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The Processional Street at the Ishtar Gate in Babylon: The Construction of the Middle Levels during Nebuchadnezzar II

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ABSTRACT

The Processional Street at the Ishtar Gate in Babylon: The Construction of the Middle Levels during Nebuchadnezzar II

Olof Pedersén, Ammar Al-Taei, Thierry Grandin

The rebuilding of the modern retaining walls north of the Ishtar Gate made it possible to study the profiles around the middle level of the Processional Street constructed in 592 BC or shortly thereafter. This level agrees with the middle platform for visitors at the new retaining walls. More information was revealed concerning the construction of the street, its pavement and the round and square pedestals.

KEYWORDS

Ishtar Gate, Processional Street, Nebuchadnezzar II, street construction, pedestals

The Processional Street at the Ishtar Gate in Babylon: The Construction of the Middle Levels during Nebuchadnezzar II

1 Introduction

¹ The demolition and subsequent rebuilding of the modern retaining walls and staircase at the northern side of the Ishtar Gate (Figs. 1. 2) in late 2021, during 2022, and in early 2023 made it possible to study – for the first time in 65 years – the construction of the Processional Street next to the Ishtar Gate in a number of profiles.

² German archaeologists directed by Robert Koldewey excavated the ruins of the northern front gate building of the Ishtar Gate in 1902; Iraqi excavators unearthed the larger, southern main building of the gate in 1938.¹ Next to the northern façade of the remains of the Ishtar Gate in Babylon, Iraqi archaeologists in 1959 constructed retaining walls of baked bricks with grey cement-based plaster and a central concrete staircase allowing an easier access for visitors (Fig. 3). This construction was in a state of disrepair and had to be replaced with a new construction. The archaeological permission and supervision of the demolition and construction work were provided by the State Board of Antiquities and Heritage (SBAH) in Baghdad and Babylon; design, planning and supervision were in the hands of the World Monuments Fund (WMF) through funding provided by the US Embassy in Baghdad. The execution of the building was contracted to the Iraqi construction firm Al-Ratel from Mosul.

³ It must be stressed that the results presented in this article are not from a planned archaeological excavation, but results of a series of salvage operations in connection with the contractor's work. The present documentation summarises observations and measurements made at different periods of the construction work by the authors and others. In this article, for elevations both MASL (Metres Above Sea Level) and a German local elevation ± 0.0 corresponding to 25.5 MASL will be used.

⁴ The removal of the 1959 constructions and cleaning of the area for the new constructions offered a rare possibility to study the middle levels of the Processional Street in the area near the Ishtar Gate, especially the previously little studied street Level 4 (Figs. 2. 4. 5. 6). Already during the German excavations in 1902, Level 3 of the

¹ Koldewey 1918; Pedersén 2018; Pedersén 2021.



1

Fig. 1: The area in front of the northern entrance to the Ishtar Gate, shown as tourists will see it after completion of the construction work with the removal of the old retaining walls and staircase and construction of new retaining walls and staircase. The middle platform is at the height of the street level discussed here. December 2023

الشكل ١: المنطقة الواقعة أمام المدخل الشمالي لبوابة عشتار، كما سوف يراها السوّاح بعد استكمال أعمال البناء التي تتضمن إزالة الجدران الاستنادية القديمة والدرج التابع لها وإنشاء الجدران الاستنادية الحديثة مع الدرج التابع لها. تقع المنصة الوسطى على نفس ارتفاع مستوى شارع الموكب الذي تناوله هذه المقالة. كانون الأول ٢٠٢٣



2

street inside the front gate, at c. +10.5 = 36.0 MASL, had been removed. In northern direction from the gate, Iraqi archaeologists removed in 1958 a c. 180 m long stretch of Levels 1 and 2, with the top of Level 1 sloping downwards from +15.5 = 41.0 MASL at the gate to +7.5 = 33.0 MASL in the north. The now exposed street Level 3, just north of the gate at +10.5 = 36.0 MASL, sloping downwards in a northern direction, is the same street level as that exposed south of the gate. The German excavations also found a later, more horizontal reworking of Level 1 some 35 m north of the gate. This may be called Level 0 and dates to Achaemenid, Hellenistic, or Parthian periods.² The lowest street levels at the gate were not accessible for this study as they were not part of the current construction work and they were also partly below the modern groundwater level, which currently fluctuates around +2.0 = 27.5 MASL at the gate (Figs. 5. 6).

5 The middle Level 4 of the street (c. +7.0 = 32.5 MASL) had not been studied in detail previously, as the German excavations focused on the excavation of the gate ruins and on understanding the upper street Levels 1 to 3 from c. +10.0 to +15.5, i.e. 35.5 MASL to 41.0 MASL. The German study had shown some remains of bricks inside the gate at the middle Level 4 that were interpreted as the remains of a street level, and immediately northeast of the gate there was a supporting unbaked mudbrick construction.³ There are traces of corrections to the gate walls at the Level 4 street in connection with the rebuilding of the gate for that street level. No documentation has been found from the 1959 Iraqi work, but the local archaeologists treated the middle platform of the 1959 staircase as corresponding to an ancient street level. On the other hand, the present walkway through the gate for visitors at +4.1 or 29.6 MASL is modern and not ancient.

Fig. 2: The northern part of the Ishtar Gate area without most of the 1959 retaining walls, as viewed from above. The gate is to the south and the exposed ancient street, not visible here, to the north. The profiles are numbered clockwise from 1 to 9. Profiles 10 and 11 concern the walls behind Profiles 2 and 8. 22 February 2022, before the last additional excavations

الشكل ٢: لقطة من الأعلى للجزء الشمالي من منطقة بؤابة عشتار بدون الجدران الاستنادية المشيدة في عام ١٩٥٩. تقع البؤابة في جنوب الصورة في حين يقع الشارع القديم المكشوف والذي لا يظهر في الصورة في الشمال. المقاطع مرقمة باتجاه عقارب الساعة من ١ إلى ٩. يتعلق المقطعان ١٠ و ١١ بالجدران الواقعة خلف المقطعين ٢ و ٨. التقطت الصورة بتاريخ ٢٢ شباط ٢٠٢٢ قبل إجراء التنقيبات الإضافية الأخيرة

² Pedersén 2021, 223–232.

³ Koldewey 1918, Tafel 1, 4b Lehmziegel. 5a Pflasterrest; Wetzel 1930, Taf. 24. 27 Schnitt C–C.



3

Fig. 3: The area north of the Ishtar Gate seen from southwest on a photo taken around 1970 before the reconstructions taking place around 1980 and the reshaping of the German dump in the background. The 1959–2022 grey retaining wall north of the Ishtar Gate. Above it is the round pedestal to the left and corresponding to it on the right side the remains of the square pedestal

الشكل ٣: لقطة من الجهة الجنوبية الغربية للمنطقة الواقعة شمال بوابة عشتار كما تظهر في صورة ملتقطة حوالي عام ١٩٧٠ قبل أعمال إعادة الإنشاء التي جرت حوالي عام ١٩٨٠ وتغيير شكل مكب ردم التنقيبات الألمانية الظاهر في الخلفية. يظهر الجدار الاستنادي العائد للفترة ما بين عامي ١٩٥٩ و ٢٠٢٢ شمال بوابة عشتار باللون الرمادي كما تظهر فوقه الركيزة المستديرة على الجهة اليسرى ويقابلها على الجهة اليمنى بقايا الركيزة المربعة

6 The German excavations in 1902 unearthed in front of the east tower of the Ishtar Gate at +1.5 = 27.0 MASL the remains of an archive of cuneiform clay tablets thrown away in the infilling. These are c. 2.6 m below the walkway through the gate for today's visitors. The tablets are dated from Nebuchadnezzar II, year 8 to year 12. The latest date written in the texts is month Tebēt year 12, corresponding to January 592 BC. This means that the infilling with the rebuilding of the gate and the pavement of the street for the middle Level 4 could not be earlier, but occurred probably rather soon thereafter, possibly already in 592 BC.⁴

7 A renewed interest in the middle level of the street was also the result of the excavation of three clay cylinders with identical cuneiform inscriptions concerning

the raising of the Processional Street three times by Nebuchadnezzar. They were unearthed around 1980 in a brick box placed on a middle level of the Processional Street at the place where the raising of the street started outside the Nabû temple c. 450 m south of the Ishtar Gate (UTM zone 38N 445910E 3600450N, Sahn 14as, Merkes 29f). The middle of the street levels in the text has been demonstrated to be what we call here the middle Level 4.⁵ The importance of this level in the cuneiform texts had so far very little corresponding published archaeological weight, but it stresses the significance of a renewed, closer look at the earth layers (Fig. 6).

8 It must be understood that we are dealing with extremely high infillings. According to the mentioned three clay cylinders, the raising of the street to Level 4 from the previous main street Level 5 was 18 *ammatu* or 9 m, and after the middle street Level 4 was abandoned the raising to the next main street level, the top Level 1, was 17 *ammatu* or 8.5 m. As discussed elsewhere,⁶ there were reported traces of a low street level at the Ishtar Gate at -2.5 or 23.0 MASL (Level 5 on Fig. 6). Several higher street levels have been established upwards with one of them at +15.5 or 41.0 MASL, corresponding to the Ishtar Gate with blue glazed walls and reliefs (Level 1 on Fig. 6).

9 Therefore, all the Levels 1–6 of the street and the related gate building can be dated to the long reign of Nebuchadnezzar according to both archaeological finds and cuneiform inscriptions. Recent analysis of bricks from Levels 1–3 supports this dating.⁷ A later date of the street Level 0 is possible, perhaps including a later reconstruction of Level 1 of the street.

10 In his publication of the Ishtar Gate, Koldewey referred to four periods: the first is our Level 6, the second our Level 4, the third is Level 3 and the fourth is Level 1. In the *Vorderasiatisches Museum Berlin* there is another division according to the *Baustufe* (construction stage): Baustufe 1 corresponds to our Levels 6–3, Baustufe 2 is Level 2, and Baustufe 3 is Level 1. This museum division is based only on the different façade decorations – unglazed, glazed without reliefs, and glazed with reliefs – on the upper levels and disregards the early reconstructions of the gate during the reign of Nebuchadnezzar.⁸

11 Brick miners had removed huge amounts of good, baked Nebuchadnezzar bricks from upper parts of the walls in Babylon in order to reuse them in modern build-

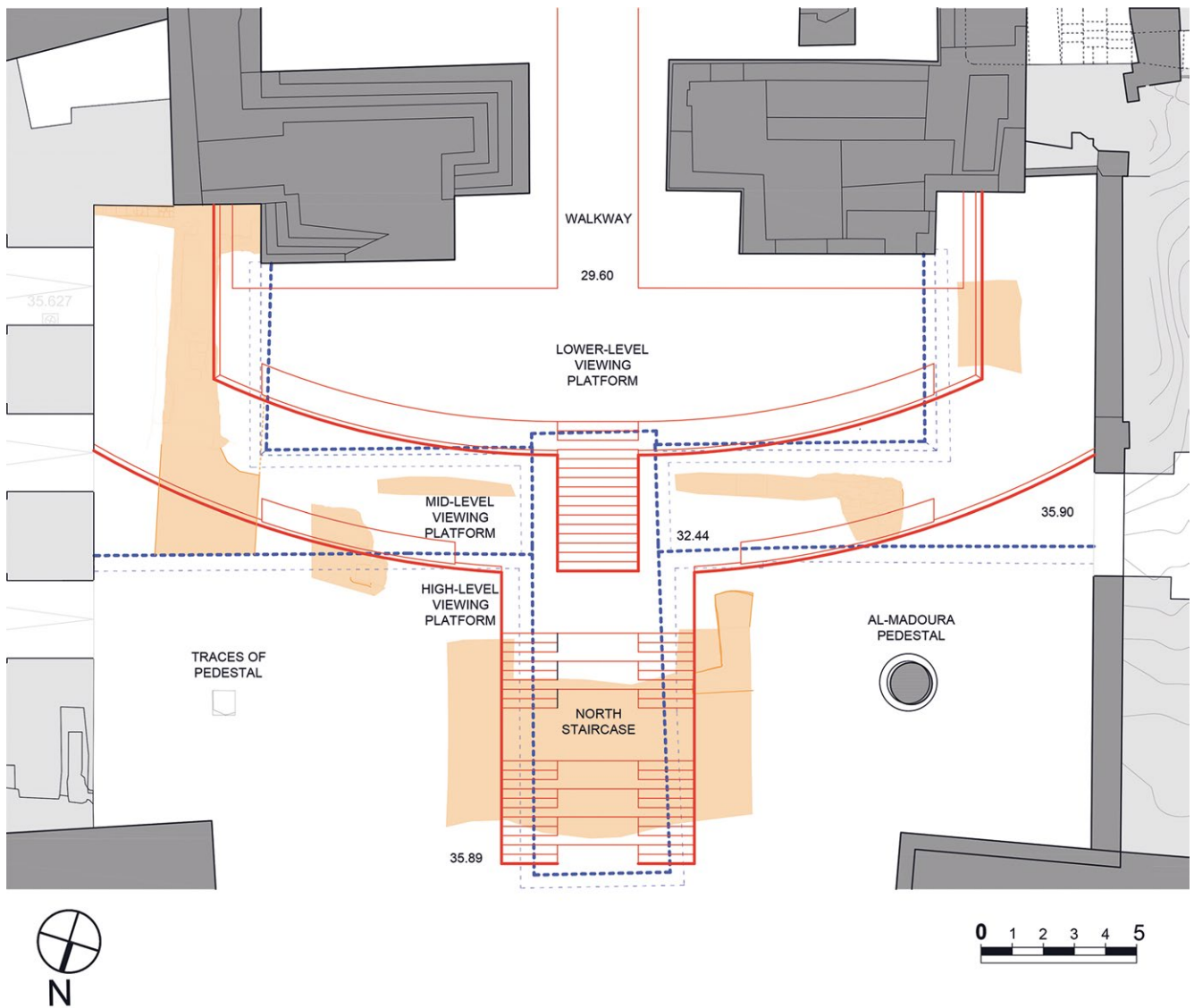
4 Parker – Dubberstein 1956, 28; Pedersén 2005 N2; Pedersén 2018; Pedersén 2021.

5 Ismail 1985; Pedersén 2018; Pedersén 2021 Level 4; Novotny – Weiershäuser 2024, Nebuchadnezzar II 34.

6 Wetzel et al. 1957, 27; Pedersén 2018, 170; Pedersén 2021, 74–75, Fig. 2.29.

7 Di Chiara et al. 2024.

8 Koldewey 1918, 8; Pedersén 2018; Pedersén 2021; Gries 2022.



4

ings. After taking away the upper parts of the walls, the brick miners continued deeper into the core of the walls, often leaving only a thin façade remaining. The upper parts of the Ishtar Gate and all the other related walls under discussion here were therefore missing when excavations started in 1899. Only the lower parts of the walls far below the former surface could be archaeologically exposed and documented.

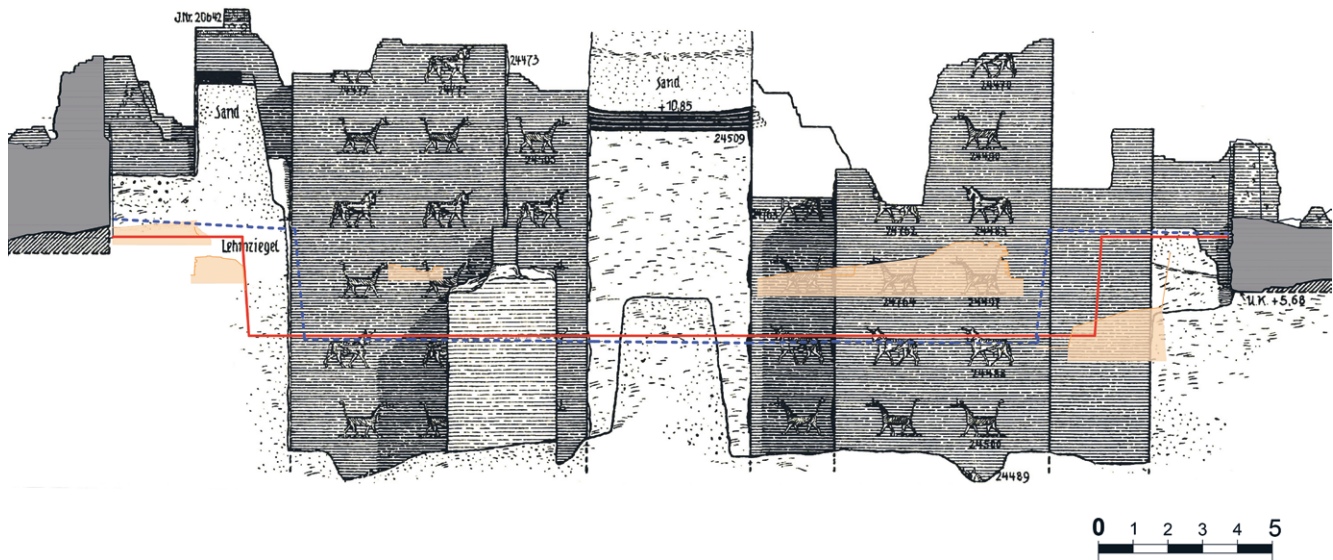
2 Construction activities

12 The construction work of 2021–2023 on the north side of the Ishtar Gate (Figs. 4, 5) involved the removal of almost all the 1959 baked brick retaining walls (blue) with their grey cement-based plaster as well as the concrete staircase leading down to the gate ruins (Fig. 3). Thereby a lot of the ancient street levels and related material discussed in this paper were exposed. Then followed the rebuilding of new retaining walls of metal gabion filled with stones and the installation of a new prefabricated concrete and steel staircase for tourists going down to the ruins of the gate (red). Benches to rest on were also built for visitors in front of the ruins of the gate (Fig. 1).

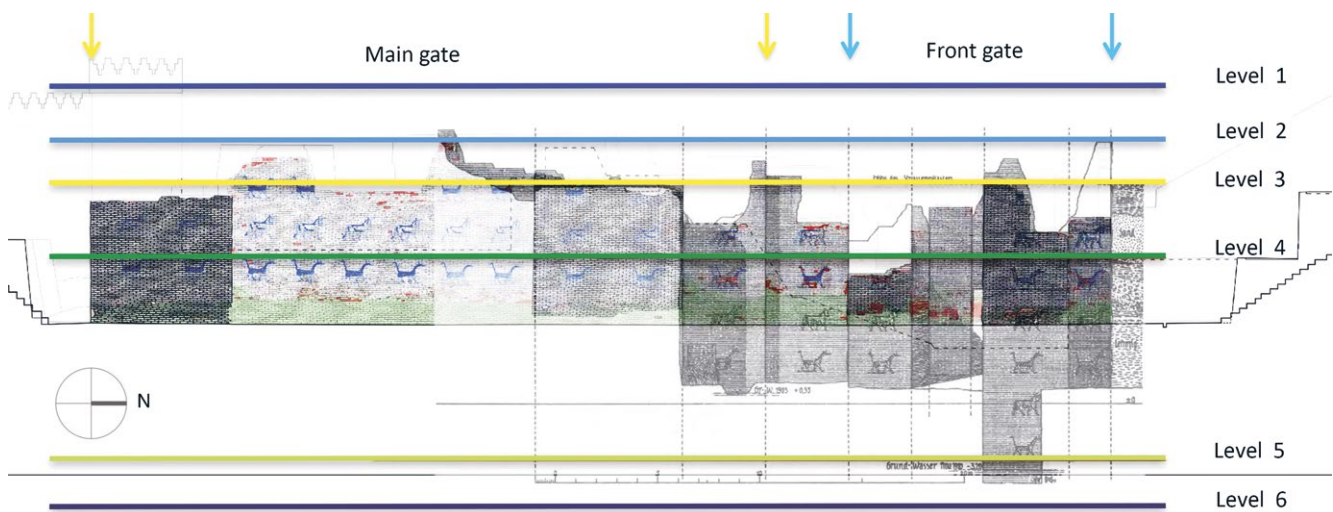
13 As can be seen in the section (Fig. 5), the German excavations inside the front gate were several metres lower than the presently exposed level inside the gate. The

Fig. 4: Plan of the construction area to the north of the Ishtar Gate. The results of the German excavations are in black. The 1959 Iraqi retaining walls and staircase are in blue. The new WMF retaining walls and staircase of 2022 are in red. Grey is used for the remains of ancient walls, which are mostly no longer visible. Archaeological features exposed during the construction work are in orange

الشكل ٤: مخطط لمنطقة الإنشاء الواقعة إلى الشمال من بوابة إشتار. تظهر نتائج التنقيبات الألمانية باللون الأسود في حين تظهر الجدران الاستنادية العراقية مع الدرج والتي تم تشييدها في عام ١٩٥٩ باللون الأزرق. تظهر الجدران الاستنادية الجديدة المشيدة من قبل الصندوق العالمي للآثار والتراث في عام ٢٠٢٢ باللون الأحمر. يُستخدم اللون الرمادي للدلالة على بقايا الجدران الأصلية التي لم تعد مرئية في الغالب كما يُستخدم اللون البرتقالي لإظهار المعالم الأثرية التي كُشفت أثناء أعمال الإنشاء



5



6

Fig. 5: Section of the construction area north of the Ishtar Gate looking in an approx. southern direction towards the gate. The results of the 1902 German excavations are in black and the 1959 Iraqi retaining walls in blue. The new WMF retaining walls from 2022 are in red with the lower platform at $+4.10 = 29.60$, the middle platform at $+6.94 = 32.44$, and the here not visible upper platform at $+10.40 = 35.90$. Archaeological features exposed during the construction work in the front and in the back are in orange

الشكل ٥: مقطع في منطقة أعمال الإنشاء الواقعة شمال بوابة عشتار باتجاه الجنوب تقريباً نحو البوابة. تظهر نتائج التنقيبات الألمانية من عام ١٩٠٢ باللون الأسود والجدران الاستنادية العراقية المشيدة في عام ١٩٥٩ باللون الأزرق. في حين تظهر الجدران الاستنادية المشيدة في عام ٢٠٢٢ من قبل الصندوق العالمي للآثار والتراث باللون الأحمر، حيث تقع المصطبة السفلى عند $+4.10 = 29.60$ والوسطى عند $+6.94 = 32.44$ والعلوية غير الظاهرة هنا عند $+10.40 = 35.90$. تظهر المعالم الأثرية المكتشفة أثناء أعمال الإنشاء في الأمام والخلف باللون البرتقالي

Fig. 6: Schematic west profile through the so far exposed remains of the Ishtar Gate with attested street levels. German excavations in 1902 uncovered the front gate in the north, and Iraqi excavations in 1938 the main gate building south thereof. The 1959 retaining walls and staircase can be seen in the north and south. What is here called the Middle Level on the drawing is Level 4, originally constructed in 592 BC or soon thereafter. Levels 1, 4, 5, and 6 are discussed in the cuneiform clay cylinders

الشكل ٦: مقطع جانبي تخيطي غربي عبر البقايا المكتشفة حتى الآن من بوابة عشتار مع مستويات الشارع المثبتة. كشفت التنقيبات الألمانية في عام ١٩٠٢ عن البوابة الأمامية في الشمال بينما كشفت التنقيبات العراقية في عام ١٩٣٨ عن مبنى البوابة الرئيسية جنوبها. يمكن في الشمال والجنوب رؤية الجدران الاستنادية مع الدرج والتي تعود لعام ١٩٥٩. ما يُسمى هنا بالمستوى الأوسط هو المستوى ٤ الذي شُيّد في الأصل عام ٥٩٢ ق. م. أو بعد ذلك بفترة وجيزة. ذُكرت المستويات ١ و ٤ و ٥ و ٦ في الأسطوانات الطينية المسماة

lower levels are now below the groundwater. The new retaining walls (red) enclose a somewhat wider area in front of the gate, exposing more of the Ishtar Gate ruins than the previous ones (blue) and they will hopefully lead to fewer problems with the groundwater. In the construction area, archaeological features were exposed and recorded during the construction work (orange on Figs. 4. 5).

14 Most of the documentation of the contractor's excavation was made in January and February 2022 (Profiles 1–9), but additional documentation was subsequently added due to later supplementary excavations by the contractor (Profiles 10–11). Several times documentation concerned areas which were only exposed for a short time and soon covered or removed as a result of the continuing construction process. Very little of the evidence will be visible after completion of the construction work. The profile drawings are an attempt to make a stable interpretation supported by various photos and inspections. Therefore, they may show a later and more advanced situation than visible in the published photos.

15 Parallel with the construction activities, the WMF also undertook maintenance and conservation work on the Ishtar Gate. This included removing all previous repairs that had used cement and a flint-coat and instead making repairs and repointing all walls with an earth-lime mixture. This will stabilise the ancient structure, but it also means that most of the original bitumen mortar at the façades, during previous repairs partly exchanged with flint-coat, has now been replaced with earth-lime repointing, resulting in a partly changed look of the brick walls.⁹

3 Ishtar Gate fills

16 The detailed discussion here covers the middle street Level 4 around +7.0 or 32.5 MASL, as well as soil layers some metres below and above that level. The highest level uncovered and discussed will correspond to the street Level 3 now exposed on both sides of the gate at +10.5 = 36.0 MASL, the lowest at c. +3.2 or 28.7 MASL. If the foundation of the Ishtar Gate was at Level 6, as attested in inscriptions and assumed due to the lowest animals on the façade, it may have been at c. -5.0 = 20.5 MASL.¹⁰ Elevations in the following will be recorded in MASL.

17 As can be seen in the subsequent presentation of the nine profiles of the sides of the exposed area in front of the Ishtar Gate, the street consists of a series of layers (Figs. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34). According to the geological definitions of soils based on particle sizes as used here, they are identified as sand, clayey sand, sandy clay, and clay. Sometimes there is a mixture with, e.g. brick fragments or gravel. Some layers are rather heavily compacted, although the compaction does not seem to be even over the entire street, at least when judged by the preserved sections. It is apparent that the centre of the street often does not have the same variation of layers, but instead consists of more unified clay.

18 Between a few layers there are thinner white layers, often some 2 cm thick, that look like the white layers attested more or less regularly in mudbrick walls in buildings (Figs. 13. 17. 18. 29. 30). In the mudbrick walls such white layers are interpreted as remains of mats put in the walls to strengthen them, at least until the walls finally settled.¹¹ It is quite possible that similar mats were also placed between some layers when filling up the Processional Street, even if analysis of the white substance has been possible to conduct only once, showing it to consist of lime with a little gypsum.¹²

9 The mixture for the repointing of the joints in the gate was as follows: two parts of earth (clay earth from the area, without salt, sifted), two parts of beige sand (washed to extract any traces of salt, then dried in the sun), two parts of ready-mix fine powder lime (imported in open bags from Karbala), one part of red brick fine powder (the red bricks were crushed on site), one part of fine pieces of white marble (from 1 to 2 mm, to reduce potential shrinkage of the mortar). Yellow brick fine powder (the yellow bricks were crushed on site) was sometimes used to change the colour of the mortar to more closely match the colour of bricks in some areas.

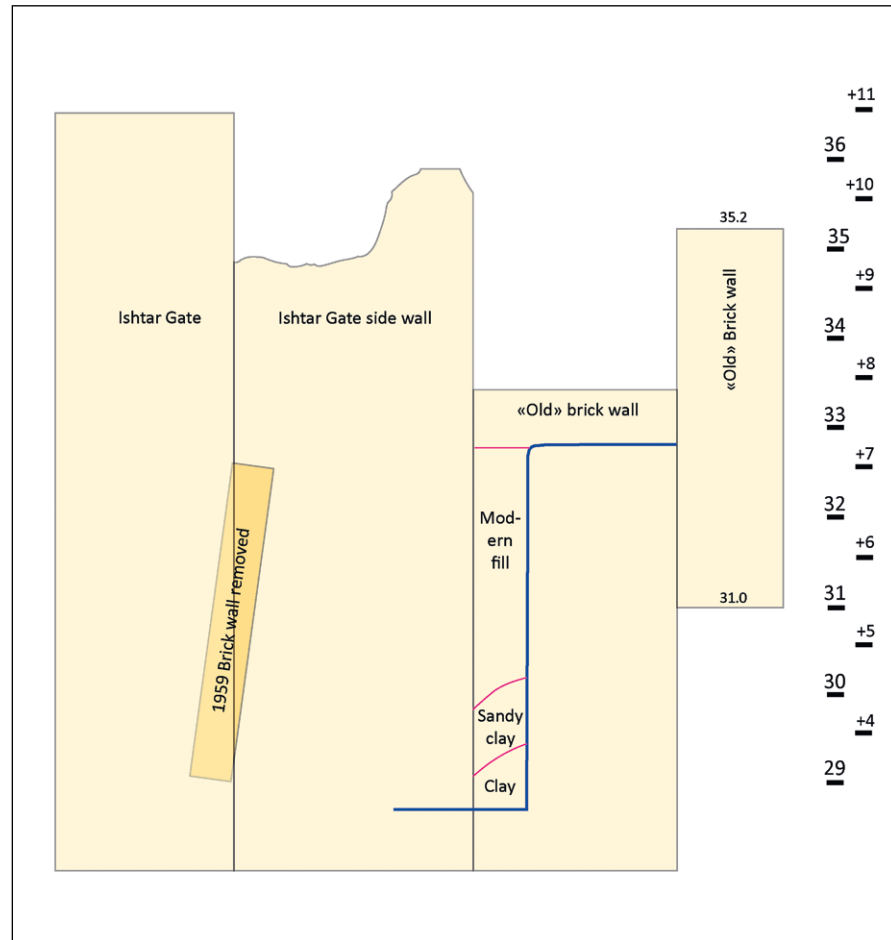
10 Ismail 1985; Pedersén 2018; Pedersén 2021, 71–80. 215–216, Level 4; Novotny – Weiershäuser 2024, Nebuchadnezzar II 34.

11 Koldewey 1911, 5.

12 See Profile 3 below.

Fig. 7: Profile 1, Ishtar Gate fills, south, west section. The elevations to the right are MASL, and far right the local German elevations. Compare Figs. 8. 9

الشكل ٧: المقطع الجانبي رقم ١، حشوات الردم في بؤابة عشتار، جنوباً، مقطع غربي. الارتفاعات إلى اليمين هي قياسات بالأمتار فوق سطح البحر أما الارتفاعات إلى أقصى اليمين فهي القياسات الألمانية المحلية. قارن الشكلين ٨ - ٩



3.1 Profile 1 south, west section

19 In the west section of the southern profile of the exposed area (Figs. 7. 8. 9), only a narrow, c. 75 cm wide, 4 m high (c. 29 MASL to 33 MASL) and a few decimetres thick stretch of soil covers the lower part of an ancient baked brick wall originally some 3 m thick. The preserved narrow stretch of soil is only a continuation of the levels in Profile 2. Above the soil, the visible wall is mostly reconstructed, but in the southwest corner there are some original bricks. After the brick miners' activities, only a half-brick-thick façade of the thick wall at the excavation was still standing at +9.3 = 34.8 MASL, but it later collapsed. In the western corner, more bricks were attested up to +9.9 = 35.4 MASL. The original bricks all had a slope (c. 2 dm lower in the southwest than at the gate) like the corresponding Profile 9, where the slope is better attested and discussed. The idealised drawing from the German excavations in Fig. 5 does not show any slope. The slope may be the result of settlement due to the extremely different foundation depths of the Ishtar Gate at c. -5.0 = 20.5 MASL and the south-to-north wall of Profiles 2 and 10 at 31.0 MASL with more than 10 m infilling below. The new reconstruction at the top visible to all visitors has no slope at all.



Fig. 8: Profiles 1, 2, late during excavations. In the profile modern infilling with ancient clay below. The fallen bricks from the collapsed section of the west wall were removed. At the bottom, recent green geotextile and infilling of reddish sand, clay and gravel. 28 February 2022

الشكل ٨: المقطعان الجانبيان 1 و 2 في أواخر فترة التنقيبات. تظهر في المقطع حشوة ردم حديثة مع طين قديم في أسفلها. تم إزالة قطع الآجر المتساقطة من القسم المنهار من الجدار الغربي. في الأسفل يمكن رؤية نسيج أرضي أخضر حديث وعليه ردم من الرمل ذي اللون المائل للإحمرار والطين والحصى. ٢٨ شباط ٢٠٢٢

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Fig. 9: Profiles 1–3 from above during the middle of the excavation. The fallen bricks from the 3 m wide collapsed section of the west wall are still in place, but numerous scattered brick fragments around it have been cleared away. Cf. Profile 10. 31 January 2022

الشكل ٩: لقطة من الأعلى للمقاطع الجانبية 1-3 في منتصف فترة التنقيبات. لا تزال قطع الآجر المتساقط من الجزء المنهار من الجدار الغربي بعرض ٣ أمتار في مكانه، ولكن تم إزالة العديد من كسرات الآجر المتناثرة حوله. راجع المقطع الجانبي رقم ١٠. ٣١ كانون الثاني ٢٠٢٢

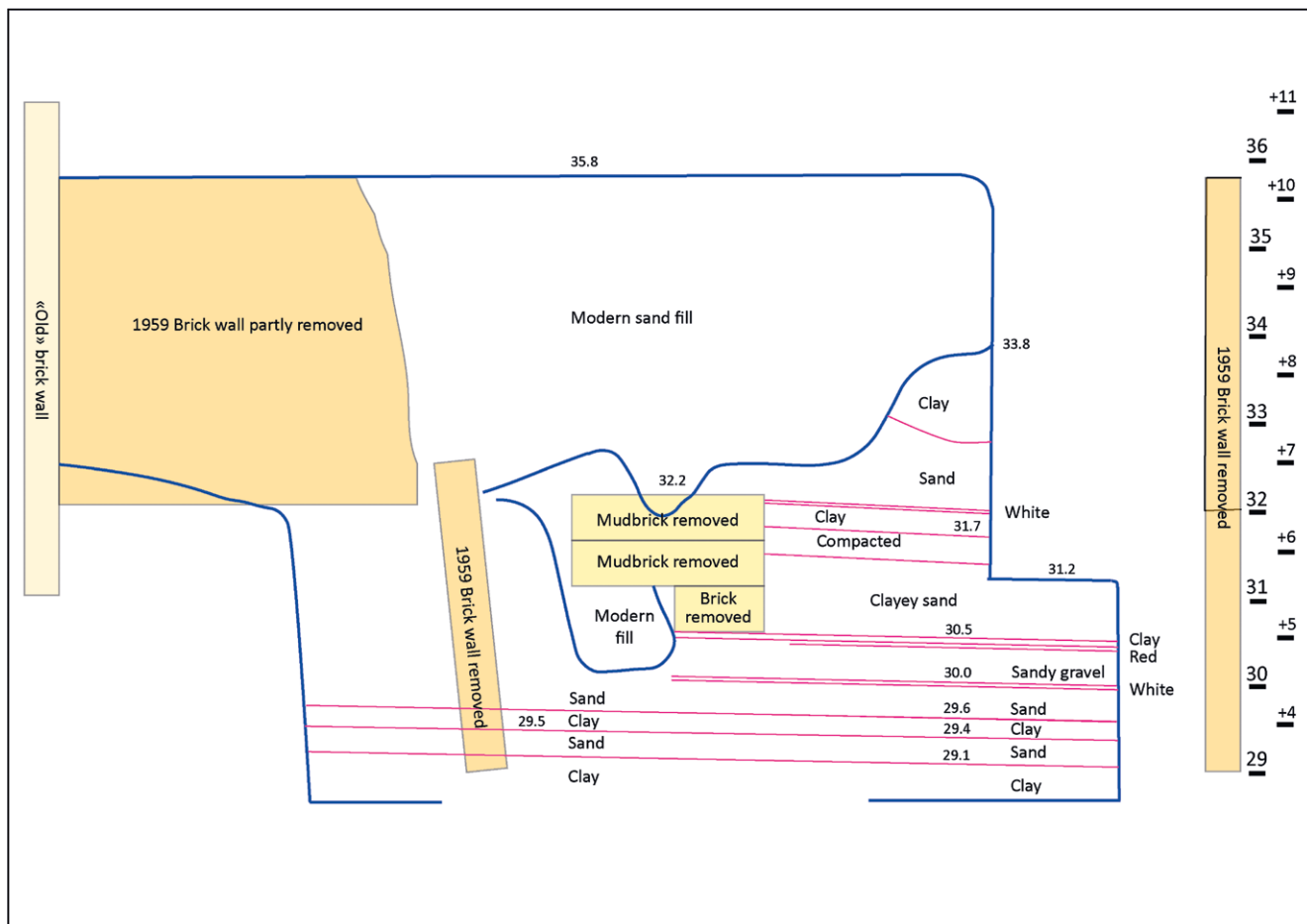
9



Fig.10: Profiles 2–4, late during excavations but before infilling of reddish sand. The mostly reconstructed west wall, with modern infilling in front and ancient layers below. The fallen bricks from the collapsed section of the west wall have been removed. 24 February 2022

الشكل ١٠: المقاطع الجانبية ٢-٤ في أواخر فترة التنقيبات ولكن قبل وضع الرمل ذي اللون المائل للحمرة. يظهر الجدار الغربي الذي أعيد بناء معظمه مع ردم حديث في المقدمة وطبقات قديمة في الأسفل. أزيلت قطع الآجر المتساقطة من الجزء المنهار من الجدار الغربي. ٢٤ شباط ٢٠٢٢

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Fig. 13: Profile 3, Ishtar Gate fills, north, west section. Compare Figs. 9. 10. 14. 15–18

الشكل ١٣: المقطع الجانبي ٣، حشوات الردم في بوابة عشتار، شمالاً، مقطع غربي. قارن الأشكال ٩، ١٠، ١٤، ١٥، ١٨

Fig. 14: Profiles 2–5, from above, early during excavations with only some of the retaining walls removed. In the middle of the photo between the retaining walls is the mudbrick wall with top at 32.2 and to the right of it the compacted layer. 24 January 2022

الشكل ١٤: المقاطع الجانبية ٥، ٢، ٤، ٣، من الأعلى، في بداية التنقيبات حيث أُزيلت بعض الجدران الاستنادية فقط. في منتصف الصورة وبين الجدران الاستنادية يظهر جدار من اللبن يبلغ ارتفاع قمته 32.2 وإلى اليمين منه الطبقة المدكوكة. ٢٤ كانون الثاني ٢٠٢٢



15



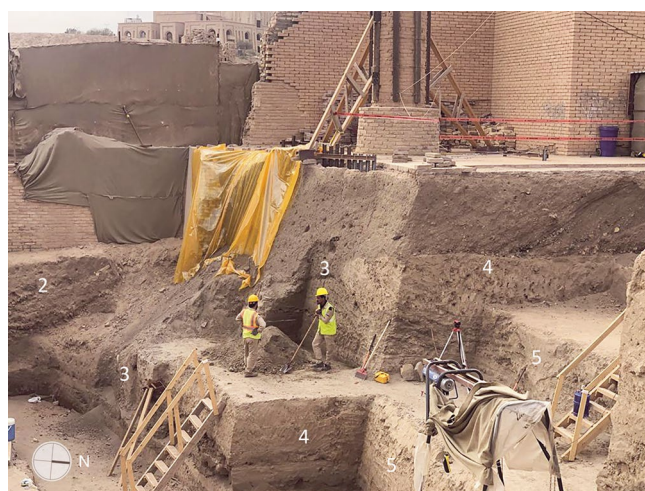
17

Fig. 15: Profile 3, middle levels, looking east, early during excavation. The mudbrick wall with top at 32.2 and the compacted layer behind; both were later removed. Remains of modern retaining walls later removed. 23 January 2022

الشكل ١٥: المقطع الجانبي 3، المستويات الوسطى، باتجاه الشرق، في بداية فترة التنقيبات. يظهر جدار من اللبن يبلغ ارتفاع قمته 32.2 وخلفه الطبقة المدكوكة حيث أزيل كلاهما لاحقاً. كما تظهر بقايا من جدران استنادية حديثة أزيلت لاحقاً. ٢٣ كانون الثاني ٢٠٢٢

Fig. 16: Profiles 2-5, late during excavations. Additional excavations after collapse of modern upper fill in order to make space for an extra protective brick wall. In the lower level (at 3) is a brick and mudbrick wall over the wooden support. 6 March 2022

الشكل ١٦: المقاطع الجانبية 2-5، في أواخر فترة التنقيبات. أجريت تنقيبات إضافية بعد انهيار الردم العلوي الحديث من أجل إفساح المجال لبناء جدار إضافي واقٍ من الآجر. في المستوى السفلي (عند 3) يظهر جدار من الآجر واللبن فوق الدعامة الخشبية. ٦ آذار ٢٠٢٢



16



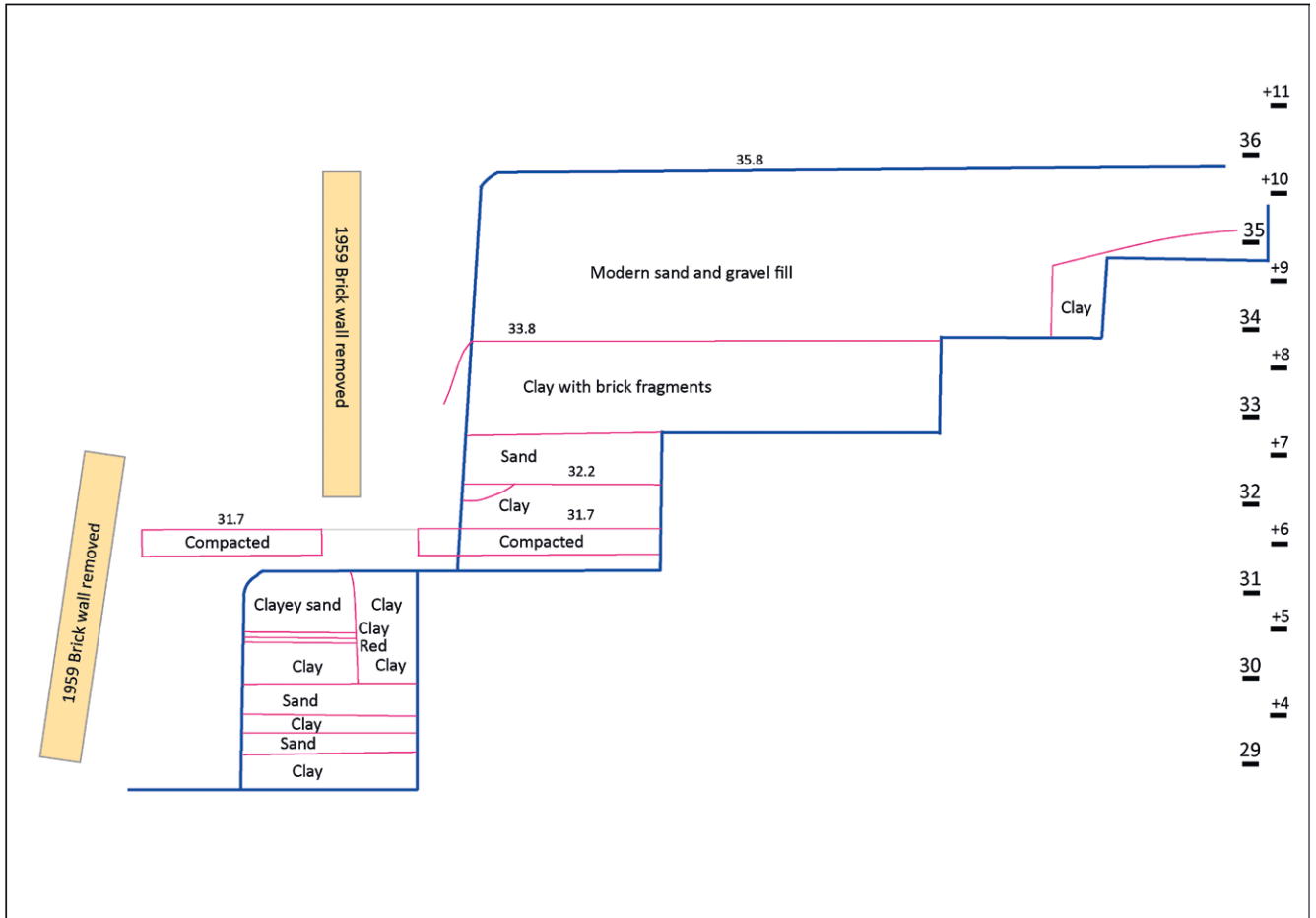
18

Fig. 17: Profile 3, middle level, late, after additional excavations in a northern direction for the extra protective wall. The first half of it has been constructed to the right, the old retaining wall is to the left. The space between was soon covered by the new protective wall. On the top is modern 1959 sandy infilling, below ancient sand, compacted clay, and sand. Top of red bricks at 31.9, thin white layer about 32.2. The removed mudbrick wall was situated about 1.5 m in the front of the depicted remains. It had the top at 32.2 and continued in southern direction. 8 March 2022

Fig. 18: Profiles 3, 5, lower levels, late during excavations. Various sand and clay layers. One thin white layer at 30.0. Profile 5 in the background is clay only. 28 February 2022

الشكل ١٧: المقطع الجانبي 3، المستوى الأوسط، في مرحلة متأخرة بعد التنقيبات الإضافية في الاتجاه الشمالي من أجل إنشاء الجدار الواقي الإضافي. تم تشييد النصف الأول من هذا الجدار إلى يمين الصورة، بينما يظهر الجدار الاستنادي القديم إلى اليسار. سرعان ما تُمَتَّ تغطية المساحة الفاصلة بينهما بالجدار الواقي الجديد. في الأعلى يظهر ردم رملي حديث وُضِعَ في عام ١٩٥٩ وفي أسفله رمل قديم وتحت طين مدكوك ومن ثم رمل. في أعلى الآجر الأحمر عند ارتفاع 31.9 تظهر طبقة بيضاء رقيقة على ارتفاع 32.2. كان جدار اللبن المزال يقع على مسافة ١.٥ متر أمام البقايا الظاهرة في الصورة. كانت قمته على ارتفاع 32.2 وكان يمتد في اتجاه الجنوب. ٨ آذار ٢٠٢٢

الشكل ١٨: المقطعان الجانبيان 3 و 5، المستويات السفلى، في مرحلة متأخرة أثناء التنقيبات. طبقات رملية وطينية مختلفة. تظهر طبقة بيضاء رقيقة عند ارتفاع 30.0. المقطع الجانبي 5 في خلفية الصورة مكون من طين فقط. ٢٨ شباط ٢٠٢٢



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Fig. 19: Profile 4, Ishtar Gate fills, north, west of stairs. Compare Figs. 10. 14. 16. 18. 20-22

الشكل ١٩: المقطع الجانبي ٤، حشوات الردم في بؤابة عشتار، شمالاً، غرب الدرج. قارن الأشكال ١٠ و ١٤ و ١٦ و ١٨ و ٢٠-٢٢

Fig. 20: Profiles 4, 5, lower levels, late during excavation. Various sand and clay layers in Profile 4, in most of Profile 5 clay only. 28 February 2022

الشكل ٢٠: المقطعان الجانبيان ٤ و ٥، المستويات السفلى، في مرحلة متأخرة أثناء التنقيبات. طبقات رملية وطينية مختلفة في المقطع الجانبي ٤ بينما يتكوّن المقطع الجانبي ٥ من الطين فقط. ٢٨ شباط ٢٠٢٢



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Fig. 21: Profiles 4, 5, middle level, early during excavations. Compacted layer at 31.7, later removed. 24 January 2022

الشكل ٢١: المقطعان الجانبيان ٤ و ٥، المستوى الأوسط، في مرحلة مبكرة أثناء التنقيبات. طبقة مدكوكة عند ارتفاع 31.7 وقد أزيلت لاحقاً. ٢٤ كانون الثاني ٢٠٢٢



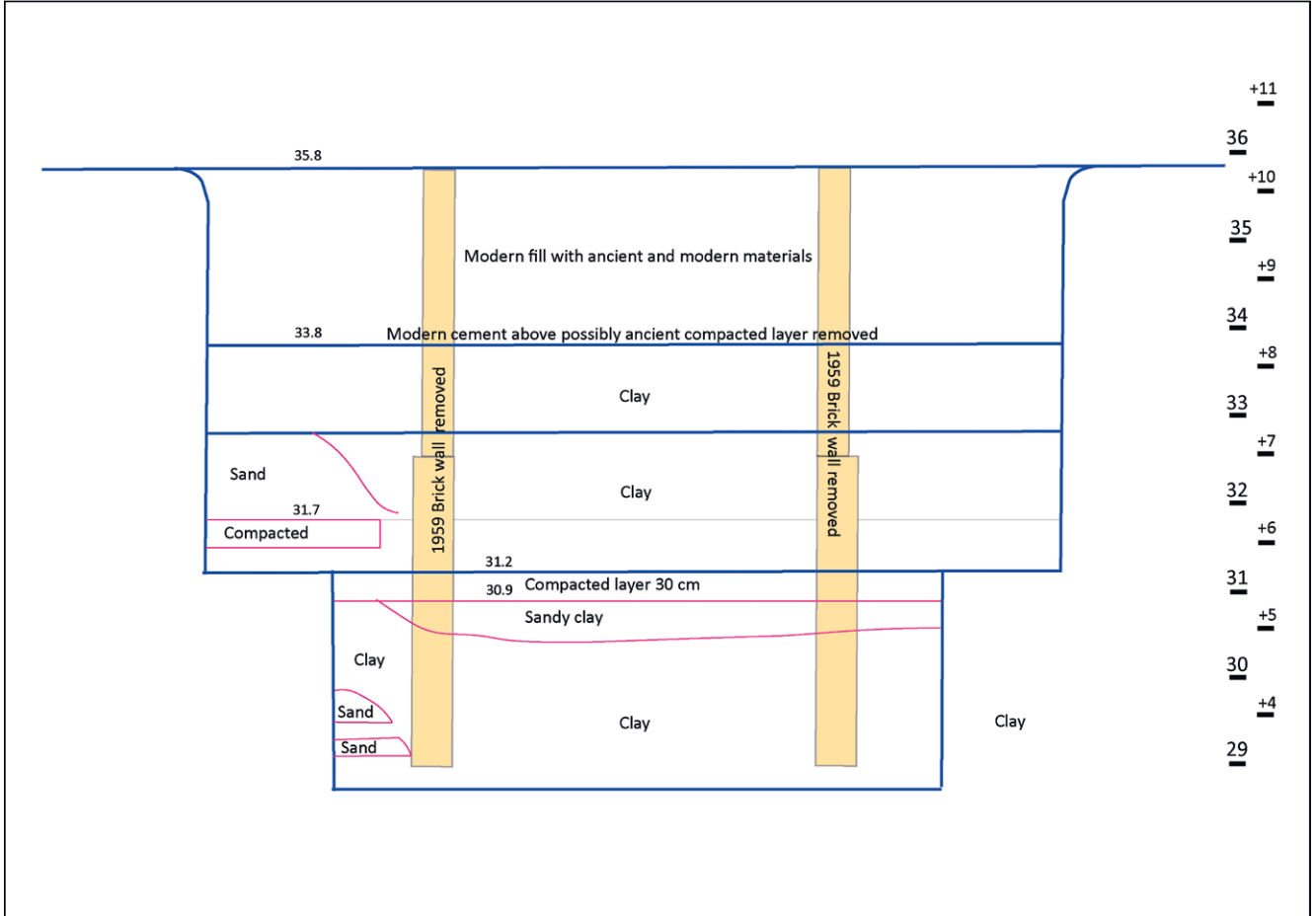
22

Fig. 22: Profile 4, upper levels, early during excavations. Left part later removed. Modern fill and ancient fill of clay below 33.8. 24 January 2022

الشكل ٢٢: المقطع الجانبي ٤، المستويات العليا، في مرحلة مبكرة أثناء التنقيبات. أزيل الجزء الأيسر لاحقاً. طبقة ردم حديثة وتحتها ردم طيني قديم. ٢٤ كانون الثاني ٢٠٢٢.

Fig. 23: Profile 5, Ishtar Gate fills, north, centre of stairs. Compare Figs. 14. 18. 20. 21

الشكل ٢٣: المقطع الجانبي ٥، حشوات الردم في بوابة عشتار، شمالاً، في مركز الدرج. قارن الأشكال ١٤ و ١٨ و ٢٠ و ٢١



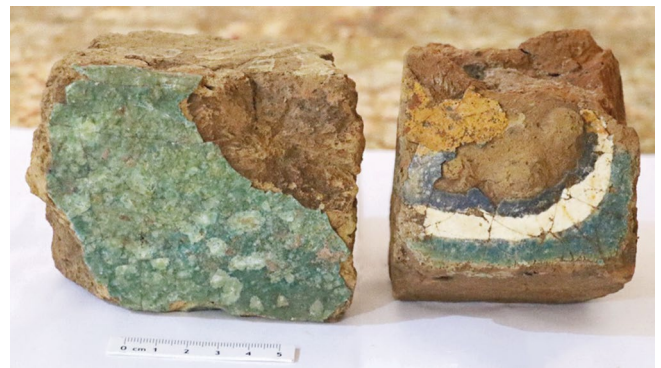
23



24

Fig. 24: Profile 5, upper levels. Neo-Babylonian pottery fragments from the upper, modern, probably 1959 infilling. January 2022

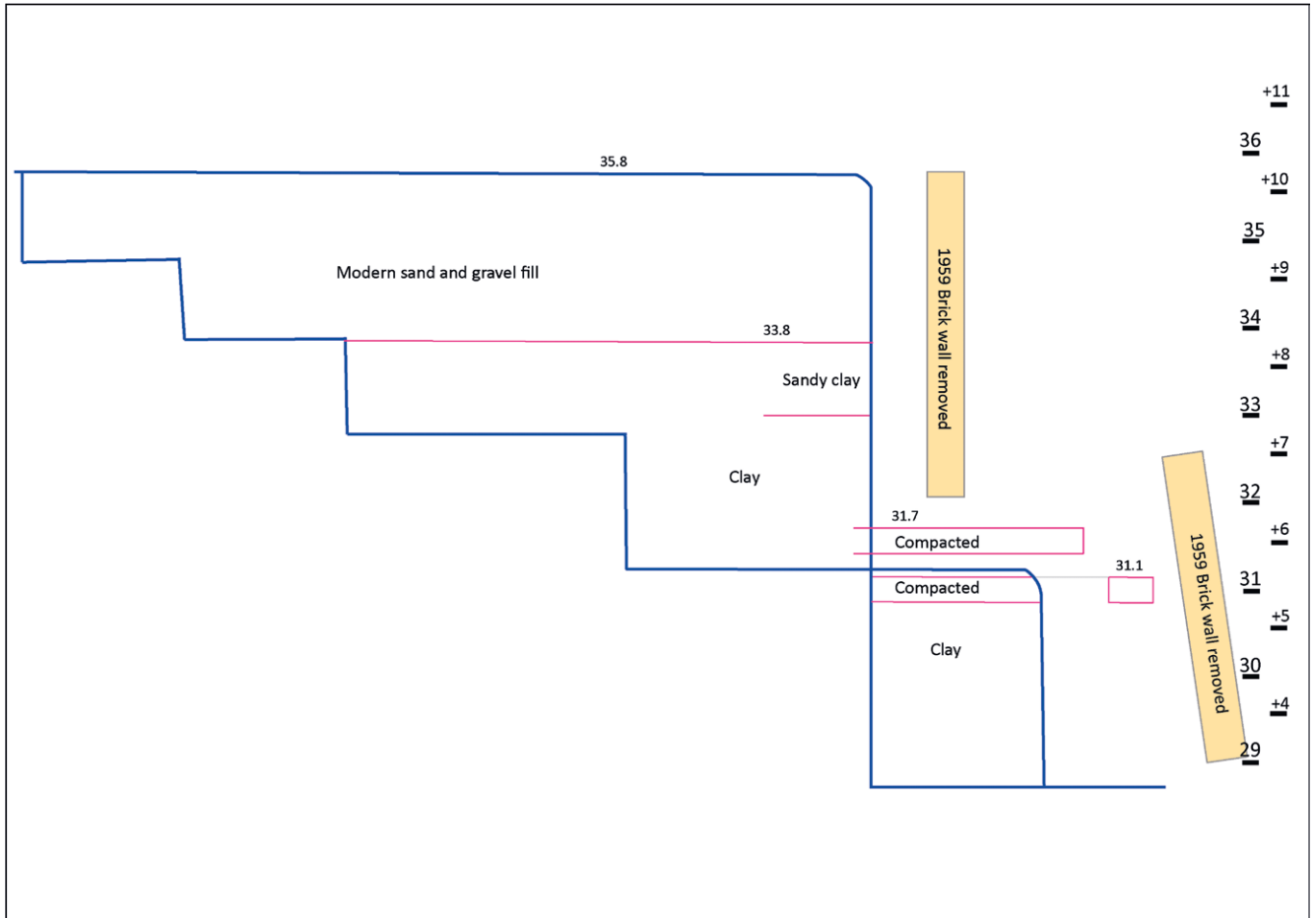
الشكل ٢٤: المقطع الجانبي ٥، المستويات العليا. كسر فخّارية من العصر البابلي الحديث مكتشفة في طبقات الردم الحديث العليا التي تعود ربما إلى عام ١٩٥٩. كانون الثاني ٢٠٢٢



25

Fig. 25: Profile 5, upper levels. Fragments of Neo-Babylonian glazed bricks from the upper, modern, probably 1959 infilling. January 2022

الشكل ٢٥: المقطع الجانبي ٥، المستويات العليا، قطعتان من الآجر المزجج البابلي الحديث المكتشف في طبقات الردم الحديث العليا التي تعود ربما إلى عام ١٩٥٩. كانون الثاني ٢٠٢٢



26



27

Fig. 26: Profile 6, Ishtar Gate fills, north, east of stairs. Compare Figs. 27. 28

الشكل ٢٦: المقطع الجانبي 6، حشوات الردم في بوابة عشتار، شمالاً، شرق الدرج. قارن الشكلين ٢٧، ٢٨

Fig. 27: Profile 6, upper levels, late during excavations. Modern fill on top of ancient fill. 24 February 2022

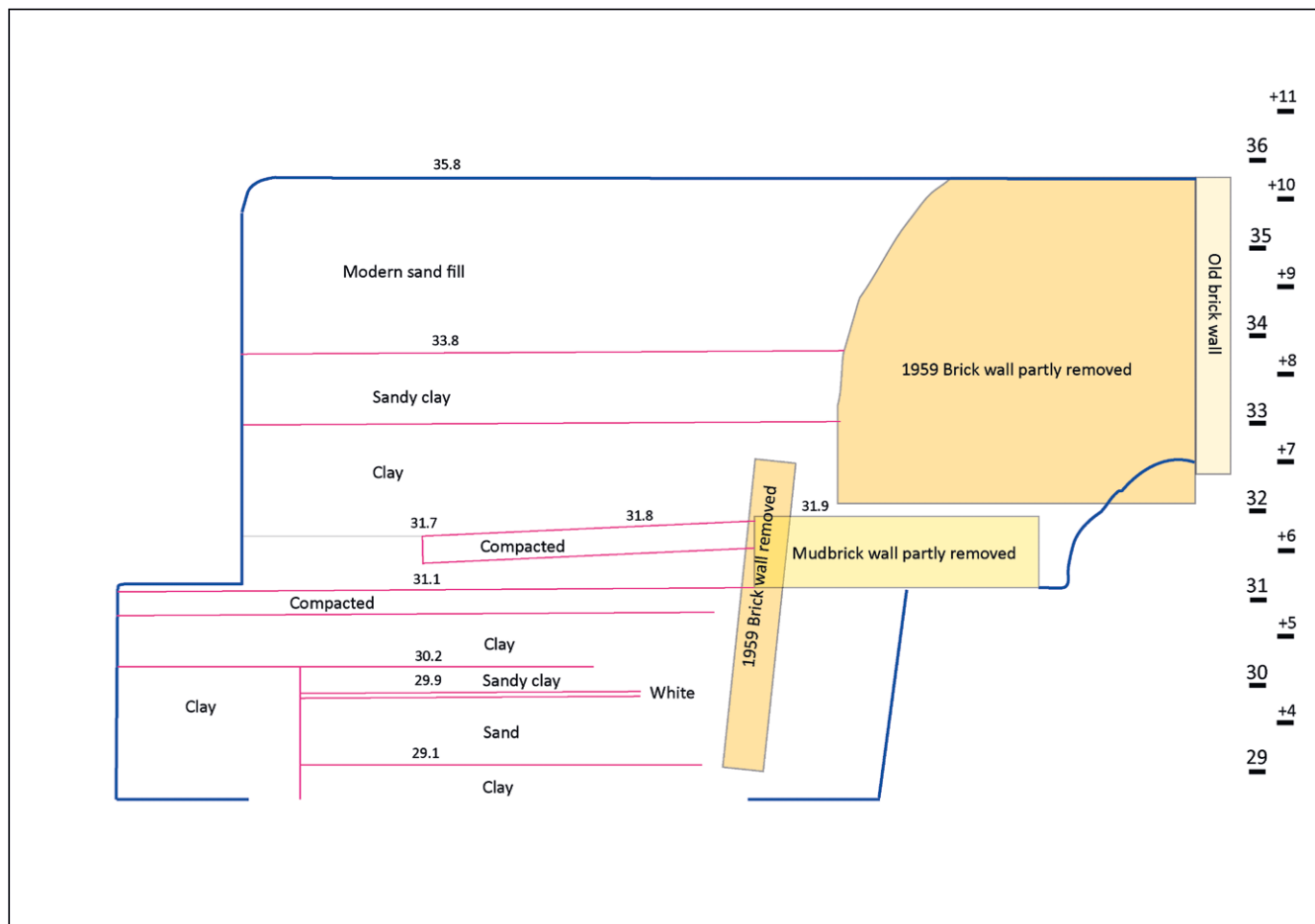
الشكل ٢٧: المقطع الجانبي 6، المستويات العليا، في مرحلة متأخرة أثناء التنقيبات. ردم حديث فوق ردم قديم ٢٤ شباط ٢٠٢٢



28

Fig. 28: Profiles 6-9, middle level, looking east, early during excavations. Compacted layer 31.7 under remains of the upper 1959 retaining wall. Compacted layer at 31.1 more to the right, to the left of the lower retaining wall. 11 January 2022

الشكل ٢٨: المقاطع الجانبية 6-9، باتجاه الشرق، في مرحلة مبكرة أثناء التنقيبات. طبقة مدكوكة على ارتفاع 31.7 تحت بقايا الجدار الاستنادي العلوي المشيد في عام ١٩٥٩. إلى اليمين وعند ارتفاع 31.1 تظهر طبقة مدكوكة على يسار الجدار الاستنادي السفلي. ١١ كانون الثاني ٢٠٢٢



29

Fig. 29: Profile 7, Ishtar Gate fills, north, east section. Compare Figs. 28. 30

الشكل ٢٩: المقطع الجانبي ٧، حشوات الردم في بوابة عشتار، شمالاً، القسم الشرقي. قارن الشكلين ٢٨ و٣٠

Fig. 30: Profile 7, late during excavations. Lower levels left are clay; lower levels right are various clay and sand layers including a thin white layer at 29.9. 23 February 2022

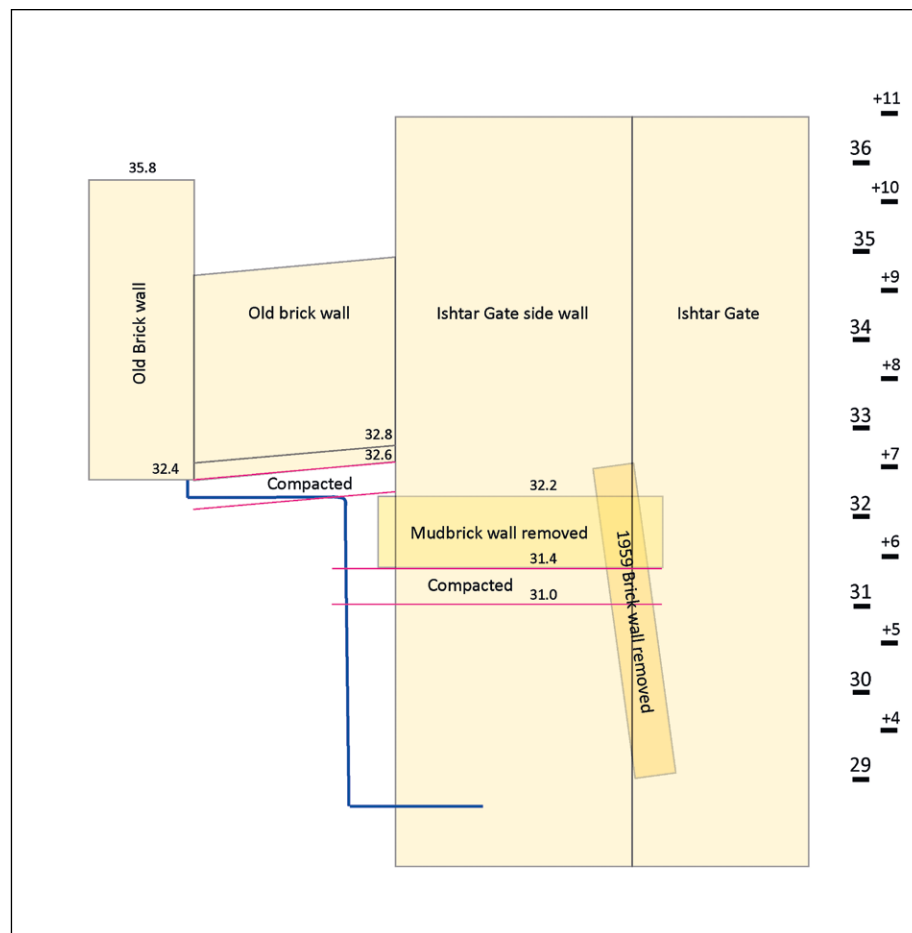
الشكل ٣٠: المقطع الجانبي ٧، في مرحلة متأخرة أثناء التنقيبات. المستويات السفلى إلى اليسار طينية والمستويات السفلى اليمينية مؤلفة من طبقات طينية ورملية مختلفة بما في ذلك طبقة بيضاء رقيقة عند ارتفاع 29.9. ٢٣ شباط ٢٠٢٢



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Fig. 34: Profile 9, Ishtar Gate fills, south, east section. Compare Figs. 28. 33

الشكل ٣٤: المقطع الجانبي ٩، حشوات
الردم في بؤابة عشتار، جنوباً، القسم
الشرقي. قارن الشكلين ٢٨ و ٣٣



3.2 Profile 2 west

20 The western section is c. 15.4 m wide and 4 m high (c. 29 MASL to 33 MASL) and mainly consists of c. 2–3 m of soil in front of the mostly reconstructed remains of the south-north wall (Fig. 11 compared with Fig. 7 and Fig. 13). Due to the brick miners' activities, the German excavators found only parts of a thin façade preserved of the originally 5 m thick brick wall (for which see Profile 10 below). A c. 3 m wide section of the preserved façade had collapsed before the construction of the 1959 retaining walls and fallen down along with the top of the fallen wall at c. 29.8–30.3 MASL (Figs. 9. 35). The bricks in the collapsed section were removed and those still intact will be reused to repair the Ishtar Gate. The layer with brick fragments may also come from this modern collapse of the same wall. The bottom of the original wall was established during the German excavations as +5.68 or 31.18 MASL and the reconstructed part of the wall stands on a small concrete base, here marked as 31.0 MASL. Below these modern layers are ancient layers of clayey sand, sandy clay, and clay (Figs. 8. 11. 12).

3.3 Profile 3 north, west section

21 The three profiles in the northern direction: Profiles 3 north, west section, 5 north, centre stairs, and 7 north, east section, cover the accessible profile from west to east of the complete 32 m wide area of the Processional Street in front of the northern façade of the Ishtar Gate. However, Profile 5 is not in line with the other two, but some metres to the north.

22 The west section of Profile 3 is c. 12 m wide and 7 m high (c. 29 MASL to 36 MASL), with the lower third c. 2–3 m in front of the upper two thirds (Fig. 13 compared with Fig. 19). The upper half of the profile is modern, probably a refilling from 1959 with loose sand, containing old and modern materials. In one spot, there is a small, much deeper pit with modern fill including modern brick fragments. There are several alternating sand and clay layers, in two places separated 2 m apart with thinner white layers. There are traces of a compaction layer at c. 31.7 MASL; the layer is rising in a western direction. The compaction layer was heading towards a mudbrick structure now removed due to the present construction work (Figs. 9. 10. 14. 15. 16. 17. 18).

23 The lower of the two thin white layers (Fig. 18) has been tested for its composition; it consisted of lime with very little gypsum.¹³ It is not clear if this was just a layer of lime mortar, or if the layer consisted of reed mats covered with lime.

24 The mudbrick structure, about a metre high with the top at 32.2 MASL, seems to have been built in two sections, each c. 50 cm high. The western side of the structure is a façade, the eastern side has a compacted layer. The southern side has been cut, probably in connection with the retaining wall constructed in 1959. The northern side is problematic; on the upper half it looks like there was a continuation with compacted material; the lower half seems to be a façade. Below the mudbricks, there is partly a baked brick structure. Also, 1.5 m in a northern direction, there seems to be a baked brick continuation. The structure may have been much longer in the north-to-south direction and may have been a subsurface 2.0 m thick supporting wall like the structure in the east (see Profile 8). Alternatively, if the original south façade was not so far away, it may have been a subsurface foundation for another, no longer existing structure.

3.4 Profile 4 north, west of the stairs

25 The west side of the south-to-north stair profile is 7 m high (c. 29 MASL to 36 MASL) and up to 13 m wide (Figs. 16. 19. 20. 21. 22). It shows essentially the same levels as Profiles 3 and 5 (Figs. 13. 23), but from another perspective. We can see the upper modern infilling, the clay and sand layers, and the compacted layer at 31.7 MASL. Noticeable is the change in the lower third when passing in a northern direction; the four different layers stop and are replaced with clay alone. In Profile 5 the unified clay structure is even clearer.

3.5 Profile 5 north, centre of the stairs

26 This profile shows the central section of the 32 m wide profile of the Processional Street in the area north of the Ishtar Gate façade; for the other two sections see Profile 3 and Profile 7. The section is c. 7 m high (c. 29 MASL to 36 MASL) with its lower third c. 7 m wide and the upper two thirds c. 9 m wide. Due to the modern staircase, this section is situated north of Profiles 3 and 7 and is stepwise retracting up to 13 m at the top (Fig. 23 compared with Figs. 19. 26). The upper third consists of modern refilling probably dating to 1959, with a mix of ancient material including seven broken Neo-Babylonian clay pots and two glazed brick fragments as well as some modern brick fragments and other material (Figs. 24. 25).

27 Under the modern infilling follows a modern cement injected layer on what first was considered to be an ancient compacted layer (as on Fig. 4). Later it was reconsidered as possibly being all modern, as there were no traces of such a compacted layer to the east or west thereof. A few metres to the north, ancient Level 3 of the Processional

13 Figgemeier 2023. A few larger pieces were analysed as mortar. The binder consists of lime with very little gypsum, just under 5 %, specifically, lime recrystallisation with a quartz and feldspar aggregate.

Street is preserved much higher, c. 35.8 MASL, where there is no modern infilling at all. However, the connection with that area was not exposed during the present construction work.

28 Almost all exposed parts of the centre of the street levels here consist of clay (Figs. 14. 16. 20. 21). This differs from the sections west and east thereof, see Profile 3 and Profile 7 (Figs. 13. 29), where the fill consists of alternating sand and clay layers.

29 Here are traces of two compacted layers, one lower at 31.2 MASL covering the whole area from the centre to the east, and an upper layer at 31.7 MASL attested both in the west and the east (Fig. 21). The upper compacted layer had its lowest area in the centre and an upward slope in both west and east directions, as can be seen on Profile 3 and Profile 7.

3.6 Profile 6 north, east of the stairs

30 The east side of the north-to-south stair profile is 7 m high (c. 29 MASL to 36 MASL) and up to 13 m wide. It shows essentially the same levels as Profile 7 but from another perspective (Figs. 26. 27. 28). There are, as elsewhere, two compacted layers attested at 31.1 MASL and 31.7 (Fig. 28).

3.7 Profile 7 north, east section

31 This section is c. 12 m wide and 7 m high (c. 29 MASL to 36 MASL) with its lower third c. 2–3 m in front of the upper two thirds (Fig. 29 compared with Figs. 26. 31). It shows the east section of the 32 m wide main west-to-east profile of the Processional Street; for the west and centre parts see Profile 3 and Profile 5. The upper approximate third is modern infill probably dating to 1959 when the retaining wall was constructed. Various layers of clay and sand follow (Fig. 30). In the exposed lower third, there is also a thinner, up to 6 cm white layer. There are two compacted layers (Fig. 28), a lower one at 31.1 MASL and an upper one at 31.7 MASL somewhat rising in an eastern direction where it is connected to a 3.3 m thick mudbrick wall built from the Ishtar Gate in a northern direction, as seen in Profile 8.

3.8 Profile 8 east

32 This section is c. 15.4 m wide and c. 4 m high (c. 29 MASL to 33 MASL) and situated c. 2–5 m in front of the ancient brick wall (Fig. 31 compared with Fig. 29 and Fig. 34). On the eastern side of the exposed area there are traces of two compacted layers near the Ishtar Gate at 31.4 MASL and 32.4 MASL. It seems reasonable to assume that these are the same layers as attested elsewhere at slightly lower elevations, given there is a slight slope downwards from the gate in a northern direction and also a slope downwards towards the centre of the street from the east, especially for the upper layer. Layers of sand and clay are discernible, but the details are not so clear. A c. 75 cm high mudbrick wall was built in a north-to-south direction on the lower compacted layer. At least in the south, the second compacted layer was on top of the mudbrick wall (Figs. 28. 32. 33).

33 In the background is an old 6.0–9.0 m thick north-to-south brick wall with a foundation at c. 32.4 MASL. The wall with its continuation is standing on the upper compacted layer, see Profile 11 for a discussion of the wall. The continuation of the wall to the Ishtar Gate can be followed in Profile 9.

3.9 Profile 9 south, east section

34 The southern profile of the exposed area in the eastern section is c. 6 m wide and 7 m high (29 MASL to 36 MASL). It shows the two compacted levels and the mud-brick wall between these two layers (Fig. 34 with Figs. 32, 33). On the upper compacted layer, the 6.0–9.0 m thick south-to-north and 3.0 m thick west-to-east baked brick walls with foundations 32.4 MASL and 32.4–32.6 MASL were built in relation to the middle street level. Apparent is the slope of the short west-to-east brick wall bordering the much lower Ishtar Gate with a foundation at c. -5.0 = 20.5 MASL. The slope is probably (at least partly) due to settlement of the south-to-north wall of Profile 11 in the very high infilled area up to 32.6 MASL with some 12 m of additional infilling under the wall. The idealised drawing from the German excavations in Fig. 5 does not show any slope. Compare the similar but not so well-preserved slope of the wall in Profile 1.

4 The side walls

35 The lower parts of the walls in a northern direction on both sides of the Ishtar Gate, already shown on Profile 2 and Profile 8, were more exposed during the following construction work in June to July 2022 than during any previous excavation. Profile 10 and Profile 11 show the exposed walls sometimes with coverings immediately in front of them. Modern constructions indicated in green on the profiles include the precast concrete foundation for the new upper retaining wall at 31.48 MASL and the planned infilling and creation of a new surface at 32.44 MASL. The upper parts of the short south connecting walls were already discussed above in connection with Profiles 1 and 9.

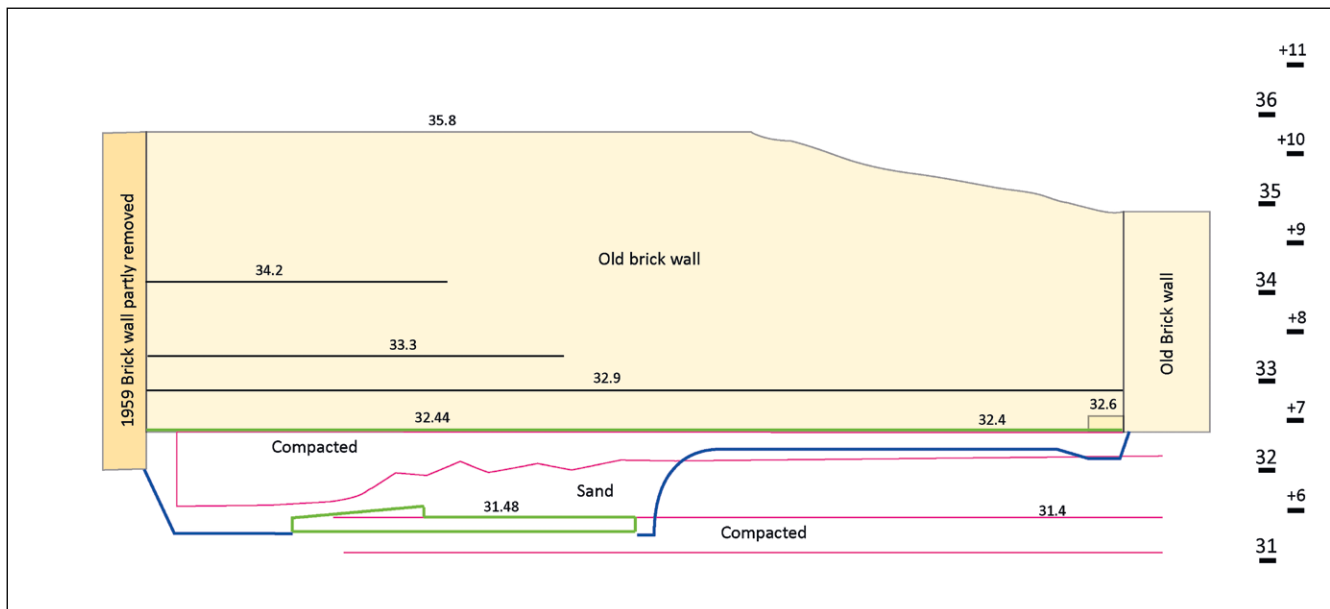
4.1 Profile 10 west

36 The west wall as it now stands is mostly reconstructed with only minor original parts (Figs. 35, 36). The exposed part south of the 1959 retaining wall is 15.4 m long and c. 5 m high (c. 31 MASL to 36 MASL). Due to the brick miners' activities taking out most inner parts of the 5.0–5.6 m thick brick wall, the German excavators found only three sections preserved of a thin façade of the thick brick wall, for which compare Profile 2.¹⁴ The northern of the preserved sections had the top at +8.05 = 33.55 MASL during the German excavations and is now preserved to an almost flat height at 32.5 MASL. The middle section was much higher when excavated at +11.06 = 36.56 MASL, now it is only 32.7 MASL. The third section was standing even higher at the excavation, at +11.95 = 37.45 MASL, which is at most 6.4 m above the foundation at 31.0 MASL. That section, which had later collapsed and fallen in an eastern direction, was now excavated with the core up to 4.2 m from the original wall position and there were fragments even further away (Figs. 9, 35). The collapsed wall section had the top at c. 29.8–30.3 MASL.

4.2 Profile 11 east

37 The façade of the eastern wall, originally 6.0–9.0 m thick, is much better preserved than the façade of the western wall (Figs. 37, 38). Almost everything that can be seen is original brickwork. The exposed part south of the 1959 retaining wall is 15.4 m long and c. 3.5 m high (c. 32.4 MASL to 36 MASL). During the German excavations the top reached somewhere between +11.66 = 37.16 MASL and +9.37 = 34.87 MASL. The present top is at 35.8 MASL, so some of the original top bricks have been removed in

14 Wetzels 1930, Taf. 24.



37



38

earth. This rather sloppy work gives the impression that it was a foundation never meant to be seen. There are two less apparent surface irregularities in the northern part of the wall at 33.3 MASL and 34.2 MASL.

Fig. 37: Profile 11, wall east of the Ishtar Gate. Compare Figs. 31-38. The ancient wall itself is still standing after the German excavations. The complete wall was later reconstructed slightly higher up to 35.9. Under the wall there are compacted, sandy, and compacted layers. Modern fill and a new precast concrete foundation are at 31.48 (green) for the new retaining wall immediately in front of its façade. A new surface will be constructed at 32.44 (green)

الشكل ٣٧: المقطع الجانبي ١١، الجدار شرق بوابة عشتار. قارن الشكلين ٣١ و٣٨. لا يزال الجدار الأصلي نفسه قائماً بعد التنقيبات الألمانية. أعيد بناء الجدار بأكمله في وقت لاحق ليصبح أعلى قليلاً بارتفاع حتى 35.9. تحت الجدار تظهر طبقات بالتوالي من الأعلى للأسفل: مدكوكة، رملية ومدكوكة. يوجد ردم حديث وأساس جديد من الإسمنت المسبق الصب (باللون الأخضر) عند ارتفاع 31.48 للجدار الاستنادي الجديد أمام واجهة الجدار الأصلي مباشرة. سوف يتم إنشاء أرضية جديدة عند ارتفاع 32.44 (باللون الأخضر)

Fig. 38: Wall east of the Ishtar Gate. Ancient wall with foundation exposed. Compare Figs. 31-33, 37. 5 July 2022

الشكل ٣٨: الجدار شرق بوابة عشتار. جدار أصلي ذو أساسات مكشوفة. قارن الأشكال ٣١-٣٣ و٣٧. ٥ تموز ٢٠٢٢

5 The middle street level of the Processional Street

⁴⁰ The middle street level (Level 4 on Fig. 6) consisted of a very high infilling under a subgrade with two compaction layers. Above these, but not preserved in this area, were the brick base and stone pavement. A middle street level pavement at c. +7.0 or 32.5 MASL has not been found, as it was probably taken out when the street was raised. The pavement of the middle level probably consisted of the same stones partly attested as reused on the highest street level and mentioned in inscriptions. All remains around the middle street level are either from the infilling and subgrade under the middle street level, or from the infilling under the next upper main level after the middle level was abandoned, the pavement and brick base removed, and the street raised. The German excavations reported some remains of a brick layer inside the front gate that would have served as a base for the stone pavement.¹⁵

⁴¹ Some details of the presented infill and subgrade may need additional comments. As already mentioned, the German excavations in 1902 unearthed the remains of an archive of cuneiform clay tablets thrown away in the infilling in front of the eastern tower of the gate at +1.5 or 27.0 MASL. The latest date written in these texts corresponds to January 592 BC. This means that the infilling could not be earlier but occurred rather soon thereafter, possibly already in 592 BC.

⁴² The low subsurface mudbrick walls served as strengthening sublevel walls keeping the infilling together. This is clear especially for the mudbrick wall between 31.4 MASL and 32.2 MASL on the east side where the terrain was much lower further on in an eastern direction.¹⁶ Another feature of the site is the presence of white layers, which are essentially lime layers. These layers are found at 30.0 MASL in the west and the east, as well as 32.0 MASL in the west. It is possible that these layers are the remains of mats that were used to keep the fill together and protect against cracks.¹⁷

⁴³ There are two compacted layers. The uppermost layer had the elevation 31.7 MASL in the centre of the street, somewhat higher with a slope on both sides, and up to 32.4 MASL (or even 32.6 MASL) on the highest east side, in the south. The lower of the two layers was often less compacted and with less slope, between 31.1 MASL and 31.4 MASL. The slope of the layers was probably intended to a large extent, although some settlement cannot be excluded. The downward slope from the Ishtar Gate in a northern direction was clearly intentional and can be seen along the street all the way to c. 200 m north of the gate. The slope downward from the sides towards the centre of the street may serve two purposes. As will be seen below, the stone pavement was thicker in the centre of the street and required more vertical space in order to be on the same level as the sides. Another reason would be to have a slope on the top level of the pavement extending from the walls on both sides of the street to the centre of the street so that rainwater collecting at the base of the walls could flow to the centre. However, part of the slope may well be secondary due to settlement of the street, mostly because of pressure from higher levels of the infilling of the street, as has been shown for other parts of the Processional Street at the Ishtar Gate.¹⁸

⁴⁴ The German excavations recorded a series of soil layers in front of the Ishtar Gate.¹⁹ It is difficult to compare the old German documentation with the present results, since during the older excavation it was not recorded where these levels were situated, whether in the centre of the street or on one of the sides. It was probably simply

¹⁵ Koldewey 1918, Taf. 5a Pflasterrest, Taf. 7a Ziegelbruch; Novotny – Weiershäuser 2024, Nebuchadnezzar II 2. 5. 6. 7.

¹⁶ Wetzel 1930, Taf. 24. 27 Schnitt C–C.

¹⁷ See Profile 3 with footnote 12.

¹⁸ Pedersén 2021, Fig. 5.27.

¹⁹ Koldewey 1918, Taf. 6b.

assumed that the infilling was even, something the present work has shown not to be the case. The recorded layers were clay up to c. +4.4 or 29.9 MASL, followed by brick fragments up to +4.8 or 30.3 MASL, refilling up to +6.1 or 31.6 MASL, clay up to +6.7 or 32.2 MASL, sand up to +9.1 or 34.6 MASL, and clay up to +10.6 or 36.1 MASL. This could be seen as a simplified version of our results with the best fit for the sides, but not for the centre of the street.

45 The upper parts of the middle street level with pavement and base have not left any recognizable traces as they were probably all taken away before raising the street to higher levels. As already referred to above for this street level inside the Ishtar Gate, there was probably a base or subbase consisting of one or several layers of bricks with asphalt as mortar between the bricks, which were themselves possibly also covered by asphalt.²⁰ In other sections and levels of the Processional Street, the base could consist of one, two, or three brick layers, alternatively a layer of brick fragments, or even be lacking.²¹ As will be seen below, the base may be lower in the centre and higher with additional bricks on the sides. The comparison could therefore leave some alternatives for the street level here.

46 The pavement consisting of stones was placed in sand on a brick base. German and Iraqi excavations had found pavement stones *in situ* on the Processional Street in two places. One long section of stone pavement is now exposed some 700 m south of the Ishtar Gate on an upper street level beside the precinct of the ziggurat at c. +3.0 to +4.0 or 28.5 MASL to 29.5 MASL. The southern stretch consisted of breccia stone c. 60 × 60 cm large and up to 13 cm thick. Another short section with a few stones in the pavement was exposed by German archaeologists just north of the Ishtar Gate in the present construction area, on a much higher level, +15.5 or 41.0 MASL; these stones were removed when the street was lowered in 1958. In the northern stretch, near the Ishtar Gate, the pavement in the centre of the street consisted of large limestone blocks 105 × 105 cm and a thickness of 33 to 35 cm with inscriptions of Nebuchadnezzar stating that he adorned the Processional Street with limestone (*aban šadī*, mountain stone). On both sides of these were breccia stones, 66 × 66 cm and 20 cm thick, also with Nebuchadnezzar inscriptions, this time stating that he adorned the street with breccia (*turminabandū*) stones.²²

47 Three large fragments of such limestone blocks, two of them with inscriptions (Figs. 39, 40), were discovered during the present construction work immediately under the lower concrete platform at 29.30 MASL between the now demolished 1959 staircase and the Ishtar Gate. They had probably been taken from above and hidden there during the construction of the lower platform of concrete around 1984. There is no ancient street level here, the nearest is the middle Level 4 some 3.2 m higher up. The inscribed blocks, 57 × 40 × 35 cm and 66 × 40 × 30 cm, both have remnants of the usual Nebuchadnezzar inscription for the limestone blocks of the Processional Street.²³ The better preserved of the two fragmentary slabs still has 33 % of the text, the other has 12 %.

48 The complete text in translation, mostly following Novotny – Weiershäuser 2024, Nebuchadnezzar II 5 reads as follows:

Nebuchadnezzar, king of Babylon, son of Nabopolassar, king of Babylon, am
I. The Street of Babylon for the procession of the great lord, the god Marduk,
I beautified its walkway with slabs quarried in the mountain (limestone). O
Marduk, my lord, grant me a long life!

20 Koldewey 1918, Taf. 5a Pflasterrest.

21 Koldewey 1918; Pedersén 2021, 208–232.

22 Pedersén 2021, 231–232 Figs. 5.26, 5.34; Novotny – Weiershäuser 2024, Nebuchadnezzar II 2. 5. 6. 7.

23 Novotny – Weiershäuser 2024, Nebuchadnezzar II 5, 6.



39



40

Fig. 39: Large fragment of limestone block, 57 × 40 × 35 cm, in a secondary context, with an inscription about the Processional Street. 19 December 2022

Fig. 40: Another large fragment of limestone block, 66 × 40 × 30 cm, in a secondary context, with an inscription about the Processional Street. 19 December 2022

الشكل ٣٩: قطعة كبيرة كبير من كتلة
من الحجر الجيري أبعادها ٥٧ × ٤٠ × ٣٥
سم، اكتشفت ضمن سياق ثانوي، تحمل
نقشاً يدور موضوعه حول شارع الموكب.
١٩ كانون الأول ٢٠٢٢

الشكل ٤٠: قطعة كبيرة أخرى من كتلة من
الحجر الجيري أبعادها ٦٦ × ٤٠ × ٣٠ سم،
اكتشفت ضمن سياق ثانوي، تحمل نقشاً
يدور موضوعه حول شارع الموكب. ١٩
كانون الأول ٢٠٢٢

49 The more complete of the texts (Fig. 39) found at the Ishtar Gate is here recorded in transliteration with the missing parts added:

[^dAG-ku-dúr-ri-ú-šu-ur LUGAL TIN.TIR^{ki} DUMU]

[^dAG-IBILA-ú-šu-ur LU]GAL TIN.TIR^{ki} a-na-ku s[u-le-e]

[ba-bi-lu^{ki} a-na ša-da-ḥa] EN GAL ^dAMAR.UTU i-na SIG₄ NA₄ ši-[ti-iq]

[KUR ú-ban-na-a tal-lak-ti] ^dAMAR.UTU EN TIN [da-rí-a šur-kam]

50 The thick limestones in the centre of the street require some arrangement for the thinner breccia stones beside them. There are examples of extra brick layers under the breccia or just more sand. The already mentioned slope of the compacted subgrade may also help here. It is possible that the low mudbrick wall on the sides of the street may have served as foundations for thinner stones on the sides. The better preserved breccia plaster in the southern part of the Processional Street beside the precinct around

the ziggurat area can also illustrate the possibilities; here as an extension on the east side of the breccia pavement there was a brick pavement on the same level as the stones.²⁴ At the end of the German excavations, all large limestones in the Ishtar Gate area were left on site, as can be seen on a 1923 Royal Air Force photo of the area.²⁵

51 Two of the almost complete limestone blocks, 1.05 × 1.05 m, are still visible today near the Ishtar Gate. Both were found during the German excavations at a level at least four meters higher compared to their current position. Both have the same Nebuchadnezzar inscription as discussed above with variants. North of the gate, the German excavators found three complete limestone blocks Bab 19927–19929 and one fragmentary Bab 19930, *in situ* on street Level 0, the reworked street Level 1, on +15.30 or 40.80 MASL. They were left *in situ* until 1958 when the upper street levels were taken away. Bab 19927, the westernmost of the three complete stones, is now placed upside-down on the exposed brick base of street Level 3 about 4 m lower than originally found for illustration purposes for visitors (Fig. 1).²⁶ On the south side of the gate, the German excavators found another similarly complete limestone block, Bab 25928, but not *in situ*, next to the street at +15.14 or 40.64 MASL. When Iraqi archaeologists cleaned the Level 3 street, this stone was also placed some 4 m lower on approximately the same location. As the German excavators noted, the stone has reworkings on the upper surface with some straight and curved incised lines.²⁷

52 The possible elevation of the top of the stone pavement of Level 4 depends to some extent on our view of the existence and thickness of the base. The limestone blocks were up to 35 cm thick and placed in some 15 cm thick sand bedding. If there was a base of brick, it may have consisted of one, two, three or four layers of bricks, resulting in a height between 40 cm and zero – the latter if no brick base was constructed for the layer. This would allow for a pavement with a base of 50 to 90 cm to be placed above 31.7 MASL in the centre of the street at the same level. The top of the stone pavement of the middle level in the centre of the Processional Street some ten metres north of the Ishtar Gate would then be between 32.2 MASL and 32.6 MASL, or +6.7 and +7.1. This can be compared with the correction layer in the east wall at 32.9 MASL or +7.4. If the wall is from the same period as the middle level, the correction layer may be showing the approximate street level next to the walls. An alternative would be that the wall only had the foundation here and belonged to a higher level. Elsewhere in Babylon, such correction layers in walls often agree with the floor and street levels. Other criteria may possibly help establish a more precise and reasonable height in the future.²⁸

6 The pedestals: both round and square

53 The remains of several pedestals have been unearthed in connection with the Ishtar Gate. The pedestals were probably placed in pairs, one on each side of the street. This allows the probable placement of more than the unearthed pedestals. Above the street level, the pedestals possibly rose a metre or two and on the top a figure was placed, either a statue or some other symbol. Well known from inscriptions is the erection of bulls and dragons made of copper at the city gates of Babylon – which are the same animals depicted on the walls of the Ishtar Gate. The pedestals, like the Ishtar

24 Pedersén 2021, 211–215, Figs. 5.15. 5.16.

25 AP73 Babylon, <<https://www.flickr.com/photos/apaame/34761911254/>>.

26 Koldewey 1918, 8–9, Abb. 6–7, Taf. 5; Wetzel 1930, Taf. 24 (KALKST PFL.), 27 (+15,30 KALKSTEIN); Pedersén 2021, Fig. 5.26–5.29, 5.30.

27 Koldewey 1918, Taf. 1 (+15,14 Kalksteinplatten mit Inschrift).

28 Pedersén 2021, 211–213. 223. 231–232.

Gate itself, were rebuilt and raised every time the Processional Street was raised. The preserved parts of the pedestals are therefore like the Ishtar Gate abandoned structures which served as foundations for higher pedestals when the street was moved to higher elevations.²⁹ Several pedestals, daises and altars were placed along the streets in the city according to texts and excavations.³⁰ The square pedestals in Babylon are normally from the earlier Neo-Babylonian period, and round pedestals or pillars are generally dated to the Achaemenid, Hellenistic, Parthian and Sasanian periods. An exception may be the round pedestal in front of the Ishtar Gate.³¹

54 The well-known western round pedestal was unearthed by German archaeologists in connection with the Ishtar Gate in 1902 and has since then been a landmark due to its preserved height and unusual cylindrical shape. The preserved round remains of the pedestal may have served as a foundation for a pedestal in connection with street Level 2 and Level 1, or even Level 0, but is now exposed together with street Level 3. The cylinder is standing on soil at +11.20 = 36.80 MASL c. 70 cm above the Level 3 street. It has a diameter of 140 cm. The top under current conditions is at +14.57 = 40.07 MASL, with 42 brick layers or 367 cm height. At the excavation, the three lowest brick layers of the cylinder and the soil below were surrounded by a c. 1.4 m high, one brick thick, unbaked mudbrick mantel (Figs. 41. 42). What looks like minor changes and disturbances at the approximate street Level 2 may be seen on old photos (Fig. 41), but after recent cleaning and repointing this is no longer certain (Fig. 42). Until the Level 1 street was removed in 1958, the connection with the Level 1 street was easier for visitors to understand; the pedestal now standing as a separate monument on the Level 3 street is hardly possible to understand correctly without an explanation. The mudbrick mantel at the base was replaced over the years with modern bricks, and recently they have again been replaced with ancient baked bricks, some of them even with Nebuchadnezzar inscriptions, nice looking, but giving an impression of visible monumentality and secure dating for a construction originally rough and always underground and without secured dating.

55 The whole currently visible construction was probably never intended to be seen, but rather served as a foundation a bit above the Level 3 street when filling in for the Level 2 street or for the Level 1 street where the now missing upper part was exposed. The construction may also have been built down from the Level 2, or Level 1, or even Level 0 street in order to have a stable foundation for a pedestal on that level. The bricks were square bricks cut to be rounded on one side, and later brick miners may have considered them useless as they were no longer square enough to be reused in a later construction.³² The mudbrick walls of the first attested version of the North Gate some 200 m in a northern direction also had a foundation on a layer of soil 90 cm above the same Level 3 street.³³ Despite its cylindrical form the pedestal may have a late Nebuchadnezzar dating or belong to a later redevelopment of the area in Achaemenid, Hellenistic or Parthian periods, like Level 0.

56 The eastern square pedestal was not excavated by the German expedition, which only unearthed enclosing upper mudbrick walls east and partly north and south thereof; the pedestal itself remained covered with soil under the uppermost Levels 1 and

29 Pedersén 2021, 71–79, Figs. 2.28. 2.32

30 George 1992, 64–69; Pedersén 2021, Fig. 6.9.

31 Pedersén 2021, 71–74. 257–270, Figs. 2.28. 6.9. 7.1. 7.9–7.12. 7.15. 7.18.

32 The remains of the pedestal are standing on soil above the Level 3 street. Two recent examinations below the pedestal pronounced different opinions about whether there was a continuation below or not; one said there is just soil below, the other that after a narrower section, the full size continues downward; this was denied by the first.

33 Pedersén 2021, 230–231.



41

Fig. 41: The remains of the round pedestal with a diameter of 140 cm, excavated in 1902. The mudbrick mantel around the base has been opened in order to show the bottom of the baked brick cylinder. The uppermost brick layer of the pedestal is missing on the photo. 1902

الشكل ٤١: بقايا الركيزة المستديرة التي يبلغ قطرها ١٤٠ سم والتي اكتشفت في عام ١٩٠٢. وقد أزيل قسم من القميص المحيط المبني من اللبن من أجل إظهار قاعدة الأسطوانة المبنية من الآجر. طبقة الآجر العليا للركيزة غير ظاهرة في الصورة. ١٩٠٢



42

Fig. 42: The remains of the round pedestal, 42 brick layers high in 2016 before conservation. The mudbrick mantel around the base of the baked brick cylinder is mostly eroded. There is earth and some traces of the mudbrick mantel under the cylinder. August 2016

الشكل ٤٢: بقايا الركيزة المستديرة التي يمتد ارتفاعها على ٤٢ مدمكاً من الآجر في عام ٢٠١٦ قبل الترميم. تعرّض معطم القميص المبني من اللبن والمحيط بقاعدة الأسطوانة المبنية من الآجر إلى التآكل. هناك تراب وبعض بقايا القميص المبني من اللبن تحت الإسطوانة. آب ٢٠١٦

2 of the Processional Street.³⁴ The structure may have been exposed in 1958 in connection with the Iraqi lowering of the Processional Street from Level 1 at +15.5 = 41.0 MASL to the now exposed Level 3 at +10.6 = 36.1 MASL (Figs. 3. 4). There is a possibility that the exposure may have occurred earlier, but so far, no documentation about that has been found. The square pedestal was excavated in connection with street Level 3 but continues down to lower levels, as was recently established during the present work (Figs. 43. 44).

57 The now unearthed remains consist of a structure of 105 × 105 cm with the topmost preserved brick at +10.43 = 35.93 MASL. In other words, it is a construction of basically 3 × 3 square baked bricks of Nebuchadnezzar size including appropriate half bricks in every layer (Figs. 43. 44). The size of the pedestal is the same as the large limestone blocks on the Processional Street beside the pedestal. The mortar used was the traditional asphalt covered with a bit of soil. The pedestal continues downward and the lower parts could not be examined for more than about a metre. It is possible that the foundation of the pedestal may have been as deep as the Ishtar Gate and then rebuilt in tandem with the gate like other pedestals and the altars in front of the temples in Babylon. It was found standing c. 1.5 m above street Level 3 (Fig. 3),

but almost all of it above the street level has disappeared since then. In connection with the present construction work the square pedestal has been reconstructed to a height of c. 1.0 m.

58 The brick layers three to six from the preserved top of the pedestal, from +9.92 = 35.42 MASL to +10.26 = 35.76 MASL, had a mud plaster covered with white lime-gypsum. This may have continued upwards on what is no longer preserved, but probably not downwards as there are no traces in this direction. The plaster is here considered to be modern because the bottom of the lime-gypsum was dissipating out on the surrounding subsurface, but further studies and analysis of the materials may be needed. About half a metre higher up connected with the same Level 3, the Ishtar Gate has traces of a white gypsum plaster covering of the baked bricks.³⁵ However, what is preserved on the gate is a coarse primer layer applied directly onto the bricks, and not with a primer mud layer in between. On wall sections lower than the white layer on the gate, the German excavators reported what looks like a layer of mud. The excavators suggested this may have been placed as protection on the wall when the street level was raised.³⁶ An alternative may be to see the gypsum on the gate as attempts to enhance the look by means of painting on a finer layer before the creation of the final versions with glazed bricks. Another example of white plaster has been found at the entrance to the South Palace.³⁷

34 Wetzel 1930, Taf. 24.

35 Koldewey 1918, 21–22. 51, Abb. 17. 20. 21, Taf. 23. 27; Winkels 2013, 44–47, Appendix I 7, 20–26. Almost pure gypsum mixed with 50 % gypsum aggregate. Lime content less than 5 %. Compare footnote 12 with a white layer of almost pure lime with less than 5 % gypsum, the opposite mixture.

36 Wetzel 1930, 21–22, Abb. 21, Taf. 23. 27.

37 Pedersén 2021, Fig. 3.11.



43

Fig. 43: The reduced remains of the square pedestal, about 105 × 105 cm, as re-excavated in 2021. The single topmost brick is *in situ* at +10.43 = 35.93. 25 June 2021

الشكل ٤٣: البقايا المتأكلة للركيزة المربعة التي تبلغ أبعادها ١٠٥ × ١٠٥ سم عند إعادة الكشف عنها في عام ٢٠٢١. تقع أعلى لبنة لاتزال في موضعها الأصلي عند ارتفاع ٣٥.٩٣ = ١٠.٤٣+ حزيران ٢٠٢١



44

Fig. 44: The square pedestal as re-excavated in 2022 after cleaning and repointing before reconstruction. On four upper brick layers there are remains of mud plaster covered by white lime-gypsum. 11 January 2023

الشكل ٤٤: أعيد في عام ٢٠٢٢ الكشف عن الركيزة المربعة ومن ثم تم تنظيفها وترميمها قبل إعادة بنائها. تحمل المداميك الأربعة العلوية بقايا ملاط طيني مغطى بالجبس الأبيض. ١١ كانون الثاني ٢٠٢٣

7 Conclusions

59 The main result concerns the upper part of the original infilling and the sub-grade of street Level 4 originally constructed in 592 BC or just thereafter. There were two compacted layers of the subgrade. The lower compacted layer was rather flat at c. 31.1 MASL, the upper compacted layer had a slope towards the centre of the street measuring 31.7 MASL in the centre and up to 32.2–32.4 MASL, or even 32.6 MASL on the highest preserved west and east sides. The pavement had been on the upper compacted layer. There were no recognisable traces of any brick base or of the stone pavement of the middle Level 4 street. The three large fragments of limestone pavement discovered under modern concrete were not in any original position and would probably have been taken from upper levels and deposited here around 1984.

60 With the help of the remains of the pavement of the Processional Street on other elevations and also at other spots, possible reconstructions could be suggested with a pavement of 105 × 105 cm limestone blocks with 66 × 66 cm breccia stones beside them. In the centre of the street, the elevation of the top of the pavement would be at c. +6.7 to +7.1 or 32.2 MASL to 32.6 MASL depending on the thickness of the brick base. On the sides next to the walls a possible street level could be expected at c. +7.4 or 32.9 MASL considering the slope from the sides of the street towards the middle, the thinner breccia pavement on the sides, and the corrected wall brick layers on the east wall. These elevations can be compared with the new middle platform for visitors at 32.44 MASL.

61 In the studied area and layers around Level 4 of the Processional Street, there was a clear difference between the c. 7 m wide centre of the street and the two sides beside that centre. The central section consisted almost exclusively of clay. The clay area is not completely centred with respect to the gate but somewhat eastward, something at least partly to be expected due to the turning of the street in an eastern direction as it continued northwards in that area. The two side sections had a number of layers,

mostly alternating sand or clay. The sides sometimes had thin white layers, possibly the traces of reinforcement by means of mats of reeds or similar material covered with lime-gypsum.

62 Additional examinations were conducted on the pedestals related to the higher street Level 3 and above. The c. 105 × 105 cm square pedestal exposed by the Iraqi excavations was placed on the east side of the Processional Street in front of the Ishtar Gate. The square seems to have been connected with various street levels and served as a base, possibly for a statue or symbol. The now exposed remains are related to street Level 3 and have a Nebuchadnezzar date, like that of the street.

63 The remains of the round pedestal were already exposed by the German excavations. It consists of a 367 cm high baked brick cylinder with a diameter of 140 cm standing on soil c. 70 cm above the Level 3 street. Not standing on or grounded for that street level, it served as a foundation for a pedestal on Level 2, Level 1 or Level 0. What type of possible continuation there may be downwards to lower street levels has not been proven, but there was probably a pendant to the east pedestal also during earlier periods. The round form is more common in later periods, but a Nebuchadnezzar construction cannot be excluded. The rough construction indicates that the cylinder served as a foundation for a better shaped pedestal at higher levels.

64 A few metres in a northern direction from the studied area, the original street Level 3 is preserved up to +10.5 or 36 MASL, but in the studied area the upper section consisted of modern refilling after the 1959 construction of the retaining walls and staircase. During the German excavations this area was quite different; the street north of the gate was preserved up to Level 1 at +15.5 or 41 MSAL, i.e. 5 m higher than the now exposed upper street Level 3 or 8.5 m higher than the discussed middle Level 4. All here discussed street levels and all related constructions at the Ishtar Gate bear witness to the successive large-scale monumental building activities during the reign of Nebuchadnezzar II, when Babylon was the capital of the Neo-Babylonian empire (Figs. 4. 5. 6).

65 Olof Pedersén wrote the main text and provided drawings and photos; Ammar Al-Tae, the representative of SBAH, was present all the time and made many observations and photos; Thierry Grandin was responsible as architect for the design and construction work and provided drawings and photos.

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ZUSAMMENFASSUNG

Die Prozessionsstraße am Ishtar-Tor in Babylon: Die Konstruktion der mittleren Ebenen unter Nebukadnezar II.

Olof Pedersén, Ammar Al-Tae, Thierry Grandin

Der Wiederaufbau der modernen Schutzmauern nördlich des Ishtar-Tores ermöglichte es, die Profile um die 592 v. Chr. oder kurz danach errichteten mittleren Ebene der Prozessionsstraße zu untersuchen. Diese Ebene stimmt mit dem Niveau überein, auf der sich die mittlere Besucherplattform an den neuen Schutzmauern befindet. Zudem konnten weitere Informationen über den Bau der Straße, ihre Pflasterung sowie die runden und viereckigen Postamente gewonnen werden.

SCHLAGWORTE

Ishtar-Tor, Prozessionsstraße, Nebukadnezar II., Straßenkonstruktion, Postamente

الخلاصة

شارع الموكب عند بؤابة عشتار في بابل: إنشاء المستويات الوسطى خلال عهد نبوخذ نصر الثاني
أولوف بيدرسن - عمّار الطائي - تييري غراندين

مكّنت إعادة بناء الجدران الاستنادية الحديثة إلى الشمال من بؤابة عشتار من دراسة المقاطع الجانبية حول المستوى الأوسط من شارع الموكب والذي شُيّد في عام ٥٩٢ ق. م. أو بعد ذلك العام بفترة وجيزة. ويتطابق ارتفاع هذه المستوى مع ارتفاع منصّة الزوّار التابعة للجدران الاستنادية الجديدة. كما تمّ استخلاص المزيد من المعلومات المتعلقة بتشيد الشارع ورصفه والركائز المستديرة والمربّعة.

الكلمات المفتاحية

بؤابة عشتار . شارع الموكب . نبوخذ نصر الثاني . تشيد الشوارع . الركائز

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