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Tell Bderi -- the development of a Bronze Age town

Peter Pfälzner

The future Khabur reservoir lies in the so-called Syrian Djezireh, the land between the Euphrates and the Tigris in north-eastern Syria. This region is naturally determined by the system of the Khabur River, which is the biggest tributary to the Euphrates. The Khabur sources are near the Syrian-Turkish border at Ras el-'Ain. Its confluent with the Euphrates is at Buseirah, some forty kilometres downstream of Deir ez-Zor, the modern provincial capital.

Geographically, the Khabur region can be divided into two parts. The northern part contains fertile, rain-fed agricultural land. The southern part, approximately south of today's provincial capital of Hassaka, is arid steppe country. Here only irrigated farming is possible along the Khabur Valley.

Our site, Tell Bderi, lies in the transitional area between these two zones. In all historical periods dry farming has been possible in this area only in favourable years, whereas in other years agriculture depends entirely on irrigation. This is vividly demonstrated by the past two years. In 1988 there was abundant rain, and dry farming of wheat and barley extended all over the steppe lands behind Tell Bderi in the region between Hassaka and Sheddade. In 1989, however, not a single drop of rain fell throughout the winter. As a result, agriculture around Tell

Following an international appeal by the Syrian Department of Antiquities to investigate the archaeological sites situated within the region of the future Khabur reservoir, the Free University of Berlin undertook excavations on Tell Bderi. They are part of the Tell Shech Hammad excavations project and are under the direction of Prof. Hartmut Kuhne of the Free University of Berlin. Peter Pfälzner was in charge of field direction.

Bderi was only possible with the help of irrigation canals in a strip of land some two kilometres wide along both banks of the river.

This natural setting was a strong determinant for ancient settlement activities, as it is a factor in today's economy. For this reason the Syrian government is constructing a system of extended irrigation canals and three dams along the Khabur Valley in the vicinity of Hassaka. Two small lakes will be banked up north of Hassaka, and a large lake will be established south of the town.

In a widely based international effort, and with the support of the Syrian Department of Antiquities, archaeological investigations commenced six years ago to salvage archaeological sites to be submerged in these future lakes. Extensive rescue excavations are taking place at 17 tells in this area. All will be under water in a couple of years. Archaeologically speaking, the Khabur Dam area at present is probably the most active area in the Near East.

In the northern dam area the Neolithic period is being investigated by a Japanese team at Tell Kashkashuk 2. Uruk-period levels are being excavated by a Lebanese team under the direction of Helga Seeden at Tell Nustell. Early Bronze Age sites are being excavated by a Syrian team at Kashkashuk 3, an East German team at Abu Hajera and a Polish team at Tells Abu Hfur and Gasa el-Gharbi.

In the southern dam area Chalcolithic levels are being investigated by two American missions at Tell Umm Qsir and Tell Ziyade. A second West German team will trace Uruk occupation at Tell Mulla Matar starting the summer of 1990. Early Bronze Age sites are being excavated at Tell Kerma by a second Lebanese team, at Tell Rajai by a Dutch mission, at Tell Atig by a Canadian staff, at Tell Melebiye by a Belgian expedition and at Tell Mashnaqa by a French team. The same period and Late Bronze Age are being investigated by our mission at Tell Bderi.

Figure 1 shows the location of Tell Bderi (see also the map on page 6). The total length of the projected Khabur reservoir will be nearly 30 kilometres. A dam will be built near Tell Tayara. Water will reach back to the vicinity of Rad Shagrah. Tell Bderi is situated almost 15 kilometres south of Hassaka as the crow flies, on the east bank of the river.

Our tell is situated within the fertile part of the valley, here only a few kilometres wide and bounded on both sides by the steppe region. With an extension of 300 by 250 metres, this tell belongs to the group of larger sites in the Khabur Valley.

Our rescue excavations had two essential aims: first, a complete stratigraphy of the settlement layers through the Bronze Age. This makes it possible to study chronological sequence and development of the pottery, architecture and nature of the settlement. This was the target of the step trench excavations directed by Heike Dohmann on the southern slope. Second, one Bronze Age layer was excavated on a large scale to study the appearance and structure of a settlement

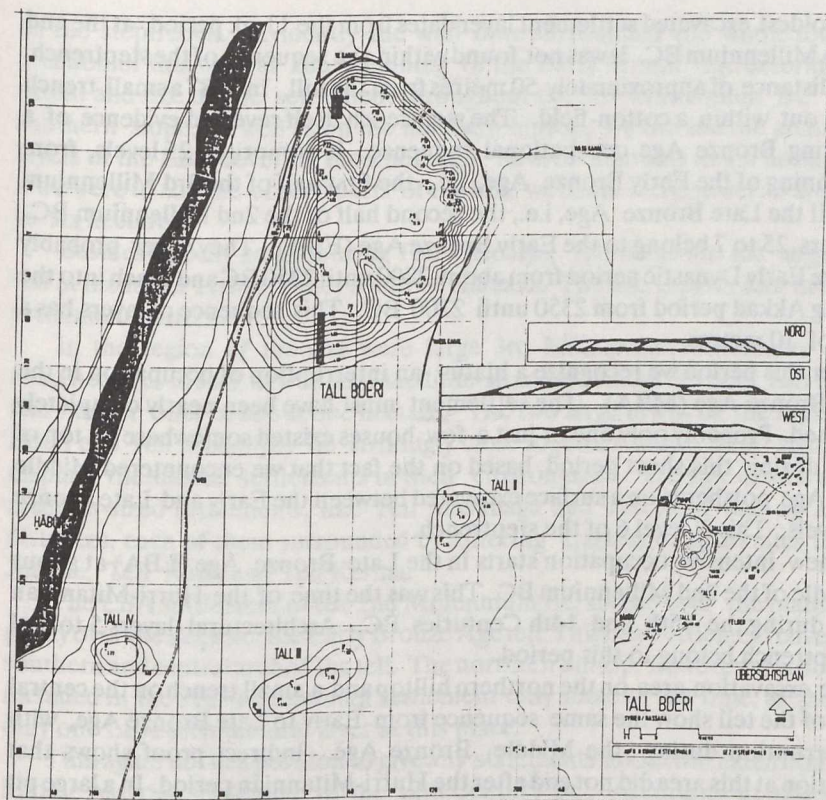


Figure 1. Topographic plan of Tell Bderi.

quarter at a certain time. For this purpose an excavation area on the northern hilltop was laid out.

The results of both excavation areas together should enable us to know more about functions, economy and social organization of a Bronze Age town. The reconstruction of the ancient natural environment was also included in our research. For this reason it was necessary to analyze features such as urban structure, population size, architecture and inventory of dwelling houses, food remains and animal bones, among others.

Periods of occupation

The oldest evidence for a settlement at Tell Bderi dates from the 5th Millennium BC. Sherds of Chalcolithic Halaf pottery were found on the surface of the hill. Layers from this time, however, have not been excavated, as they are completely covered by later occupation levels.

The oldest excavated settlement layer dates from the Uruk period, at the end of the 4th Millennium BC. It was not found within the sequence of the step trench, but at a distance of approximately 50 metres from the hill. In 1987 a small trench was laid out within a cotton-field. The step trench itself revealed evidence of a long-lasting Bronze Age occupational sequence. It comprises 25 levels, from the beginning of the Early Bronze Age, i.e., the first half of the 3rd Millennium BC, until the Late Bronze Age, i.e., the second half of the 2nd Millennium BC.

Layers 25 to 7 belong to the Early Bronze Age (EBA). They cover probably the entire Early Dynastic period from about 2800 until 2350 BC and reach into the following Akkad period from 2350 until 2200 BC. This sequence of layers has a height of 10 metres.

After this period we recognize a hiatus, an interruption of occupation in the Middle Bronze Age (MBA). The settlement must have been nearly completely abandoned. Probably only one or just a few houses existed somewhere on top of the tell during this short period, based on the fact that we encountered Middle Bronze Age potsherds on a surface excavated between the Early and Late Bronze Age Levels. This is level 6 of the step trench.

A new intensive occupation starts in the Late Bronze Age (LBA) at about the middle of the 2nd Millennium BC. This was the time of the Hurri-Mitannian empire during the 15th and 14th Centuries BC. Architectural layers 5 to 3 of the step trench belong to this period.

The excavation area on the northern hilltop and a small trench on the central hilltop of the tell show the same sequence from Early to Late Bronze Age, with an interruption during the Middle Bronze Age. Indirect proof shows that occupation at this area did not end after the Hurri-Mitannian period. In a large pit of layer 2 on the southern slope, cuneiform documents were found which verify an intensive settlement in the Middle Assyrian period, i.e., the 12th Century BC. After this time the settlement on Tell Bderi came to an end, and the hill remained unoccupied until today.

Spatial extension

I am not in a position to give statements about the size of settlement during the Uruk period. Chronologically, it seems to be a direct predecessor of the large EBA settlement. It might have been only a small village, the area of which was totally covered by the later settlements. Only near the north-eastern corner of the tell does it appear below the later Bronze Age levels. Probably the excavated area of the Uruk settlement, which includes a pottery kiln, does not belong to the settlement itself, but was located somewhere off it.

With the beginning of the Early Bronze Age, during the 3rd Millennium BC, we can observe rapid growth of the settlement. The site was fortified by a mighty town wall with a glacis in front of it. This wall runs along the foot of the present tell, as is shown by the 17-metre-long excavated part of it at the southern end

of the step trench. Evidently the wall once surrounded the whole town. The erection of this wall at the beginning of the Early Bronze Age determined the extent and size of the settlement throughout the 3rd Millennium BC. At the southern slope, as well as on the northern hilltop, we can see the architectural layers of the EBA covering the whole tell. Its area amounts to 4.6 hectares, and if we were to add the eroded parts of the hill, we could reconstruct an area of five to six hectares.

Besides directly neighbouring Tell Melebiye, Tell Bderi was the largest EBA tell in the lower Habur Valley south of Hassaka. The site is part of an interesting settlement pattern.

In the region of the site were large 3rd Millennium settlements of three to six hectares in size, as well as a medium-sized settlement of about two hectares and smaller ones of about one hectare. The two large towns of the region (Tell Bderi and Tell Melebiye) lie strikingly close together and by their significance displace the smaller settlements in their environment. Outside of this area the medium-sized settlements, like Tell Mashnaga and Tell Atig, line up at equal distances, each of them surrounded by differing clusters of small sites like Tell Judede, Tell Rajai and Tell Kerma.

The LBA settlement of the 2nd Millennium BC spread over the plateau and partly over the slopes of the Early Bronze Age tell. This new settlement covered the southern and central area of the tell. The northern hilltop, however, was obviously included in the Hurri-Mitannian settlement only some of the time, as there was only one LBA architectural layer at this place.

I am again not in a position to give any statements about the extension of the Middle Assyrian settlement of the 12th Century BC. According to information given in the cuneiform texts, we suppose that it covered a large part of the tell. Due to erosion, however, we did not find clear architectural remains of this time. Only in the last days of the 1988 campaign did we find evidence on top of the tell of the Middle Assyrian palace mentioned in the texts, but it seems that only foundations were preserved.

The only architectural structure of the Uruk period is a pottery kiln which can be dated between 3200 and 3000 BC. It has an oval fire chamber 1.80 metres in length. The walls of the kiln consist of a thin layer of baked clay. The construction was surrounded by a great mantle of clay for heat isolation.

Two more kilns have been discovered very close to it by geological drillings. Obviously a small production site was located in this area, proving that even in this early state of the settlement, specialized handicrafts existed. Surely this workshop should be seen in connection with a nearby dwelling settlement.

Within the layers of the Early Bronze Age the only large structure discovered is the town wall, constructed of mudbricks. It is more than 2.5 metres wide. In front of it there is a sloping glacis, made of *pise* or mashed clay. Within the line of the wall a town-gate was excavated. Its passage is lined by orthostates, large upright standing stone slabs. The town-gate in level 25 of the step trench dates

from the Early Dynastic I period, which was the beginning of the 3rd Millennium BC. It is the earliest known example of an orthostate gate and may be seen as a predecessor of the large Middle Bronze Age orthostate gates, like the famous town-gate of Ebla/Tell Mardikh, which is nearly 1,000 years more recent. Two other features, the reinforcement of the wall by a glacis and the succession of three entrances within the gate, are also the earliest known examples of typical MBA gate types. For this reason, this construction is of great interest in the history of fortification architecture.

So far, houses within the EBA town have been excavated only from later periods in the 3rd Millennium BC. These are levels 7 to 13 at the southern slope and layer 7 on the northern hilltop. Level 8 on the southern slope dates from the end of the Early Dynastic III or Early Akkadian period (between 2400 and 2300 BC). Consequently they are more recent than the excavated level 25 of the town-wall, but it may be supposed that the wall existed throughout the whole 3rd Millennium BC.

In all cases the excavated dwelling houses of this layer are of a simple construction type. Their thin walls consist of mudbricks, and they obviously had only one storey. The roofs were made of wooden beams, covered by reed and clay. The rooms are very small, mostly 2 x 2, 2 x 3, or 3 x 3 metres. Floors, and in some cases walls, too, are lime-plastered. Installations such as benches or working platforms with channels and outlets for liquids are coated completely with gypsum.

A small house in layer 8 (Fig. 2) of the southern steptrench presents its layout quite clearly. One entrance room or small corridor leads into a central room with

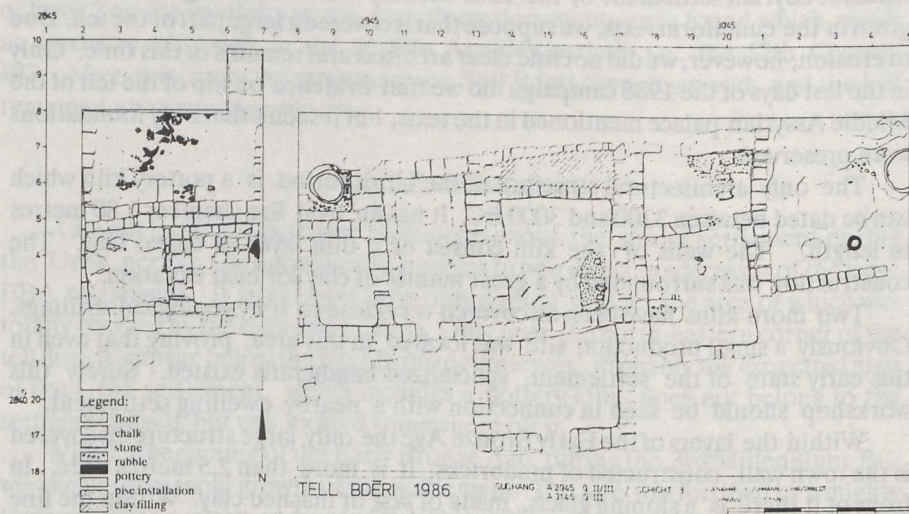


Figure 2. House in layer 8 of the southern steptrench.

a size of 2 x 3.5 metres. From here doors on both sides lead to a kitchen-room to the east and another small room to the west. The central room served as an assembling or reception room. In its rear part there is a long bench on three sides along the walls, surrounding a flat fireplace in its centre, providing a place for people sitting around a fireplace.

The single houses are closely clustered and separated from each other by double walls (Figs. 3 and 4).

The layout of the houses excavated is a result of many restorations, alterations and partitions during several occupational phases. The original plan of the same structure in level 9d looks quite different. Its typical feature of layout is the sequence of courtyard, first main room and second main room having a rectangular turn of the axis within the first main room. The door between the first and second main rooms is extremely wide, in fact a wide passage rather than a proper door.

Other architectural characteristics of these houses are doors with curving sides. This type of dwelling house is typical for the EBA houses of levels 9 and 10 at Tell Bderi. Four of the excavated houses seem to adhere to this plan. They can be dated back to the Early Dynastic III period, after the middle of the 3rd Millennium. It is rather astonishing that this peculiar house-type is not known from any other Early Bronze Age site of northern Syria, either at central places as Tell Chuera, or at the immediately neighbouring Tell Melebiye, at which is



Figure 3. Room in an Early Bronze Age dwelling house.



Figure 4. Rooms from an Early Bronze Age dwelling house, with large storage vessels visible in rear of photo.

represented a great number of house-plans. Actually, we do not know the origins of this characteristic house-type at Tell Bderi.

The houses of area 2963 on the northern hilltop are lying in a level which is probably slightly older than those previously mentioned. They date to the Early Dynastic II or III period, the middle of the 3rd Millennium BC. The plan shows small zigzagging lanes between the individual houses or house-blocks (Fig. 5).

For the Early Bronze Age as a whole, we get a picture of a densely built town with small houses and narrow lanes, surrounded by a mighty fortification wall. Large, representative buildings within the town have not yet been excavated.

The Late Bronze Age settlement shows a different character. The small houses with their thin walls are missing here. On the northern hilltop a connected group of buildings was excavated, covering an area of 40 x 30 metres. The buildings were erected on a terrace of mudbricks (Fig. 6), the purpose of which was to level the apparently already uneven hilltop in order to get an even foundation.

North of the main building there is a free place, whose dimensions decrease in its eastern part towards a lane. Coming from this square, we reach a second building. A gate leads through a fencing wall into a courtyard. Here the proper house, which has not yet been excavated, was situated. Apparently south of it follows a third building unit, which is fenced by another long wall. The street bends in front of this wall to the north and south.

The large, totally excavated building unit in the south-west consists of a

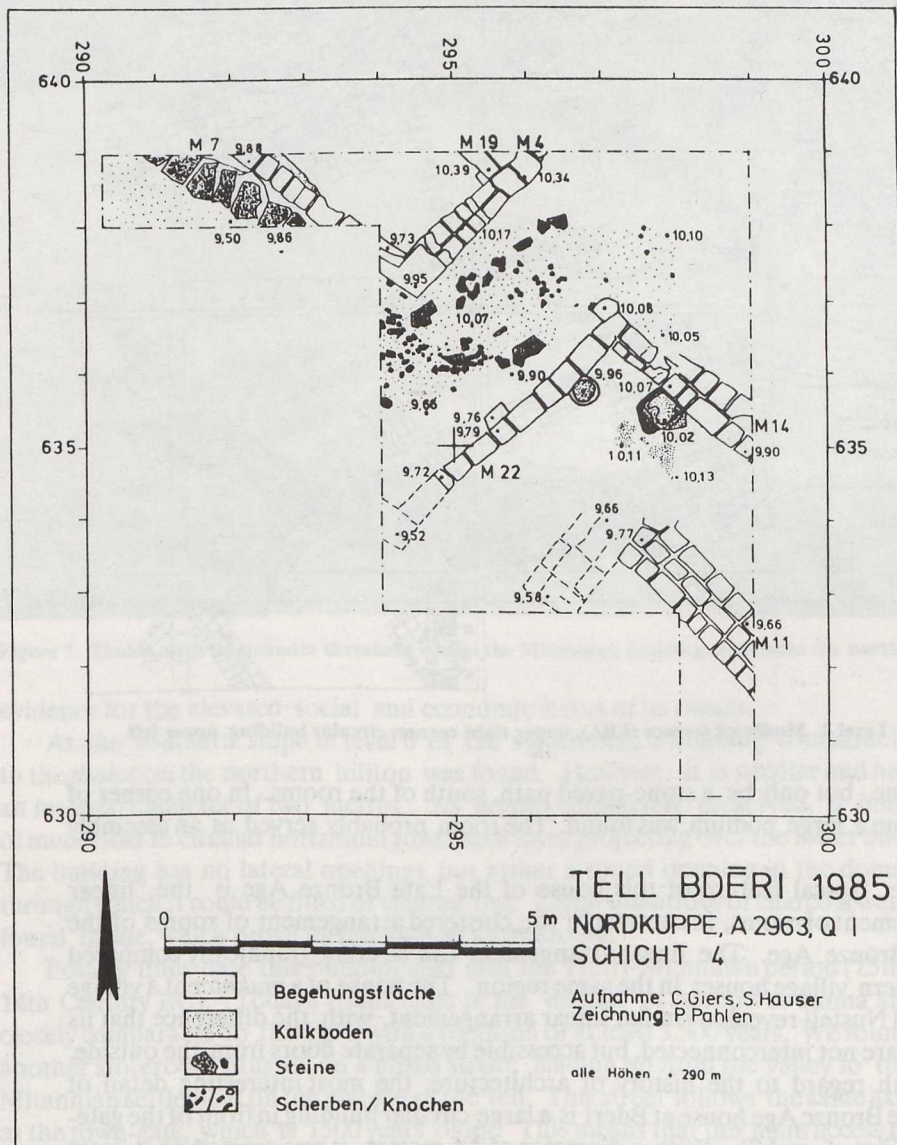


Figure 5. Street and adjoining house in level 4, area 2963, on the northern plateau.

sequence of rooms, which can be reached through a gate-room with a double winged door. Inside a small entrance room the axis of the rooms turns into a right angle. Two large rooms are reached, one after the other, with thick walls and carefully plastered lime floors. They were the working room and kitchen. A fourth large oblong room follows along the same axis. However, it is accessible not in the



Figure 7. Tholos, with its entrance threshold within the Mitannian building, seen from the north.

evidence for the elevated social and economic status of its owner.

At the southern slope in level 6 of the step trench, a building comparable to the *tholos* on the northern hilltop was found. However, it is smaller and has an internal diameter of two metres. Its dome, completely preserved, is built of mudbricks in circular horizontal rows, each layer projecting over the lower one. The building has no lateral openings, but rather a round opening in the dome, through which it could be filled or cleared out. Large quantities of charcoal were found inside, which prove its function as a storeroom.

Pottery finds date this building also into the Hurri-Mitannian period (15th/14th Century BC). Today's round silos in the district of Aleppo or Hama are closely comparable to this type, with a tradition of at least 3,500 years. We found another storeroom situated on a broad street, leading up from the valley to the Mitannian settlement on the plateau of the tell. This street follows the same axis as the town-gate, which is 1500 years older. This means that this main access to the town did not change and had a long tradition throughout the existence of the settlement (a phenomenon comparable to the main street of the old town of Damascus).

The structural alterations along this street within the following Hurri-Mitannian period give a vivid impression of development and design of a Bronze Age town. The sloping road apparently was subjected to intensive erosion, mainly due to rainwater. Therefore, halfway up the slope, a medium-high

supporting wall was erected across the road. It had a water channel in its centre to regulate the flow of rainwater. At the same time or somewhat later, a second supporting wall was necessarily added on a lower level.

At a later stage a house took the place of the former circular storeroom at the eastern side of the road. As a result, only a small passage between the house wall and supporting wall was left.

Subsequently, floating water deposited much rubble above the supporting walls. Therefore it was necessary to reinforce and increase the upper supporting wall. However, soon afterward it was entirely covered by further depositing material. Finally, a completely new supporting wall with a broad passage in the centre was erected north of the older ones. In the last phase this street lost its importance entirely, when a large dwelling house was built across the old road. The history of this street gives a vivid example of a town-quarter losing its original significance.

Altogether the Hurri-Mitannian period provides a picture of a densely built and intensely populated town. However, the buildings appear to be more complex and more representative than those of the EBA settlement. The dwelling houses are larger than the simpler ones of the Early Bronze Age. Large circular storerooms give an impression of the economic base of the town. This hints at increasing economic power of individuals within the settlement.

Our only information about the buildings of the Middle Assyrian period, however, comes from cuneiform texts found at the southern slope. The erection of a large town wall and the establishment of a king's palace are mentioned. Evidently during this last period, the town saw its largest and most important buildings.

Finds and inventory of the houses

The most interesting finds of the Early Bronze Age come from completely preserved inventories in rooms of dwelling houses. They provide outstanding insight into the household's organization and the economic activities of its members.

Room A (Fig. 8) of a dwelling house situated on the northern hilltop dates to the late Early Dynastic III or the Early Akkadian period (2400-2300 BC). This room, only 2.25 metres square, contained 32 completely preserved vessels, one pot lid, one flint blade and several grinding instruments. This inventory was covered and sealed by the fragments of the collapsed ceiling. The destruction happened suddenly and in connection with fire. For this reason all the objects were found laid out on the floor, as they had been used immediately before the house was destroyed.

The broken vessels could be restored and the inventory of the room could be reconstructed precisely. Bowls were lying piled up on the floor, some containing food remains. One small pot with double-barrel handles must have

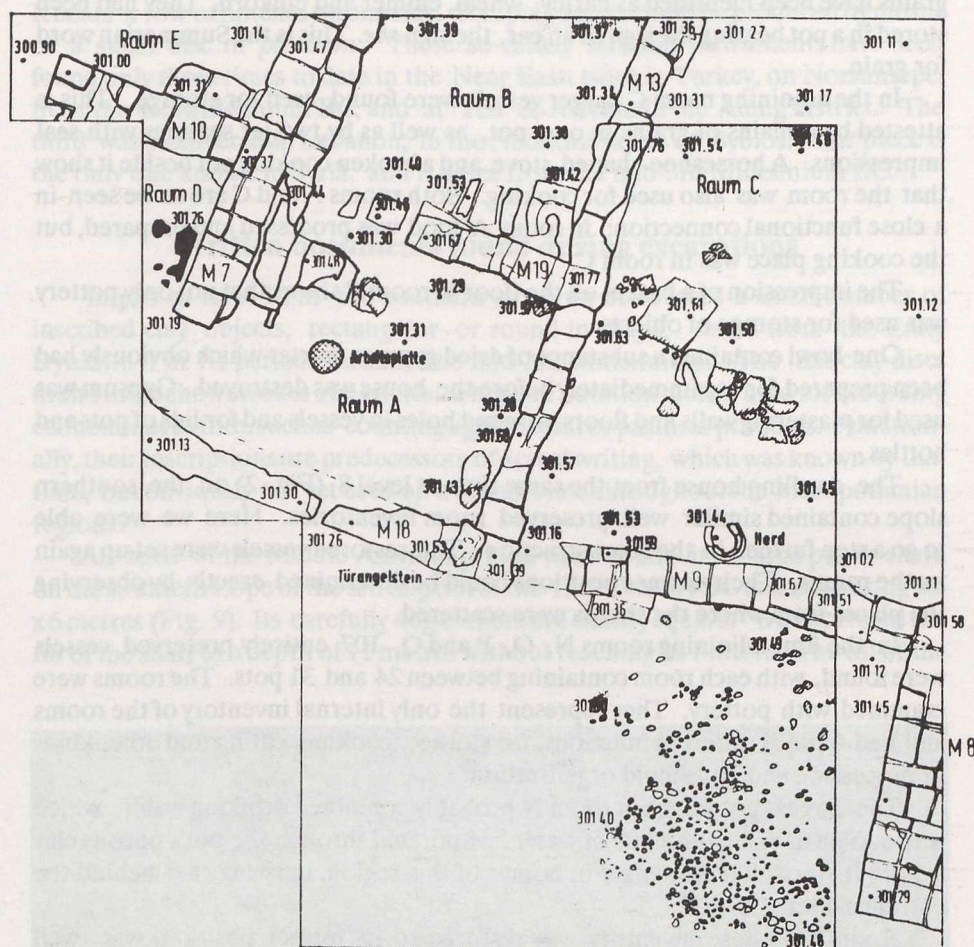


Figure 8. Building in level 7, area 2965, on the northern plateau.

been hanging from the ceiling or the wall, as it was not found on the floor, but on the debris of the northern wall.

The position of the different objects on the floor made it possible to reconstruct the place where a squatting person was working at a circular working plate in the centre of the room. All tools, for instance the grinding stones, were lying within a radius of about 70 centimetres around the working place. This is the distance a squatting person could stretch his arm. The grinding instruments were used on the circular plate.

Plenty of grains, spread around the plate, point to the kind of activities this room was used for, which included production and processing of foodstuffs. The

grains have been identified as barley, wheat, emmer and einkorn. They had been stored in a pot bearing the sign of an ear, the sign *she*. This is the Summerian word for grain.

In the adjoining room C, larger vessels were found, used for storage. This is attested by remains of grains in one pot, as well as by two jar sealings with seal impressions. A horseshoe-shaped stove and a broken cooking pot beside it show that the room was also used for cooking. Both rooms A and C are to be seen in a close functional connection: in room A food was processed and prepared, but the cooking place was in room C.

The impression of a basket on the floor in room C shows that not only pottery was used for storage of objects.

One bowl contained a substance of dried gypsum mortar which obviously had been prepared for use immediately before the house was destroyed. Gypsum was used for plastering walls and floors, to mend holes in vessels and for lids of pots and bottles.

The dwelling house from the same time at level 8 (Fig. 2) on the southern slope contained similar well preserved room inventories. Here we were able to go a step further in the reconstruction. The restored vessels were set up again in the rooms. Their former positions could be determined exactly by observing the places from where the sherds were scattered.

In the four adjoining rooms N, O, P and Q, 107 entirely preserved vessels were found, with each room containing between 24 and 31 pots. The rooms were crammed with pottery. They represent the only internal inventory of the rooms and had to fulfil different functions, for storage, cooking, eating and other kinds of processing and household organization.

The largest pot found in room N probably contained drinking water, which was cooled as small amounts of water evaporated through the pot's porous clay sides. It stood, like nowadays in homes of this region, in the corner behind the entrance door.

Room O, whose inventory was restored to its former position, was well organized. The vessels do not block the passages and working places, but stand only in one half of the room. A person would have had enough room to sit at its working platform with several drainage canals.

Food production and preparation was evidently the major purpose of other rooms also. A bronze sickle, found on the floor of one house, gave an indication of the occupation of its inhabitants.

Even those people who could not afford jewellery of precious metals and stones had the desire to adorn themselves. The simple jewellery found at Tell Bderi probably was made by the people themselves. One necklace found at the site consisted of roughly cut and drilled limestone. Another was made of small clay pearls formed by hand.

One simple find allows us an insight into the musical activities of EBA people: the shoulderbone of a cow was transformed into a musical instrument.

It bears a row of notches on one side. Scraping noises could be produced by means of a small disc or *plectrum*. These so-called scraping instruments have been found only three times to date in the Near East: twice in Turkey, on Norsuntepe, from the 1st Millennium BC, and at Tell el-Judeide in the Amug district. The third was discovered in Lebanon, in the Neolithic layers of Byblos. Our piece is the only one known in Syria, and it dates from the mid-3rd Millennium BC.

Written documents found during excavations

In pits of level 10 at the southern slope we discovered a small number of inscribed clay objects, rectangular or round in shape, dated from the Early Dynastic II or III period, around the mid-3rd Millennium. The flat clay discs found there show strokes and circles. They are notation tablets used for recording economic activities, such as counting agricultural or pastoral products. Functionally, their inscriptions are predecessors of actual writing, which was known by that time, but obviously not yet used on a broad scale throughout the Mesopotamian regions.

All texts of the Middle Assyrian period were found in a large pit, or shaft, on the southern slope of the tell dug out in the 12th Century BC and measuring 4.5 x 6 metres (Fig. 9). Its carefully dug corners are exactly square. We excavated the fill of the shaft to a depth of 11 metres without reaching its bottom. The fill of the



Figure 9. Pit on the tell's southern slope. The original shaft wall is in the background; the man in the photograph is standing on an artificial working platform.

shaft is entirely homogeneous and consists of the debris of a palace building. The outstanding finds from it are cylinders with Assyrian cuneiform texts. One piece is almost totally preserved. These cylinders are about 20 centimetres long, have a hole drilled through the axis, and are made of burnt clay. They are foundation documents for a palace. Originally they were laid into the foundation of the building.

The inscription on the cylinders reports a history of the town from the point of view of the king ruling at that time. The town had been neglected, the fortifications had been partially destroyed and no one remembered the town's name. But King Ashur-kitte-lishir renewed the town-wall with thousands of workmen, built a palace and gave the town a new name: Dur-Ashur-kitte-lishir, which means fortress of Ashur-kitte-lishir. At the end of the text, the document's date is given. This king probably lived in the time of the great Assyrian ruler Tiglat-Pileser I, who ruled from 1115 to 1077 BC.

Several fragments of baked mudbricks bear inscriptions that refer to the establishment of the same palace. They read: *This is the palace of Ashur-kitte-lishir, king of the country A.* Together with these written documents has been found a mass of broken mudbricks and of large pottery sherds. They must have come from the same building.

The reason for filling up the deep shaft with such material and the original function of this shaft itself remain a mystery. An interpretation as a well or a cistern is not very probable, judging from the shape and size of the opening. Also, a garbage pit would not have been dug out so carefully and so deep. Possibly the shaft was dug out for the purpose of getting rid of the remains of the palace. Only the complete excavation of this shaft can give us a clear answer.

History of the town

At the beginning of the 3rd Millennium BC, a large fortified town developed out of an earlier Uruk-time settlement. It consisted of densely populated dwelling quarters and was based on the agriculture of its surrounding area. At the end of the 3rd Millennium BC the town was entirely abandoned, and for half a millennium it remained almost unoccupied. Throughout the Middle Bronze Age probably only one or just a few houses existed on top of the tell for a short period of time.

Around 1500 BC, a new town developed on the same site. After a period of growth it covered nearly the same area as the previous settlement. Its economic base was also agriculture. Large representative dwelling houses reflect social and economic changes within the population.

In the 12th Century BC, the town reached its highest political power, becoming the residence of a local king. It is remarkable that at this time it did not exceed its original size and shape, which it had kept since its foundation 1500 years earlier. This size apparently constitutes a natural upper limit for a Bronze Age settlement in the valley of the lower Khabur, within its given environment.

The end of the Bronze Age is also the end of the history of this settlement, which was never occupied thereafter.

Ez-Zara - Mukawer Survey

August Strobel

The inspection of the main section of the road from Ez-Zara (Kallirrhoe) to Mukawer (Macharus), as well as the topography and investigation of various archaeological objects in the proximity of the road were the primary aims of our survey project. In the year prior to our survey, a graduate engineering student, K. Wiesz (from Karlsruhe), made a report on the course of the road, which was approximately eight kilometres long, and whose altitude varied by approximately 1000 metres. His analysis was based on aerial photographs, kindly placed at his disposal by the National Geographic Centre (Amman). Another important part of the survey was to obtain a more detailed definition of various objects that could not be clearly identified by aerial photographs.

The most substantial sections of the road had to be approached either from Ez-Zara, the plain of el-Mustadyra, or from Mukawer. Most of the time long distances had to be covered by foot to reach them. Special emphasis was laid on road markings and towers, if still in recognizable condition, as well as various stone circles. Moreover, the survey intended to follow several old roads -- as far as feasible -- to gather details in reference to the importance of the route from Kallirrhoe to Macharus, which was part of a more complex system of paths and roads. The final aim of the project was to obtain a general overview of the traffic and trade connections in the hinterland of the ancient town of Kallirrhoe, known for its port and bathing facilities.

The author of this report was accompanied by engineer Arthur Tappin (Madaba) and engineer K. Wiesz. A torch and vat found in A1, a flask and some other small objects were found in the excavation participant in 1966.