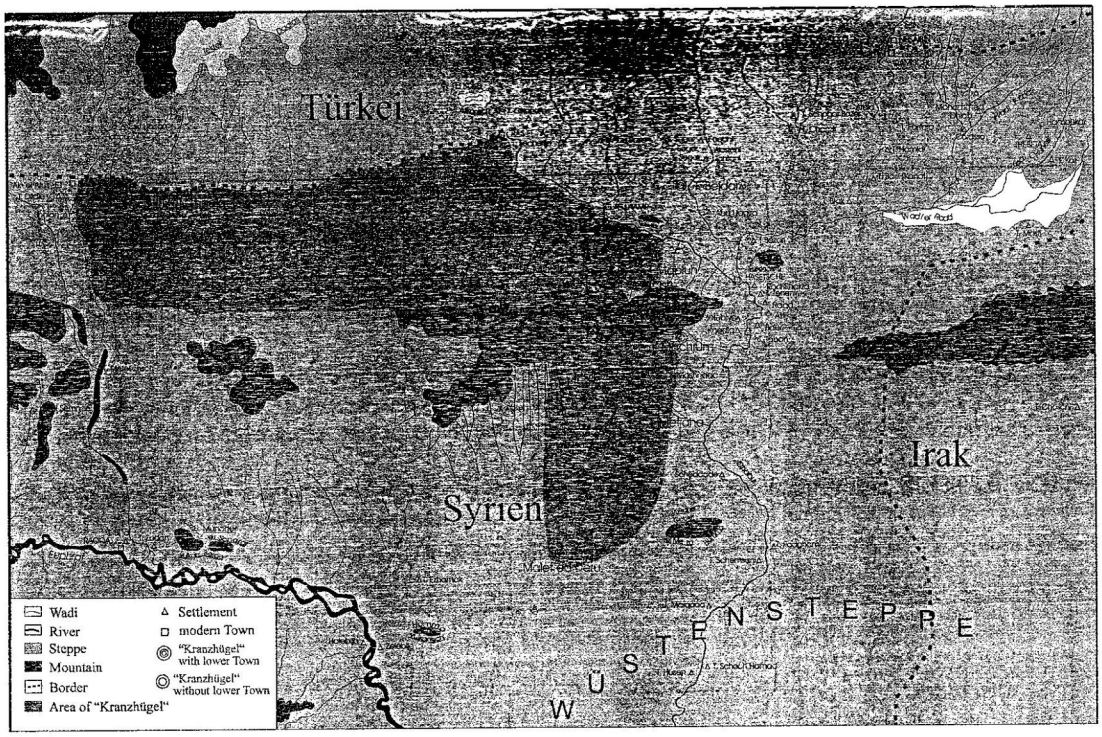

Fig. 1: Map showing the most important sites in the research region.

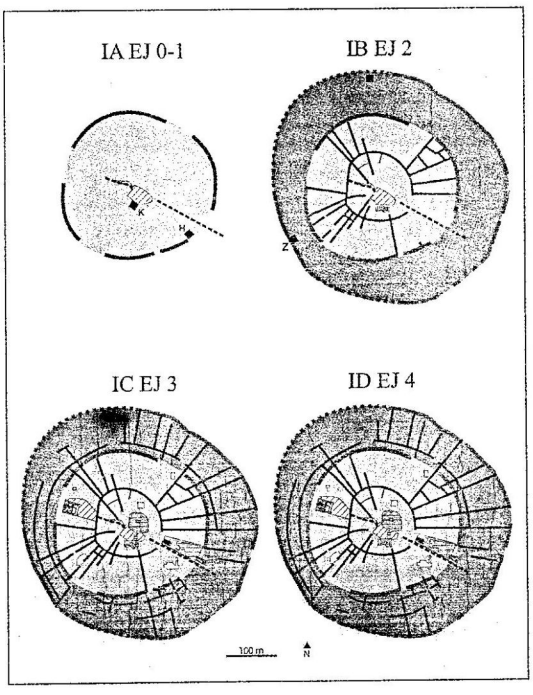

Fig. 2: Khuera: Urban development from EJZ 0 to EJZ 4.

continue through to the last phase of the settlement at the end of the 3rd millennium, around 2200 B.C. (Khuera Period-ID/E = EJZ 3-4). These elements are:

1) a central space in the upper town, referred to as "Anton-Moortgat-Platz";
2) a central axis road running through the later upper town and leading to the central space which is flanked by private houses;
3) a massive fortification surrounding the settlement.

The founding of the outer fortification and resultant expansion of the total settlement area to approximately 80ha can be dated to Khuera Period IB (EB II = EJ 2) around 2650 B.C.[5] By that time, the inner city wall had lost its purpose as a fortification and was integrated into adjoining structures and buildings. A similar building sequence is found at Kharab Sayyar where the city wall, initially constructed in Period EJZ 0, was rebuilt during Period EJZ 2. Unlike Khuera however the town did not expand.

Temple construction in Area A and S, along with the associated *"sacred district"* was part of a major expansion and rebuilding at Khuera, dating to Period IC (EB III = EJZ 3a). The end of that period can now be dated to exactly 2465 B.C. ± 20 based on radiocarbon data, whilst the beginning of this period can be dated with less precision to approximately 2650 B.C. (2720 ± 110).

Khuera Period ID (EJZ 3b-4a) is the best represented period at the settlement. Based on the results of the geophysical survey and excavations, the structural and functional organisation of the upper and lower town can, with due caution, be largely reconstructed. The conceptual elements of urban planning that can be observed presumably had their roots in Period IC and are described below.

There is an open space in the centre encircled by a road with the streets of the upper town spreading out radially from it. Steinbau VI (Bereich S) is situated on its E side, and is enclosed by a round or oval Temenos, thus limiting access to the adjacent secular areas. Steinbau VI is characterised by the layout of an *Antentempel* at least during the later construction phase. The central axis road (which is also the main access road to the upper town) opens onto the central space, and continues on to a further open area bordering on Palace F. Additionally, the central area is surrounded by a circular street. Public buildings like the palace and temple are found alongside this central axis, whilst residential buildings occupy the SW and NE sectors of the upper town.

The geophysical survey of the lower town revealed that it is less densely built up and functioned as a production and storage area. The radial street system of the upper town continues into the lower town, which also has a corresponding circular road.

4.2.3 Beydar

Beydar (Nabada) is another settlement of the "Kranzhügel" type. It remains unclear whether it underwent a similar developmental sequence due to a lack of data from earlier phases. Fieldwork instead focused on the investigation of contemporary structures in the upper town (predominantly EJZ 3-4). Nevertheless, the founding of the inner city wall probably dates to Period EJZ 2. There also appears to be a central-axis road, at least in the area of the upper town. The central axis and other streets spread out radially from the centre, as well as the access road of the central palace, from which two roads lead off to the W. Collectively these features suggest that the layout of the upper city was planned.

The central arrangement differs from that of Khuera. It exhibits an alternative settlement structure with a palace/temple complex in the centre of the town. Whether that variation is the result of political dependence on a centre outside of the "Kranzhügel" region, cannot yet be confirmed. The lack of temples in the style of the "Antentempel" is however a strong argument for this interpretation.

At this stage it can be stated that the two best researched sites in the "Kranzhügel" area (structural statements concerning Mabtuh Sharqi cannot yet be made), have clearly been built following a planned layout. Features of city planning at Khuera date back to the end of 4th millennium (EB I = EJZ 0), while in Beydar there is at present only evidence from the middle of the 3rd millennium.

A common feature of both sites is the large number of gates. At Beydar, seven gates are attested. At Khuera the exact number of gates is still uncertain, since it is not always possible to distinguish gates from channels penetrating the fortification with absolute certainty using topology and geophysics alone. Nevertheless, it seems that an unusually large number of gates did exist. The reason for this design remains unclear. One reason might have been to ease access for the movement of agricultural products. The difference between the internal structures of both sites is remarkable. Whilst the centre of Khuera features an open space with public buildings situated along the central axis, at Beydar the public buildings are located right in the centre of the city.

In this context the aerial photography of Van Liere and Lauffray should be mentioned.[6] Not only does it confirm the limited distribution of "Kranzhügel" sites, but it also enables a possible typology to be suggested based on their visible shapes. Noticeable differences in their structure are visible. Sites with a depression in the centre like Khuera include: Abu Shakhat, Khanzir, Mabtuh West, Mabtuh East, Muazzar, Metjaha and Malhat ed-Deru. On the other hand, ruins like Beydar with an elevation in the centre also exist at Boghar and Mahrum.

Another distinction derives from the lack of a double fortification on some sites, whilst the circular form remains. A number of standard tell sites can be found in the area, such as Kharab Sayyar or Gle a. This suggests the existence of a multi-tiered settlement system, with three tiers in the Khuera area at the beginning of Early Bronze

[5] Meyer 2007: 129-142.

[6] Van Liere & Lauffray 1954: 55; Compare Van Liere 1954

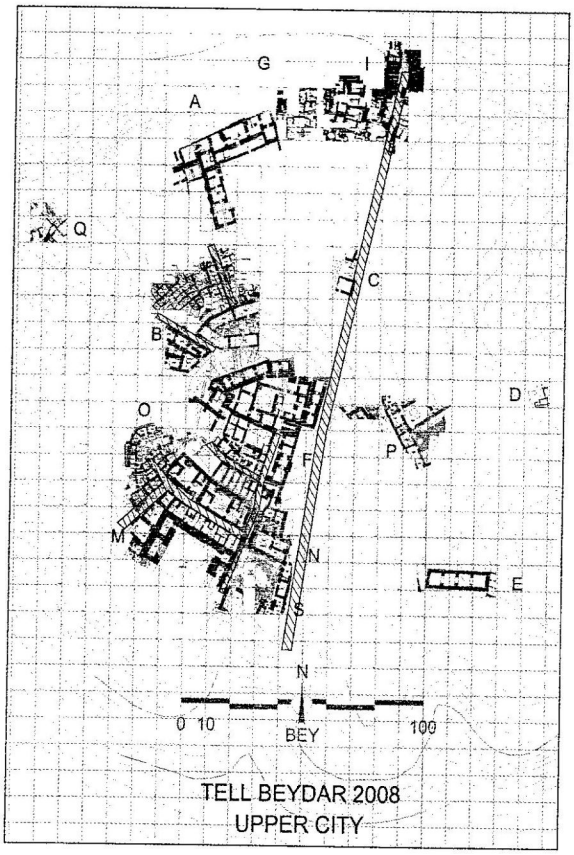

Fig. 3: Beydar: Structure of the upper town.

(EJZ 0-1), and four in the Early Bronze III (EJZ3). Thus, the question arises concerning what role these various settlement types played within the different settlement-systems that have been observed.

4.3. "Ninivite 5" region

In the "Kranzhügel" region urban development takes place rapidly at the end of the 4th millennium, whereas in the settlements in the "Ninivite 5" region this process is more gradual. The origins of urban settlement at Brak (Nagar) and Hamoukar (Azuhinum?) can already be attested in Late-Chalcolithic times (Late Chalcolithic 3-5). However comprehensive statements cannot presently be made regarding settlement patterns for that period or for the Early Bronze Age.

Brak's excavated 3rd millennium building complexes (Loci FS, SS, CH, HS) cannot be correlated stratigraphically. There is also a dearth of information on the settlement's road network. Based on the little data that we do have, a planned street layout at Brak seems unlikely to have existed.

A number of mostly smaller, newly founded settlements (for example: Chagar Bazar, Arbid, Barri, Gudeda, Atij, Mashnaqa) cannot be taken in account for a reconstruction of the multi-layered settlement system that emerges in the Early Bronze Age, as the excavation-results still lack information regarding those specific questions.

4.3.1 Mozan

The structural similarities between Mozan (Urkesh) and Khuera are striking. By Period EJZ 2 at the latest, a central plaza is established in Mozan that links the palace building in the W to the temple via a monumental staircase (Fig. 4). The foundation of the lower city, which is of a roughly octagonal shape (Fig. 5),[7] is dated to Period EJZ 2. The foundation of the lower city increased the settlement area from 20ha to approximately 125ha. The road network can only be reconstructed for the lower city area. Whilst in Khuera the streets run radially from outside to the centre, at Mozan they seem to emerge radially from the gates.

[7] Pfälzner et al 2004: 41-86.

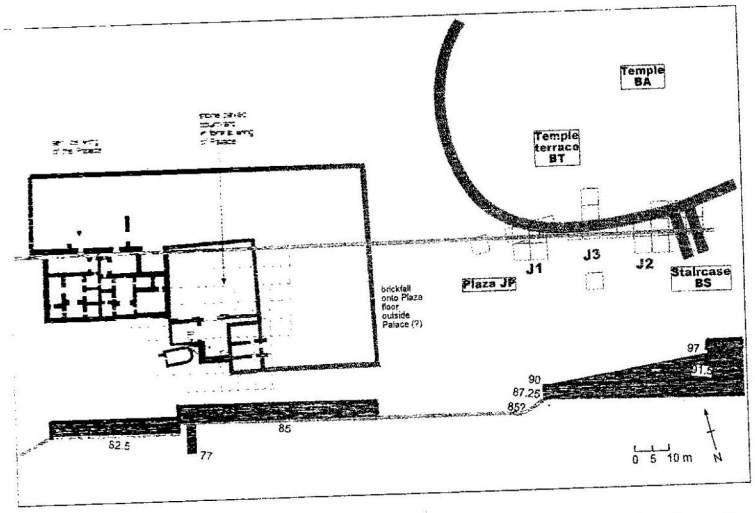

Fig. 4: Mozan: Simplified cross-section of the "Plaza" and Monumental Urban Complex.

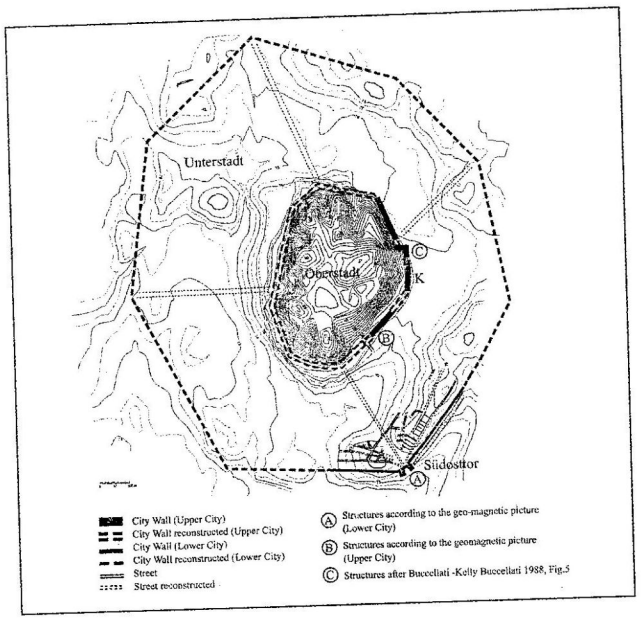

Fig. 5: Mozan: Topographic plan with street system (Lower town).

4.3.2 Leilan and Hamoukar

Like Khuerâ, the urban settlements of Leilan and Hamoukar expanded during Period EJZ 2 (Leilan Level IIId), however, they differ from the sites in the Kranzhügel area (Khuera, Beydar and Mabtuh East). Concerning the latter, because of extensive residential housing one may speak of an upper city, while in Leilan (and also in Hamoukar) the development of an acropolis above the older settlements can be assumed.[8] On this acropolis the predominantly public buildings are located. Also, the acropolis of Leilan is not situated in the centre but on the W fringe of the settlement, while in Hamoukar on the N edge (Fig. 6). Weiss assumes that city-planning at Leilan was centrally organised, although clear evidence for this is so far lacking. [9]

4.3.3 Melebiya, Kneidij and Bderi

Melebiya is the most noteworthy of the smaller sites in the "Ninive 5" region. Whilst Bderi and Kneidij both possess fortification walls and agglutinated architecture from Period EJZ 2 onwards, there is no evidence of a planned layout. In Melebiya EJZ 3 there are at least hints of an organised street layout (Fig. 7). If the proposed

[8] Ristvet 2007: 264.

[9] Weiss 1990b.

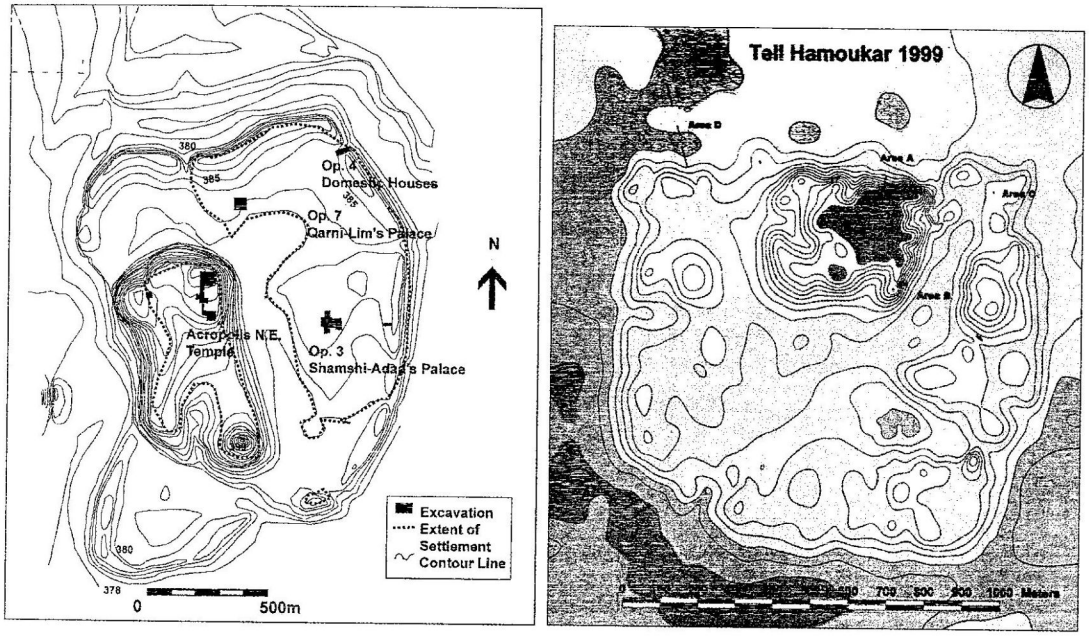

Fig. 6: Topographic plan. a) Leilan; b) Hamoukar.

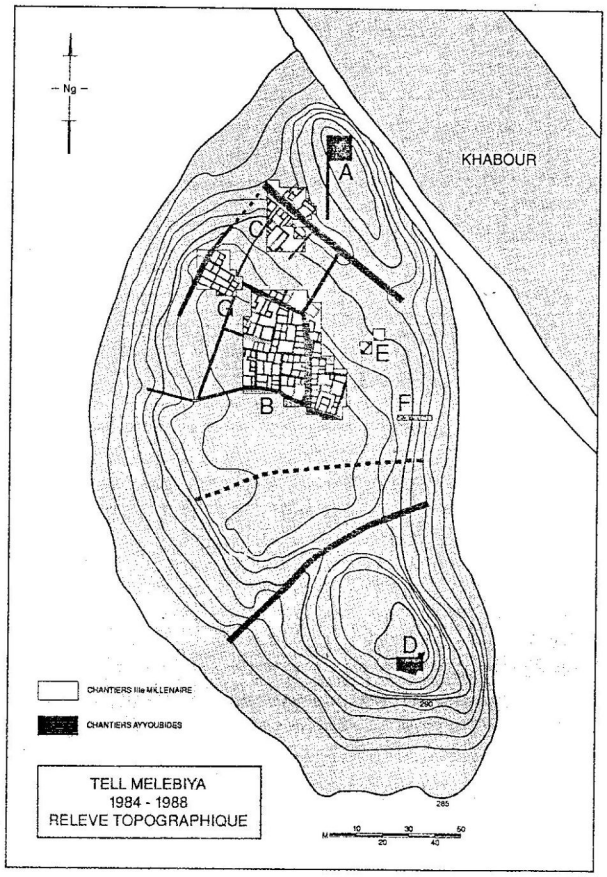

Fig. 7: Melebiya: Topographic plan and settlement structure.

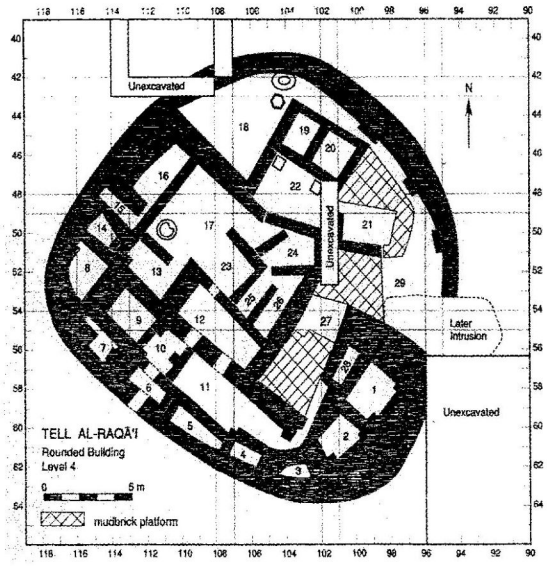

Fig. 8: Raqa'i: Settlement structure (EJZ 3).

reconstruction of a circular settlement is correct,[10] the site has an area of about 7ha (3.2ha are preserved), and probably had a road network radiating from the city centre (Possibly Av. Botta, Rue Koldewey/Andrae and the depression between Areas B and D which is assumed to be a road)[11]. These main axes are linked via smaller roads and alleys. Thus, superficially the organisation of the road network at these cities is very similar to Khuera and the other settlements of the "Kranzhügel" region.

Another type of planned settlement emerges during Period EJZ 2 characterised by relatively small, circular sites such as Khazne and Raqa'i (Fig. 8). These were probably specialised centres used for the storage, processing and distribution of agricultural products and/or religious purposes in any case depending on an upper (ruling?) class in the process of establishing itself at this time.[12]

4.4. Summary

In the "Kranzhügel" region, planned urban sites (Khuera 80ha and Kharab Sayyar 36ha) emerged, at the latest, during the beginning of the EBA (EJZ 0-1). A similar development in the "Ninivite 5" region seems possible, but cannot be reliably confirmed. During Period EJZ 2 the central sites throughout the JZ expanded, whilst at the same time, lower towns emerge. At Khuera, Beydar and possibly Mozan these public and residential buildings have been excavated, whereas at Leilan and Hamoukar only public buildings have been found.

The differing sizes of these sites may reflect their functional importance and role both within their settlement systems and further afield. With an increase in size of 50ha (of 80ha total area) the upper town of Khuera is the largest, both in total area as well as proportionally. By contrast, the upper town of Beydar is only 7ha with a total settlement area of 25ha, and at Mozan the upper town covers 20ha of the 125ha total area. Leilan and Hamoukar grow from 15ha (area of official buildings) to 90ha and 120ha respectively. By comparison, settlements lacking the division between an upper and lower town have a total area of 65-70ha, as is the case with Brak (At the top of the settlement hierachy) and 36ha in the case of Kharab Sayyar (in the second tier of the settlement hierarchy).

The largest sites (Khuera, Beydar, Mozan and Leilan) are all fortified by walls that were built concurrently with their foundation. In the case of Khuera and Beydar the older, inner city fortification is assimilated, and only the gates retain their function, giving access to the upper town. The smaller sites like Kharab Sayyar, Melebiya, Bderi and Kneidij are also fortified from the beginning.

As a rule, the more important public buildings (temple, palace) are found in the upper town. At Beydar and Brak they are part of the same complex, whereas in the case of Khuera, Mozan and Leilan they are divided.

A planned street layout can be identified at the larger sites–Khuera (upper and lower town), Beydar (upper town) and Mozan (lower town)–as well as at smaller cities such as Melebiya. Roads running parallel to the city

[10] Lebeau 1993: 41-42.

[11] Lebeau 1993: Pl. 12-13.

[12] Akkermans & Schwartz 2003: 218-222.

fortifications are found at Khuera (upper town, but not in the lower town), Mozan (lower town) and also at the smaller sites of Kharab Sayyar and Kneidij.

Finally, two differing concepts of urban planning have to be identified. The first is characterised by a central space or plaza (Khuera, Mozan) with an adjoining temple complex and the second by a temple/palace complex in the centre of the settlement (Beydar).

In conclusion, several urban planning concepts can be linked directly to the process of urbanisation in the EBA. These developments set in during the beginning of the EBA (EJZ 0) and proceed to a climax during Period EJZ 3. Furthermore, there is no evidence to support the contention that larger sites declined (de-urbanisation and regionalism)[13] during the first half of the 3rd millennium.

[13] Ur 2010.