

**THE ACROPOLIS AT BABYLON:
A RECONSTRUCTION DURING THE LATE 6TH CENTURY B.C.**

A Thesis

by

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ABSTRACT

This thesis reconstructs the royal Acropolis at Babylon and selected adjacent areas as they likely appeared during the late 6th century B.C. Today, all that remains of Babylon is scant archaeological ruins of building foundations. It is difficult to appreciate that the site had been home to even a provincial town, much less one of the most magnificent capital cities the Middle East has ever known. Through the use of archaeological reports and iconography, the author analyzed the architecture to determine the most probable appearance of Babylon's lost monuments. The product of this research reconstructed the massive palatial complexes and their defensive enclosures in the form of a three-dimensional digitized AutoCAD model. This interpretation postulates the most accurate portrayal of the Babylonian Acropolis during the height of its occupation. By examining the fortifying architecture, this study offers a unique perspective into the defensive nature of the Babylonian mindset and through it shows how Babylon came to be considered one of the marvels of its time.

DEDICATION

To my Aggie darlin'

ACKNOWLEDGEMENTS

When I started this project, my desire was to see ancient Babylon as Alexander once saw the city following his victory at Gaugamela. As an undergraduate student, my fascination with his exploits into the ancient Middle East prompted me to study his long campaigns and the many locations he visited. Upon his arrival in Babylon, my fascination turned to amazement. The accounts of the ancient writers presented the image of an exotic city unlike anything back in Greece. At the feet of Alexander and his army lay a city spread out across the horizon with towering walls, luxurious palaces, and the Hanging Gardens, a site made famous during his time and that would later be called one of the Seven Wonders of the Ancient World.

As part of my interest in Archaeological Conservation and Historic Preservation, I started construction of a physical scale model detailing Babylon. This led to many conversations with Dr. Michael Seymour at the British Museum. Dr. Seymour encouraged me to document my model and explain my rationale and decisions for creating the reconstructions. I would like to thank Dr. Seymour for his suggestions, research assistance, and encouragement.

Even before my acceptance into graduate school, my future committee chair Dr. Donny Hamilton provided incredible guidance and support. Upon acceptance, Dr. Hamilton opened up many more opportunities for me to continue my interest in Archaeological Conservation and Historic Preservation. I am incredibly grateful to Dr. Hamilton for my position at the Conservation Research Laboratory as well as mentoring me in all aspects of our professional field. Of key significance to this thesis, Dr. Hamilton suggested that a digital rendering of Babylon might allow the documentation to progress more quickly.

To help create the digital model, I would like to give immense thanks to Glenn Grieco who spent countless hours over several semesters teaching me AutoCAD design and rendering. Without his assistance, I cannot imagine having completed the reconstructions.

A special thanks is due to Jim Jobling, who not only taught me invaluable skills in archaeological conservation (and common sense), but who gave me immense flexibility in my work schedule to accommodate my studies and the time necessary to write a thesis. Additionally, although the physical model is not discussed in this thesis, before Jim, the Babylon model project did not have a leg to stand on; quite literally that is, Jim built the table base upon which the physical model sits.

I would like to thank my other committee members. To Dr. David Carlson, who allowed me to write a thesis chapter as one of his class papers and who gave me the opportunity to lecture about that paper to one of his undergraduate courses. To Dr. Wayne Smith, who also encouraged me to explore digital design in archaeology. To Dr. Robert Warden, who as my out of department committee member, offered his expertise in architecture and Historic Preservation.

Thanks to my friend and fellow graduate student John Albertson who assisted me throughout the numerous computer problems that sometimes held up my digital reconstructions. All John asked for was a palace. Nebuchadnezzar's Northern Palace has been reconstructed in his honor.

Thanks also to the immense support granted by the Anthropology department staff, Cindy Hurt, Rebekah Luza, & Marco Valadez.

Finally, thanks to my loving wife Angela, who has for years tolerated my babbling about Babylon and endured countless absent evenings while I worked. To Angela for her support and patience, I dedicate this thesis.

“Such is the size of the city of Babylon, and it had magnificence
greater than all other cities of which we have knowledge.”

-Herodotus 450 B.C.

Book 1.178

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CHAPTER I INTRODUCTION

In Middle-Eastern antiquity, the site of Babylon represented the center of the known world. Situated on a wide portion of the Euphrates River, this strategic location allowed control of trade from Northern Assyria down through Akkad, and into Sumer. Great kings who ruled from this city, created vast empires that united or conquered the diverse kingdoms and cultures of this region.

Examining Babylon in modern day, it is difficult to understand that the site had been home to even a provincial town, much less one of the most magnificent capital cities the Middle East has ever known. Visually, Babylon has very little to offer of this past greatness other than large mounds of mud that dot the landscape (Fig. 1). This lack of visual material is due to the utilization of mud brick in the overall construction. After Babylon's decline, the unmaintained structures slowly cracked and crumbled. Although rain is less common in Mesopotamia, its presence over hundreds of years combined with the western desert winds, eroded and liquefied much of the brick material back to a natural earth state. The mud gathered around these structures and buried them. Within these mounds, remains of the ruined walls are often still there, preserved and hidden by their own debris.

In contrast to the common neighborhoods, royal structures primarily used oven fired or "burnt" bricks. These superior bricks lasted much longer than their unfired counterparts. Following their abandonment, the royal monuments became easily accessible brick quarries. For over two thousand years, local inhabitants dismantled royal structures such as palaces, temples, and defensive walls. Like the common neighborhoods, erosion helped cover these royal areas, but did not stop the process of brick robbing. The long history of this process left the ruins almost completely devoid of their superstructures. Often nothing remained except the lowest foundations buried deep within the site. Yet even these did not escape damage. After the removal of the buildings' superstructures, brick robbers tunneled deep into the foundations and

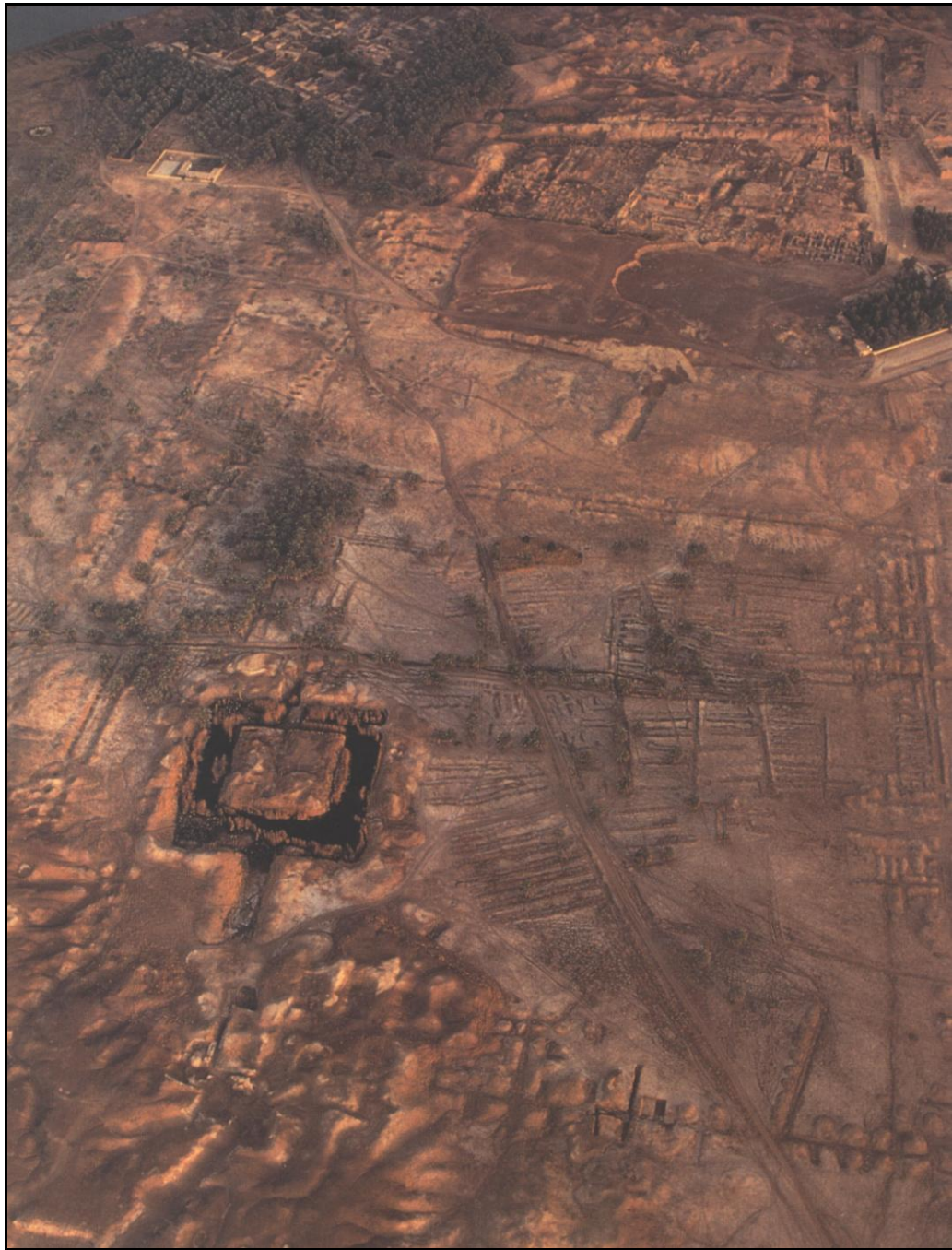


Fig. 1: Aerial view of Babylon in the 1970's. Ziggurat Etemenanki left center, Southern Palace upper right; by Georg Gerster/Comstock, from (Wood 1997: 93). This image shows the desolation that is Babylon and quantifies why a reconstructive study is necessary.



Fig. 2: Inverted ruins from the Southern Palace (Koldewey 1914: 83, Fig. 54).

plundered material below the floor levels (Koldewey 1914: 82). The result has left an odd appearance to the excavated site. Remaining floors and courtyards often appear to be floating above the ruins while the original walls resemble deep trenches. In a sense, the ruins are physically inverted with nothing more than a structural footprint to indicate what was once there (Fig. 2).

Of the remains that survive, most date to Babylon's final native dynasty from the 6th century B.C. (Kuhrt 2001: 77); a time when great kings such as Nabopolassar and Nebuchadnezzar II rebuilt the city as the imperial capital (Marzahn 1992: 12). Excavations at Babylon successfully established partial ground plans for most of the major buildings. Understanding these structures and their architecture is important because this period represented the peak of Babylon's political power and habitation. Of the three palaces discovered, the plan of the southernmost is largely intact and represents the primary surviving example of a royal neo-Babylonian residence (Kuhrt 2001: 77). Built upon the Acropolis, this structure combined with others around it, created one of the most fortified and expansive citadels from antiquity. Yet aside from a few featureless sketches, very little attempt has been made to understand how these structures once appeared.

In recent decades, the Iraqi Directorate Board of Antiquities initiated a few reconstructions. Built over the original foundations, these structures attempted to follow the archaeological plan. However, due to a lack of architectural understanding, these reconstructions do not accurately show the buildings they seek to represent. No more than hollow shells, the new structures lack detail and are not complete. Of the original monuments, their final appearance remains a mystery.

More detailed reconstructions are possible. The main excavations conducted by Dr. Koldewey of the German Oriental Society as well as his successors established not only plans of these structures, but their intended purpose as well. Understanding how these structures related to each other and changed over time allows for other areas lacking any material evidence to be reconstructed. For example, if a more complete predecessor wall fulfilled a specific purpose as a quay wall along the river, the wall's less intact successor might have followed a similar if not expanded path. Determining the topographical changes that took place over time help predict how such a structure might have evolved. This extends not only to infrastructural walls, but to royal residential monuments as well. Commonalities in architecture from multiple surviving buildings can often be applied to poorly preserved counterparts. While this can establish a complete footprint of a building, existing iconography can assist in restoring the missing superstructure. Although highly stylized, Assyrian murals have left many depictions of how Mesopotamian structures once appeared. Stylization can be overcome by understanding the limits of the building material used in construction. Wall thicknesses are key indicators in mud brick construction. These thicknesses can help signify monumental importance through increased verticality or indicate that some buildings required more defensive protection than other buildings. Again, examining the building's purpose helps explain some of these features and allows for a plausible reconstruction.

Using these methods, this thesis will analyze and reconstruct the massive palatial complexes, their defensive enclosures, and key supporting areas upon Babylon's royal Acropolis during the late 6th century B.C. To guide the reader, images of both the

archaeological site plans and the theoretical reconstructions will accompany the discussions. The reconstructions were created using a digital AutoCAD imaging program that was superimposed over the excavation site maps. This helped determine different vantage points in order to compare and contrast surrounding structures and to better understand their combined relationships. After accounting for the different elevations, the reconstruction rose out of the archaeological site plans in a three-dimensional form. The final contribution of this research postulates the most accurate portrayal of the Babylonian Acropolis during the height of its occupation. By examining the fortifying architecture, this study offers a unique perspective into the defensive nature of the Babylonian mindset and through it shows how Babylon came to be considered one of the marvels of its time.

CHAPTER II

HISTORY OF BABYLON

Brought to Prominence

Although already in existence for centuries, Babylon first came to prominence during the reign of King Hammurabi, the sixth king under the Amorite Dynasty between 1792-1750 B.C. Early in Hammurabi's reign, Babylon served as a small client state to the powerful Assyrian King Shamshi-Adad. This changed when Hammurabi consolidated control of the surrounding kingdoms while maintaining a face of allegiance to the more powerful Assyria. After the death of Shamshi-Adad, his Assyrian successors proved to be weak and inefficient rulers. Hammurabi seized the opportunity by mobilizing his armies and overpowering the northern nation. With most of Mesopotamia under his control, Hammurabi successfully created the first Babylonian Empire. Babylon became not only the region's political capital, but the religious and cultural center as well. Hammurabi promoted Babylon's patron deity Marduk and beautified the city and its temples as a way to signify the capital's new found importance and prosperity (Oates 1986).

The Decline

After Hammurabi's death, the empire slowly declined. Successive rulers proved weak and unable to hold onto the vast territories that Hammurabi controlled. Focused on maintaining inner control rather than outward expansion, the empire finally came to an end in 1595 B.C. when the Hittites invaded from the north and sacked Babylon (Oates 1986).

With the fall of the Empire, the greatness that Hammurabi created slipped away and with it, Babylon fell into obscurity. During these lesser times, Babylon continued under the Kassite dynasty, a conquering people from outside of Mesopotamia. Adopting the local language, culture, and religion, these new conquerors for all intents and purposes became Babylonian themselves. Their dynasty lasted over four centuries during which time, the kings broke down the ancient pre-dynastic rivalries between the

former Sumerian city-states (Oates 1986: 86-7). This ultimately unified and stabilized Babylonia. In these cities, the Kassite kings spent great efforts to beautify and restore their sanctuaries. Similarly, but on a larger scale, the Kassites reconstructed Babylon as their regional capital and the city once again became known as the chief religious center within Mesopotamia.

Due to political pressures both in and outside of the kingdom, the Kassite dynasty fell in 1159 B.C. The centuries that followed were turbulent and politically unstable. Babylon passed between many short dynasties that fought for and took control of the region. By the 9th century B.C. Babylonia once again became a client kingdom of the expanding Assyrian Empire. This changed in 729 B.C. when Assyria moved beyond its borders and annexed the region. Due to the harsh policies of the Assyrian kings, Babylonia consistently rose up in rebellion. Commonly, insurrection brought on by other nations had devastating consequences. However, due to the Assyrian's respect for Babylonian culture, Babylon avoided similar treatment. Even in previous eras, despite Babylon's repeated capture and occasional looting, the city's status as the chief Mesopotamian religious capital saved the city from complete destruction. This changed under the rule of the Assyrian king Sennacherib. During a rebellion, the Babylonians captured Sennacherib's son and handed him over to the rival Elamite nation for execution. Already frustrated with his inability to control the southern nation, and now devastated by the loss of his son, the Assyrian king captured Babylon and systematically destroyed the city (Oates 1986: 119). Sennacherib wrote:

“I destroyed the city and its houses, from foundation to parapet, I devastated and burned them. I tore out the bricks and earth of the inner and outer walls (of the city), of the temples and of the ziggurat, as much as there was, and I dumped these into the Arahtu (Euphrates). I dug canals through the midst of that city, I flooded it with water. I made its very foundations disappear, and I destroyed it more completely than a devastating flood. So that in future days the site of that city and (its) temples would not be recognized, I totally dissolved it with water and made it like inundated land” (Luckenbill 1924: 83-4).

While signs of this destruction are not clear in the archaeological record, the lack of Assyrian era ruins suggests that there must be some truth to this statement. It can only be imagined the shockwaves that this event must have caused, not only Mesopotamia, but the greater Middle East. Perhaps fearing divine retribution, several of Sennacherib's sons assassinated him in 681 B.C. His chosen successor Esarhaddon quickly set about reconstructing the ruins of the ancient city. Focusing on the religious sanctuaries as well as the outer defenses, work progressed quickly. In describing his actions, Esarhaddon detailed that he rebuilt Marduk's temple, the Esagila, following the same exact plan, carefully ensuring no deviation (George 1992: 123).

Following Esarhaddon's death in 669 B.C., his sons continued work on Babylon. By their father's command, Ashurbanipal was to rule Assyria in the north and Shamash-shuma-ukin was to reign over Babylonia. However, conflict between the brothers ultimately brought war back to the region. Ashurbanipal seeking dominance over both kingdoms defeated his brother Shamash-shuma-ukin following a long siege of Babylon. Between this conflict as well as those on its borders, Assyria was left weakened.

The Neo-Babylonian Revival

Tired of tyrannical foreign kings and the continued threat of destruction, a successful rebellion re-established local control to Babylon. In 612 B.C., under the leadership of Nabopolassar of the Chaldean clan, the Babylonians united with neighboring kingdoms and overthrew Assyria during this period of weakness. Retribution proved harsh and swift. Assyrian cities suffered not only capture, but annihilation. Following the fall of Assyria's main capital at Nineveh, the allies torched the city and redirected the Khorus River through the ruins; an act perhaps carried out as mirror punishment for Babylon's earlier destruction (Van De Mieroop 2004: 3).

Out of Assyria's ashes, Babylon gained both territories and became the center of a new empire. Building upon the foundations started by Esarhaddon, the new rulers restructured and redesigned Babylon into an imperial capital using the captured wealth of their Assyrian predecessors. Although king Nabopolassar started this work, his son

Nebuchadnezzar II (605-562 B.C.) brought Babylon to its architectural height. Construction efforts resumed on a scale unlike any other seen in Babylon's history. Perhaps indicative of the Babylonian mindset of this period, the city's defenses served as the primary focus. Nebuchadnezzar completely rebuilt and expanded these structures at an intensive rate. Throughout the city, construction restored numerous temples which enabled cult centers to again draw pilgrims to Babylon. To welcome these pilgrims and to mark the ceremonial entrance to the city, Nebuchadnezzar rebuilt the ancient Ishtar Gateway using beautifully glazed blue bricks decorated with raised animal motifs. Additionally, to serve the new royal family, the administration, and the imperial garrison, Nebuchadnezzar constructed three great palaces on elevated platforms; two of which overlooked the city and one lay in the countryside. Yet more impressive, Nebuchadnezzar completed the ziggurat Etemenanki, a structure that both Esarhaddon and Nabopolassar attempted to reconstruct, but left incomplete. Located at the city's heart, the finished structure reached a magnificent height of 91 m (Schmid 1995).

Later accounts stated that at this time, Nebuchadnezzar built a magnificent hanging garden structure for his Median born wife, a structure that became known as one of the Seven Wonders of the Ancient World (Finkel 1988). Although the gardens placement and grandeur remain undiscovered, this example as well as others within the city support the later statement of Herodotus which proclaimed that, "Such is the size of the city of Babylon, and it had magnificence greater than all other cities of which we have knowledge" (1.178).

Destruction of Babylon's Monuments

Similar to Hammurabi's kingdom, the new Neo-Babylonian empire was short lived. As Babylon's wealth and prestige grew, so did the envy of her neighbors. In 539 B.C., Babylon fell to the might of Persia. Never again did Babylon undergo a massive effort to build up the city's monuments comparable to what it had undergone under the former Chaldean kings. Although Babylonia initially experienced a smooth transition to the new rulers, later Persian kings increased taxation significantly to take advantage of

the region's wealth. Reduced coffers as well as a Persian affinity to monotheism led to the neglect of Babylon's many temples and sanctuaries. In addition, Herodotus described harsh punishments that Babylon's defenses and temples faced during periods of insurrection (1.80, 3.159).

When Alexander the Great captured the city from the Persians in 331 B.C., he declared Babylon his capital and initiated plans to turn the city into a magnificent maritime trading center linking India and Egypt (Champdor 1958: 122). Part of Alexander's construction efforts involving dismantling the decaying ziggurat Etemenanki. By Alexander's time, the structure had suffered great damage by the Persian kings; most notably Xerxes, who is believed to have made the monument inaccessible after intentionally destroying the great staircases (Schmid 1995: 68, 76, 92-93).

For a time it seemed as though prosperity might return to the city. Unfortunately, Alexander died before many of his projects could commence. With no successor appointed, civil war dragged Babylon into conflict as Alexander's generals fought for control of his empire. In the end, the conflicts damaged the defenses, reduced large areas of the city to ruin (Oates 1986: 140) and burned one of the three great palaces (Reade 2000: 203). Here, this history takes a slight divergence. Commonly many historians portrays that rather than rebuilding Babylon, the victorious general Seleucus decided to leave the city and built a new capital on the Tigris River. Seleucus declared an edict that required much of the population to follow him. This act effectively spelled the end of Babylon. Without a royal presence to maintain the city, the remaining population dwindled down to the size of a small town. This view is only partially true. Seleucus did construct his new capital of Seleucia on the Tigris following his victory. With the new capital officially recognized in 275 B.C. (Oates 1986: 141), most of the Babylonian administration followed him; however Babylon remained far from abandoned. The new Seleucid dynasty kept Babylon as one of their main royal residences (Kuhrt 2001: 84-5). As a major population center, as well as the location of the Babylonian New Year's festival, the Seleucid kings restored many of the damaged

temples, including Marduk's temple of Esagila (Oates 1986: 141-143). Around 269 B.C., building efforts reconstructed a portion of the Peribolos (Schmidt 1973: 165) that once surrounded the ziggurat, converting the structure into a massive fortress (Wetzel 1957: 30; Klengel 1962: 47). The kings even enriched the city with a Greek quarter, complete with a theatre and agora (Schmidt 1941: 832-833) signifying their intention to stay.

The true and final decline of Babylon came after the Parthians captured Babylonia from the Seleucid kings. As a primary fighting ground for Parthian civil wars between 161-122 B.C., Babylon continuously passed between rulers and in the process suffered great damage. Fleeing from the wars and a resulting devastated economy, the population gradually abandoned the city. Only small villages remained between the once great defensive walls. These walls, as well as the temples and palaces that once marked Babylon's prestige quickly fell into ruin. Dilapidated and likely roofless for considerable time (Koldewey 1914: 212), Marduk's dedicated priests finally abandoned the formerly great Esagila temple in the late 1st or early 2nd century A.D. (George 1997: 136).

After abandonment, Babylon's royal structures served as brick quarries for generations of late Parthian, Sassanid, and Arab inhabitants. By the early medieval period, only a scant settlement occupied the area above what was once the Esagila temple (Koldewey 1914: 15, 212). While legends of the site might have prevailed, there likely remained very little physical evidence to portray Babylon's past glory. Eroded and buried from years of western desert winds, Babylon disappeared under the barren landscape.

CHAPTER III METHODOLOGY

Archaeology

In order to reconstruct the Babylonian Acropolis, the primary methodology will be an examination of archaeological data recovered in the early to late 20th century.

Under the German Oriental Society, archaeologist Robert Koldewey retrieved the primary data through large scale excavations undertaken between 1899 to 1917 (Koldewey 1914; 1918; 1931; 1932). While earlier work had been attempted, the excavations mostly comprised of digging for archaeological relics. Koldewey performed the first true systematic and scientific studies of Babylon. Focusing on Babylon's defenses, palaces, and temples, Koldewey established a true understanding of the city's layout, something that had not been known for nearly 2,000 years. He published expansive reports of his excavations including thorough map compilations, however he died in 1925 before completing his final work. Dr. Wetzel finished Koldewey's last publication (1932), so that we might examine what he discovered.

Later archaeologists carried out excavations on a smaller scale, however their findings proved just as important in creating the overall picture of what was once Babylon. In 1956, Heinrich J. Lenzen continued excavations in Babylon under the German Archaeological Institute. Originally uncovered by Koldewey, Heinrich focused primarily on the Homera mound and the Hellenistic Theatre. His excavations revealed the full plan of the theatre and examined several renovations conducted during the Parthian period (Heinrich 1984). A restoration of this scale suggested to Heinrich that despite the loss of a capital status, Babylon continued to flourish longer than previous scholars expected (1984: 112). Although far from the Acropolis that this thesis discusses, Heinrich's understanding of the site made his commentary essential to any work previously accomplished.

In 1962, Hansjorg Schmid, also under the German Archaeological Institute, focused on the remains of the great ziggurat Etemenanki (Schmid 1995). Schmidt

proved that Etemenanki had been rebuilt repeatedly over the course of Babylon's history. Alexander the Great dismantled the decaying structure in an attempt to rebuild the monument to its former glory. The archaeological record suggested that Alexander cleared the site for reconstruction, but that restoration work was never initiated. Alexander likely died before construction could commence (Oates 1986: 140). Schmid also helped understand later periods of habitation within this former sanctuary. His discussions of changes during the Seleucid Dynasty and late Parthian period determined the continued maintenance of the Peribolos that once surrounded the ziggurat.

The most recent scientific archaeological work took place in 1974, 1977, and 1987-1989, under the supervision of Giovanni Bergamini from the Museum of Torino in Italy and the Iraqi-Italian Institute of Archaeological Sciences (Bergamini 1977). Bergamini completed modern surveys of known monuments and initiated new excavations in the southern portions of the city. Of primary significance to this thesis, Bergamini conducted excavations and research that detailed the ancient water levels of Babylon. Understanding the Euphrates River and how it affected Babylonian construction changed entire theories on accepted topography.

From these excavations, much commentary followed; mainly focusing on Koldewey's interpretations of the site. For each area discussed, this commentary will be included to help determine the most accurate way to reconstruct the Acropolis.

Reconstructing Mud Brick Walls

Like most buildings in the ancient Middle East, Babylon's inhabitants utilized mud brick as the primary building material. To restore Babylonian structures, the usage of this material requires brief discussion.

Sun-dried mud bricks have been used in Mesopotamia as early as 5000 B.C. (Oates 1969: 116; Lloyd 1984: 71-72; Van Beek 2008: 9). With most settlements placed along the Tigris and Euphrates Rivers, mud was easily accessible and inexpensive. Sun-dried mud brick structures could last hundreds of years if continuously maintained, however upon neglect, the structures quickly deteriorated.

Between 3000-2000 B.C. builders introduced fired or "burnt" brick mainly in ziggurats and areas that required water proofing (Van Beek 2008: 10). This superior building material required less maintenance and outlasted most unfired structures. The great Ziggurat at Ur, built by Ur-Nammu in the 22nd century B.C. contained both a mud brick core and an outer casing of fired brick (Woolley 1939: 98-9). The superiority of this material is evidenced by the ziggurat's survival long after Ur was abandoned and fell into ruin.

In the 6th century B.C., king Nebuchadnezzar II sought to immortalize his reign through the longevity of his monuments. To ensure this, the king constructed most of his buildings with burnt brick. This included the palaces, the temples, and the new defenses. Due to the extra expense in firing, the scale upon which Nebuchadnezzar produced and utilized these bricks represented an innovation for the time. Unlike Ur, Babylon continued to be inhabited long after the city's decline. Rather than ensuring longevity, the higher quality of bricks resulted in the abandoned monuments becoming brick quarries.

Reconstructing the appearance of these looted monuments is challenging. However, traces of brick that lined foundation trenches or areas where wall remnants still existed allowed archaeologists to determine wall thicknesses. When examining ancient mud brick construction, wall thicknesses are key indicators towards a structure's purpose. These thicknesses can indicate a structure's monumental importance portrayed through increased verticality or signify variation of height within the same building. Other times, varying wall thicknesses indicated that some buildings required more defensive protection than others. This applied not only to defense, but for protection against the harsh Mesopotamian heat.

There is often question regarding the capabilities of mud brick construction. Durability and longevity aside, archaeologists tend to give rather conservative height estimates due to a traditional belief that the material cannot support a heavy weight (Van Beek 2008: 50,77). Although known to exaggerate, ancient Herodotus stated that Babylonian houses carried 3 or 4 stories (1.180). Although Dr. Koldewey acknowledged

that the excavated residential houses contained thick walls (1914: 240), he scoffed at the idea that the buildings could carry even a second storey much less several due to their mud brick construction (1914: 102). While the central courtyard in Babylonian houses made complete upper stories improbable, the idea of weaker construction is faulty. Dr. Van Beek, a specialist in mud brick construction, detailed a 400 year old mud brick building that continues in modern day to carries 7 stories. The structure, known as Beit Jarhum, is located in the country of Yemen and is not considered unique in its construction. At ground level, the walls are .86 m thick; far narrower than Neo-Babylonian houses. They reduce in width, slanting only on the outside until reaching .23 m at the seventh story. Aside from internal floors, this height is achieved without a skeletal frame. Supporting the structure, a foundation banquet 1 ½ times the wall's width lay beneath the ground level (Van Beek 2008: 110).

At an 18th-century B.C. temple in the northern Levant, Dr. Woolley discovered wall remnants 3.96 m thick. From this, he conservatively suggested that the building once contained two or more stories (Woolley 1953: 77). Van Beek stated that in terms of structural capabilities, Woolley's excavated temple could have raised 10-15 stories (2008: 408). Of course, Van Beek was not suggesting that the building attained this height, but only recognized that the material could sustain greater loads.

Like the Beit Jarhum house, the defensive walls of Babylon narrowed or “battered” as they rose in height (Koldewey 1914: 146). For example, the two inner city walls both leaned inward 2.5-3 cm for each meter (Kamel 1979: 148-9). This suggested that these walls rose significantly in height. The ancient Greek authors proposed amazing figures to Babylon's defensive walls. Herodotus, already known to exaggerate, stated a figure of 200 royal cubits, which converts to 102 m. Ctesias described a height of 50 fathoms or 91 m, while Cleitarchus stated 50 cubits, converted as 23 m (Reade 2008: 115). These descriptions are highly improbable, but portray that the impressive walls must have made an impression upon those that described them.

There is no doubt that Babylon contained tall defenses. In mud brick construction, great height made walls stronger and more difficult to dig through due to

heavy compression (Van Beek 2008: 37-8). Yet the walls required only a height tall enough to prevent easy scaling and wide enough to prevent quick penetration through mining. Since penetration through mud brick walls could be accomplished faster than walls of stone, defenders sought to never to let an enemy reach the fortifications in the first place. This explains why Babylon contained such elaborate and often seemingly repetitive defenses.

Unfortunately, studying the capabilities of mud brick construction advances this discussion only so far. Inevitably, when dealing with ancient foundations with little to no superstructure, reconstructed heights will always be conjectural. A plausible reconstruction can be achieved by understanding the significance of each building and how the architects intended that structure to fit in with those around it. In Babylon, proportion played a significant factor. For the purpose of this thesis, the order of the defensive structures helped determine how the buildings likely stood in proportion to one another. Throughout history, the concept of a fortress has changed very little. Starting from the outer fortifications, each sequential line of defense became increasingly more difficult to overcome. More often than not, this difficulty related to both height and strength. This ensured that if an attacking party scaled a wall and took control of an upper battlement, the attacking party still lay exposed to a proportionately higher second line of defense.

Like Dr. Woolley, this thesis takes a conservative estimate on the ratio of wall thicknesses to reconstructed heights, but not in the sense of weakness or limited capability. Just because a structure was capable of reaching certain heights, the requirements in a defensive scheme did not always make it necessary. More importantly, some inner defensive structures contained widths narrower than outer defensive structures. Since it is improbable that the defenses would reduce in height as one advanced into the city, the walls must be reconstructed in a manner which maintains an increasing defensive hierarchy.

To start a reconstruction, a conjectural number has to be presented to initiate a study of the probable defensive proportions. Surrounding inner Babylon lay three main

defensive walls. Excavations revealed that a surrounding moat was held back by a fortified quay wall, 4 m wide, constructed of fired brick. Two additional walls stood roughly 18 m to the south. Constructed of unfired brick, the outer Nemetti-Ellil wall and the inner Imgur-Ellil wall, stood 7 m apart and contained respective widths of 3.72 and 6.5 m (Koldewey 1914: 150-152). Imaginatively, Koldewey reconstructed these walls to approximately 10, 12, & 15 m tall (1914: 139, Fig. 87). While his proportions are believable, his theoretical heights present problems when later combined with his reconstructions on the Acropolis; mainly the Ishtar Gate and the Southern Palace. This thesis maintains Koldewey's proportions, however the heights have been reduced to approximately 9, 11, & 14 m tall. While a seemingly small reduction, these lower numbers ensured that these defensive walls proportionally did not rise higher than defensive structures on the Acropolis. These proportions will be explained later upon examining Babylon's structures in detail.

Iconography

The most useful data for reconstruction comes from iconography. Although little survives in Babylonia, much iconography has been recovered from murals found in Assyrian palaces (Fig. 3). These images depict Assyrian defenses and other Mesopotamian cities that they conquered. The Assyrian and Babylonian cultures mirrored each other in many ways including their architecture. While highly stylized and somewhat generic, these murals give indication of elements such as decoration and the placement of triangular defensive crenellations. Portrayed scenes of large defensive walls, upper blockhouses, and arched gateways display how Babylon likely appeared.

Perhaps the biggest clue to Babylon's defenses is found on a small rectangular gold plate recovered from a pillaged tomb built into the wall of Babylon's Southern Palace (Fig. 4). On this plate, a highly stylized gatehouse dominates the picture. Raised towers are topped by crenellated blockhouses much like those found in Assyrian art.

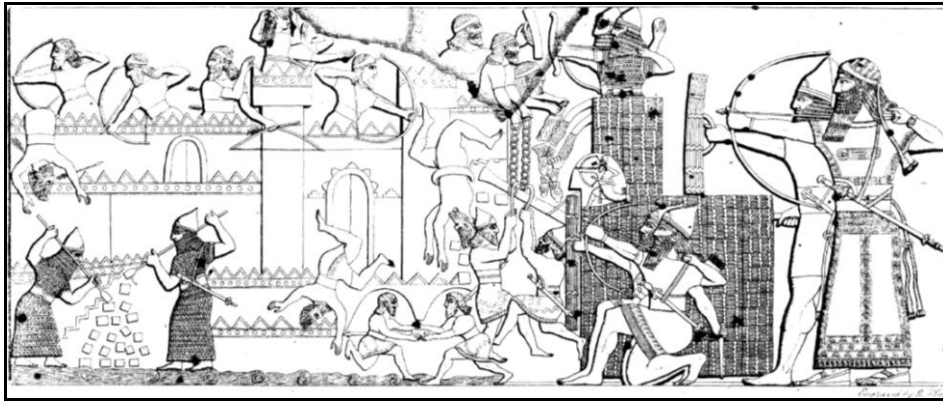


Fig. 3: Assyrian iconography displaying architectural elements (Layard 1853: Pl. 19).

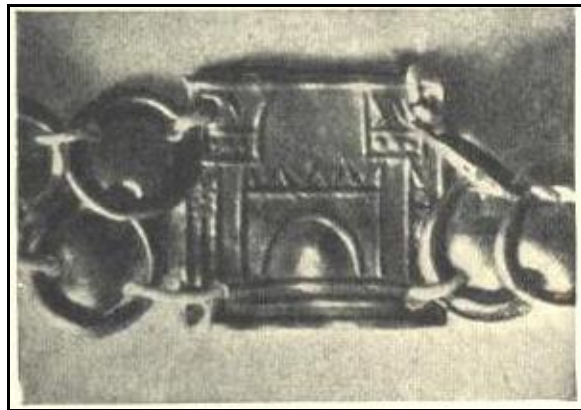


Fig. 4: Gold plate discovered in tomb (Koldewey 1914: 34, Fig. 20).
This image helps establish the appearance of Babylon's defenses.

The main difference is that rather than square defensive windows, circular loopholes of an undetermined purpose pierce the blockhouse exteriors. Unlike later haphazard burials dating after the palace fell to ruin, the architects carefully placed this burial at time of the palace's construction. The tomb's unique placement led Koldewey to believe that the interred individual was of great sentiment to Nebuchadnezzar; likely his father Nabopolassar (1914: 118-20). Although his true identity may never be known, this individual surely held great importance in the Babylonian court. From that, Koldewey assumed that the image represented a scene from Babylon; specifically the royal Ishtar Gate (1914: 34).

To overcome the stylization on the gold plate, several factors can be considered. The scarcity of wood and large stone in Babylonia would not permit overhanging blockhouses and battlements to reach far from the main structure. Instead, separation from the lower base could be accomplished using a single brick as the cantilever (Marzahn 1992: 16). A standard Neo-Babylonian brick measured 33 X 33 X 8.5 cm (Banks & Harper 1904: 221). Since half of the brick needed to rest on the lower base, the overhang likely measured only 16.5 cm. Additionally, the raised position of the blockhouse should be considered to be stylization, otherwise steps would be required to go into and out of each room before passing to the next section of the wall. Herodotus described these blockhouses as a row of one-roomed buildings constructed along the edge on top of the wall (1.179). Matching Herodotus' description, it is more likely that the top of the wall and the floor of the blockhouses were placed on equal footing. This allowed sentries to walk along the wall through numerous blockhouses without interruption.

Originating from Koldewey, the circular loopholes displayed on the gold plate, have become the accepted image of the Babylonian defenses. Although rare compared to the traditionally displayed square windows, other similar loopholes have been recovered from Assyrian murals (Figs. 5 & 6). The few examples that do exist suggest

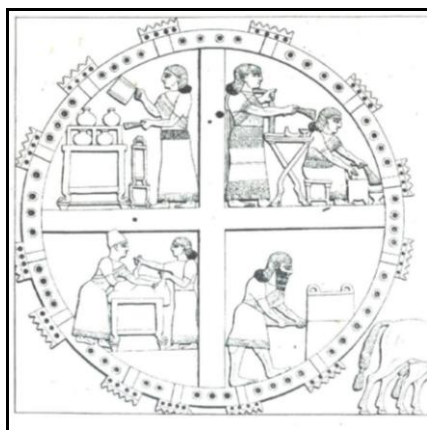


Fig. 5: Circular loopholes on round city wall. Cropped from Layard (1853: Pl. 13, 30).

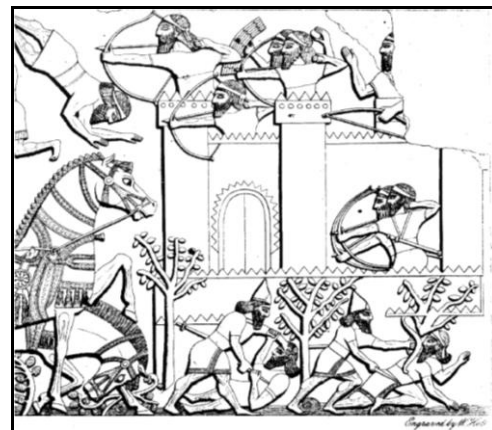


Fig. 6: Circular loopholes on defensive gatehouse. Cropped from Layard (1853: Pl. 13, 30).

that the design found in Babylon represented not just a stylized window, but a design actually used in other locations.

The most noticeable architectural feature in iconography are the crenellations that seem to crown every building; a feature that even extended to altars and stone stelae (Handcock 1969: 152). Due to the apparent abundance of these crenellations, understanding how they appeared is essential to this reconstruction. The sharp triangles displayed in the iconography was likely a result of stylization due to an artist viewing the structures from a distance. Similar to the overhang, Babylonian architects likely based the design of the parapet's merlons and crenellation spaces on the measurements of a standard Neo-Babylonian brick and only altered the design through the use of a half brick. Surviving examples of stone merlons found in Assyrian and Persian sites help provide a basis for reconstruction (Fig. 7). After Koldewey recovered considerable fragments from the Ishtar Gate, the Pergamon Museum in Berlin spent great efforts to reconstruct the monument in detail; including these parapets (Fig 8). Based on the brick measurements, the museum divided the merlons into three sections or steps; each three bricks tall (Fig. 9). While the first step measured the width of a standard brick, the lower two steps each increased by the width of a half brick. Combined the merlons measured

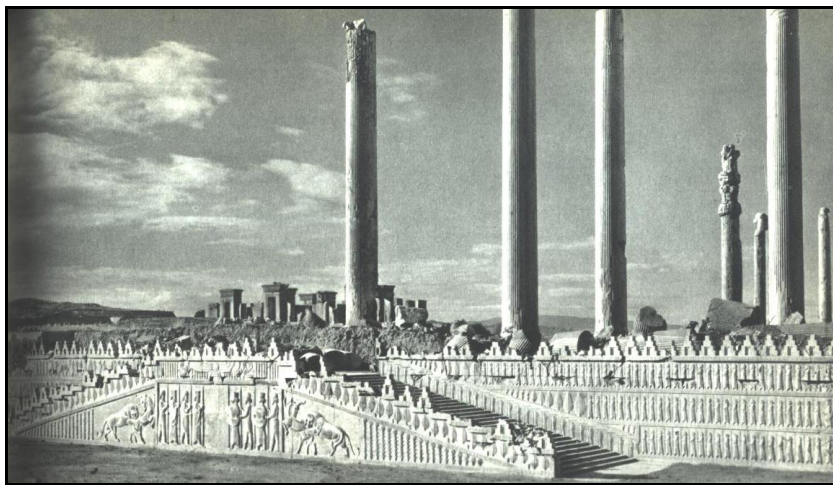


Fig. 7: Stone merlons at Persepolis (Parrot 1961: 195, Fig. 243). Surviving examples of stone merlons found in Assyrian and Persian sites help provide a basis for reconstruction.



Fig. 8: Reconstruction of Ishtar Gate (Marzahn 1992: 23, Fig. 9). This image portrays the parapets that this thesis utilized in the digital reconstructions. Photograph by Jurgen Liepe, Vorderasiatisches Museum, G. Gerster, H. Schmid.

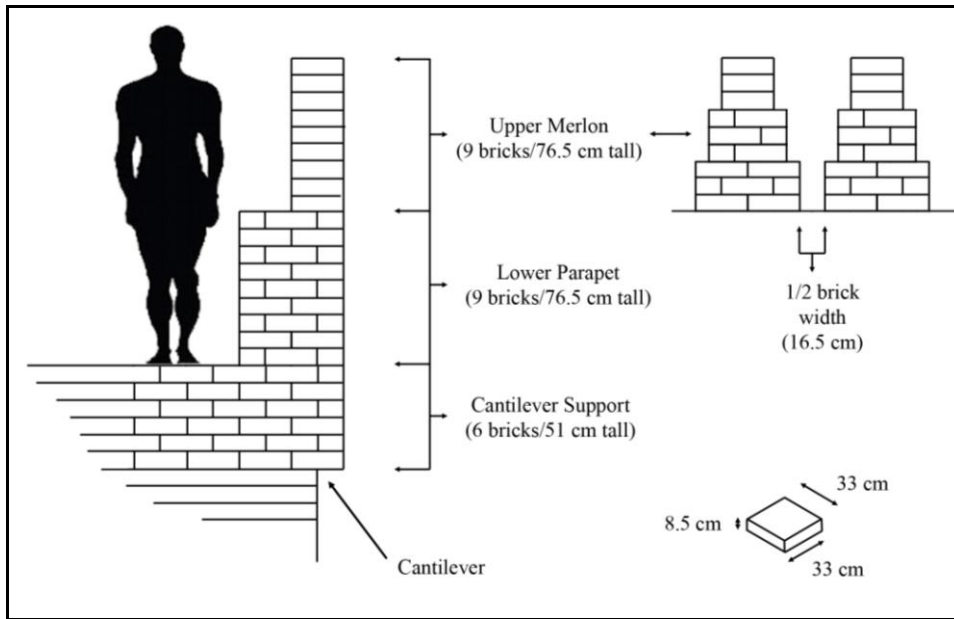


Fig. 9: Reconstruction of Babylon's battlements.

76.5 cm or 9 bricks tall. To the left and right, the museum's reconstruction spaced other merlons at a half brick's distance away. To support these merlons, the lower parapet wall also measured 76.5 cm tall, theoretically giving defenders an inside battlement protection of 1.53 m or a height of 18 bricks. Viewed from outside the wall, the battlement received an extra five courses of brick above the cantilever brick for extra stability (Six bricks total), bringing the entire battlement to a height of 2.04 m. While this is only an interpretation, given the available data, the museum's reconstruction is plausible. The museum used measurements from a known standardized building material and created a reconstruction that gave adequate protection to sentries along Babylon's defenses.

Archaeological Study Model

Using the collected data, this project utilized an digital AutoCAD imaging program to create the massive palatial complexes and their defensive enclosures (Fig. 10). Rather than creating an aesthetically pleasing picture, the reconstruction served as a study model. After accounting for the different land elevations and archaeological remains, the reconstruction rose out of the excavation site plans in a three-dimensional form. This helped determine different vantage points in order to compare and contrast the heights of surrounding structures and to make changes when necessary. The final reconstruction portrays how the Acropolis' structures physically connected to each other at different elevations and how the architects manipulated the landscape to accommodate the overall plan. Matching the iconography, the crown of each structure received battlements designed in the same manner as those in the Pergamon Museum.

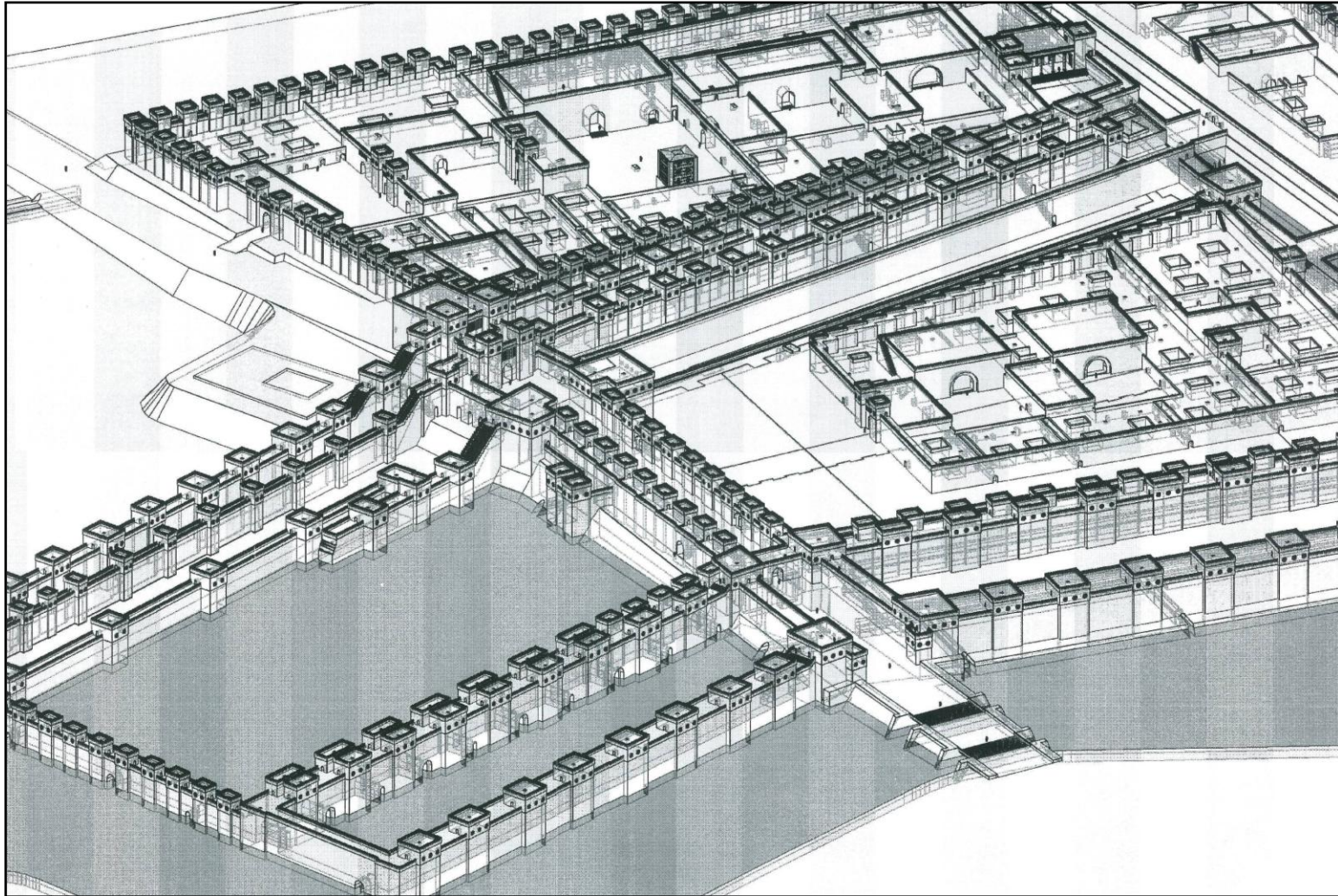


Fig. 10: AutoCAD image of Babylon's Acropolis & surrounding structures.

CHAPTER IV

TOPOGRAPHY

The Acropolis

Bisected north to south by the Euphrates River, Babylon's inner urban area consisted of a massive rectangle (Fig 11). Covering approximately 400 hectares (George 1993: 735), three great defensive walls surrounded the inner city separating the bulk of the population from the outside fields. The expansive cult complex of Marduk privately enclosed the ziggurat Etemenanki at the city's heart, while nearby, Marduk's main temple Esagila remained accessible to the population.

Situated on the northwest corner of Babylon's eastern half, the Kasr mound or Acropolis once formed the royal citadel of the Chaldean kings. Two artificial platforms, a southern one approximately 12.5 m high (See p. 41) and a northern one 8 m high (Koldewey 1914: 156) supported two great palaces. One served the administration and the other as a royal residence (Reade 2000: 206). On the west, a fortress connected to the two palaces and provided a defensive line along the river (Battini 1997: 38-39). Intermixed around these palaces, high fortifications protected access and defended Babylon's northern approach. Of chief importance, this location contained the sacred Ishtar Gate through which the New Year festival led in procession towards the sanctuary of Marduk (Marzahn 1992: 43-46). Although varied in elevation, this area appeared as one high unified enclosure to the city below. Following the conquest of Alexander the Great, the Macedonian-Greeks likened this impressive citadel to examples at home, deeming it the "Acro-polis" (Koldewey 1914: 14; 1931: 1), or in Greek, the "high-city" (Connolly & Dodge 1998: 252).

Selecting a Period for Reconstruction

This reconstruction focuses on Babylon's royal Acropolis during the late 6th century B.C. Although the Neo-Babylonian Empire had already fallen, the final monuments survived and the succeeding Persian rulers added to their architecture.

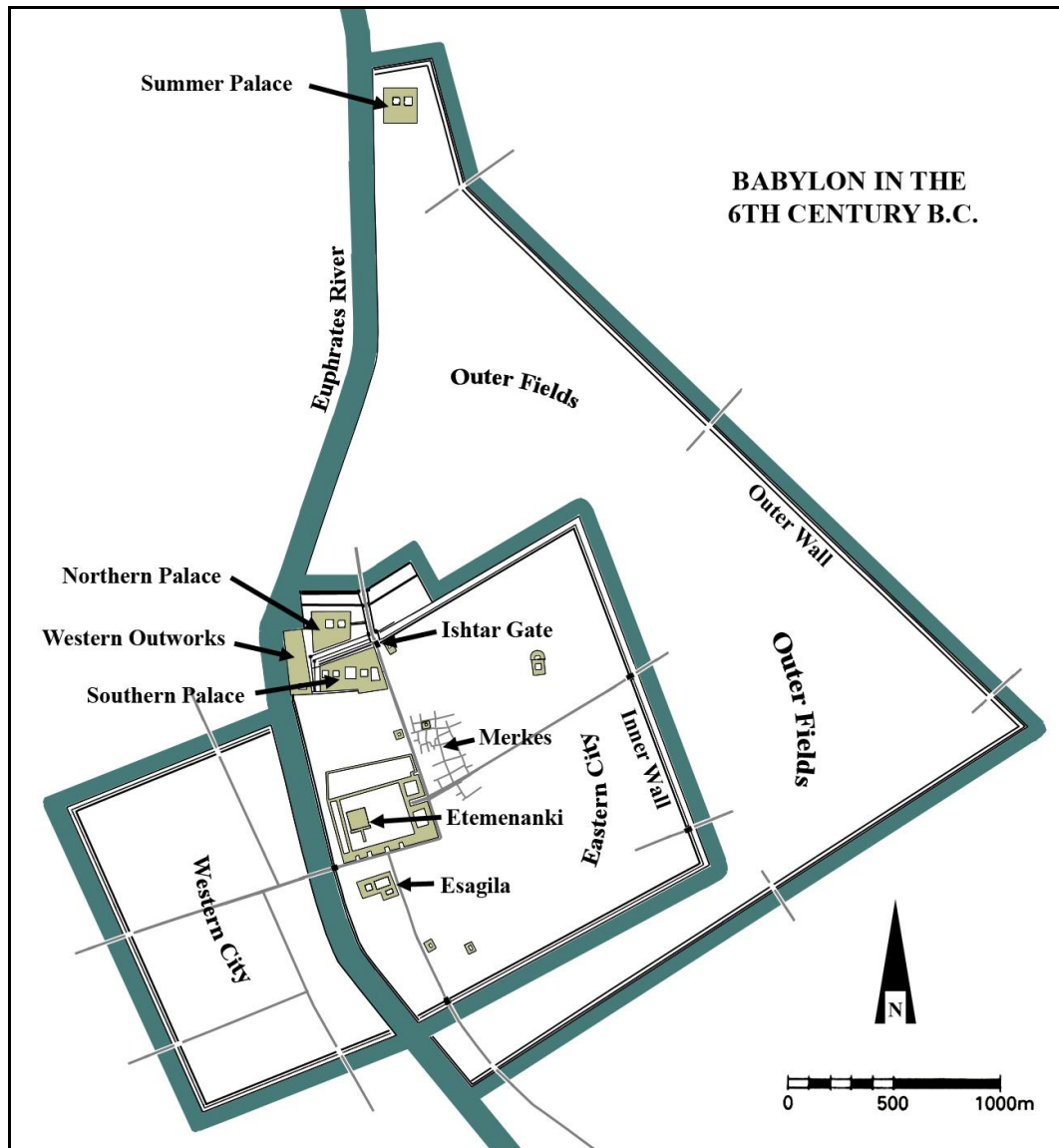


Fig. 11: Map of Greater Babylon. Redrawn by J. A. Parkoff after Parapetti (2008: 141, Fig. 13); archaeological & theoretical gate locations based on George (1992: 141, Fig. 7).

Through the combined construction, this period represented the citadel's architectural epitome before the city went into decline.

Excavations reached strata primarily dating to the Chaldean Dynasty of the late 7th to early 6th century B.C. Above these layers, later dynasties attempted to continue the already existing Chaldean city plan. Only in the later Parthian period did the plan finally

change. Continuously rising since antiquity, the high water table allowed only limited access to the more ancient levels of the city. While excavations occasionally reached earlier periods, the scarce data collected did not permit their full reconstruction.

At first glance, the inaccessibility of earlier dynastic layers might appear to make a reconstruction much easier considering there is less strata to separate. In reality, this proved false. Due to the high building activities of Nebuchadnezzar II, there are numerous sub layers within the Neo-Babylonian strata. Just like modern cities, Babylon changed on a constant basis. Buildings went up and buildings came down. In that respect, it is very difficult to choose a single period to present a "snapshot" picture. Later dynastic changes added to this difficulty. Additionally, some structures proved more difficult to date than others. Although reserved for later discussion, the Persian Apadana represented such a building. Originally this reconstruction intended to detail the final years of the Chaldean Dynasty. However the Persian building, possibly built only a few decades later, reflected such a significant example of cross-cultural architecture, that the reconstruction necessitated the building's inclusion. Debate on which king built this structure offered numerous topographical possibilities. The consequence of advancing the reconstruction a few decades later required a complete reevaluation of the Acropolis. Walls that previously occupied certain areas no longer existed and new structures took their place. More drastically, at an undetermined point in this later period, the course of the Euphrates River bordering the Acropolis altered its position.

Understanding the Topography

While this thesis specifically details structures from the late Chaldean and early Achaemenid Dynasties, an understanding of the Acropolis' overall historical topography is essential before focusing on a single period. Subsequent building periods affected

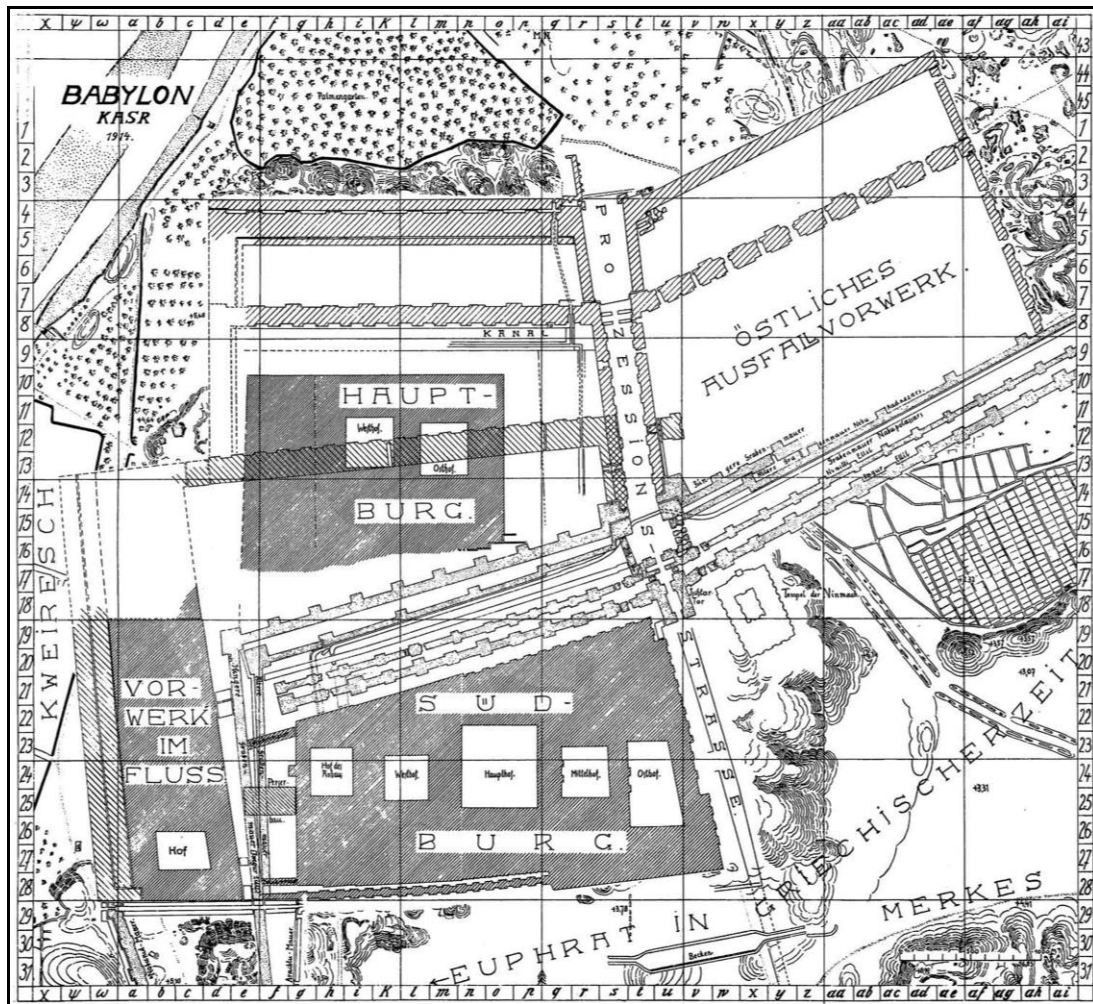


Fig. 12: Koldewey's site map of the Acropolis area (1931: Pl. 1). Viewing this composite map is necessary before breaking the map down into individual time periods for analysis.

older structures and likewise older structures often dictated how future construction progressed. Once this understanding is achieved, it is possible to accurately select and built a representation during a specific point in time. This proposed construction sequence changes some of Dr. Koldewey's ideas on how the Acropolis developed. He too admitted that these sequences could not always be clearly differentiated and would change under closer examination (1914: 182). To remain consistent, the structures continue to use the same names that Koldewey designated. He named them on both suggested purpose and their general compass direction. For that reason, many of these

names are long and sometimes confusing. To assist the reader, Koldewey's composite Kasr site map (Fig. 12) is re-illustrated and broken down into separate maps detailing individual theoretical stages of development.

Earlier Periods

Some scholars suggest that the Kasr served as a new location for the royal residence, built over a previously unused area (Klengel-Brandt 1990: 41; Kuhrt 2001: 78). However, while Koldewey did not find earlier palaces, he believed that if not for the high water table, excavations into the Kasr mound eventually would reveal many palaces stacked on top of each other dating through Hammurabi's time and ultimately to the founding of Babylon (1931: 1). The Neo-Babylonian Southern Palace bore an inscription stating that Nebuchadnezzar built the citadel upon the "Babil place," which Koldewey believed to be "the site of the earliest settlement, which was named Babilu or Babilani, the gate of god or gate of the gods." Since the main temple Esagila lay about 800 m to the south of "Babil place," it is possible that Esagila originally formed a separate settlement and only later united as one Babylon. "Babil place" might have been some form of gateway or fortress protecting access to the shrine (1914: 86-88). The bend of the Euphrates River formed a natural fortification on the west and northwest which ideally made this location suitable for a citadel (Ali 1979: 93). While Koldewey's theory has not been proven, both areas showed signs of habitation over long periods of time (Koldewey 1914: 88, 311). As the shrine Esagila grew in importance, the population might have filled out towards "Babil place" ultimately uniting the two communities. If "Babil place" served as a pre-dynastic fortress, it makes sense that the later Chaldean kings chose this location to build their own palaces. Like the Mesopotamian tradition of rebuilding temples upon the same consecrated ground, kings also tended to build royal residences in the same location as their predecessors. This is clearly evidenced by Assyrian cities such as Assur, Kalhu (Nimrud) and Nineveh where successive kings repeatedly built themselves new palaces near or even on top of their predecessors.

Neo-Assyrian Period

The Neo-Assyrian period is the earliest indication that Koldewey's stacked palace theory might be true. While we cannot reconstruct the older Kasr layers in detail, it is possible that the former area resembled its early Neo-Babylonian state. A surviving cuneiform text known as *Tintir* details that Babylon's topographical plan altered very little between the 12 century B.C. and the early Persian period (George 1992: 13). In addition to their continued location, Koldewey revealed that the great temple Esagila (1914: 207-12) and the peribolos surrounding Etemenanki (1914: 185-7) followed earlier established plans. Additionally, the strata in the residential Merkes quarter also showed continuation of earlier periods in the organization of streets and city blocks (1914: 240-42, 311-12).

Beneath the Acropolis, excavations revealed that the Chaldean king Nabopolassar built a small palace equal in elevation to the city. The construction included several sequential river quay walls that replaced an earlier Assyrian quay wall of Sargon II (Koldewey 1914: 137-38; 1931: 1). Nebuchadnezzar later constructed his own palace and quay walls above the palace of his father. Since the purpose of these quay walls intended to protect the palace against erosion, the continued dynastic reconstruction suggests that Nabopolassar built his palace over an earlier undiscovered Assyrian palace. There are several possibilities for an Assyrian palace in this area. During the Assyrian occupation, Sargon assumed kingship for three years in Babylon (Oates 1986: 116). It is unlikely that an Assyrian king and his entourage maintained a long-term residence without large accommodations. Sargon's quay wall may coincide with a residence that he took over or constructed during that time. If this theoretical palace existed, there is little chance that the residence survived Sennacherib's destruction of Babylon. Such a citadel would represent a continued threat against Sennacherib's authority. Following Esarhaddon's reconstruction, the administration required a new residence. Later accounts allude to this residence by stating that Esarhaddon's son, Shamash-shuma-ukin immolated himself in Babylon's burning palace while under siege by his brother, Assurbanipal (Oates 1986: 123).

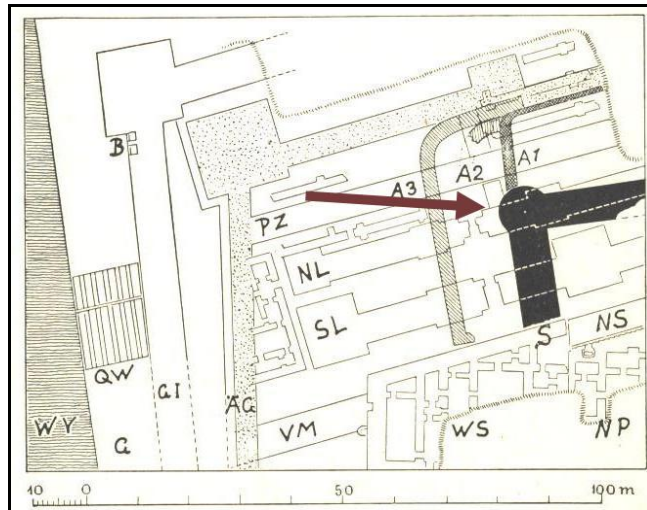


Fig. 13: Succession of quay walls: S, A1, A2, A3, AG, & GI. Modified from Koldewey with arrow to focus on Sargon's Wall (1914: 132, Fig. 81).

Examining Sargon's quay wall (Fig. 13), the surviving segment consisted of a substantial 8 m thick construction and contained a single uniquely round tower in its northwest corner. It is unclear if additional round towers continued along the moat system similarly to the rectangular towers of later periods. Compared to the smaller Neo-Babylonian quay walls, this massive wall indicated that despite belonging to an earlier period, the construction of Assyrian era Babylon was no less impressive. Bearing only a slight degree of deviation, the wall branched out in the same directions as later quay walls, meaning that the earlier river and moat system followed a similar plan (Fig. 14-A). In an inscribed brick, Sargon stated that his quay wall maintained the Euphrates River while providing a foundation for the inner city walls *Imgur-Ellil* and *Nemetti-Ellil*, next to the *Ishtar Gate* (Koldewey 1914: 138). Using the same names as their future counterparts, these undiscovered walls clearly laid to the south and likewise followed the same direction before connecting to an earlier version of the *Ishtar Gate* (Fig. 14-B). This suggests that the older Assyrian era defenses followed a smaller circuit than their successors. Additionally, the newer Neo-Babylonian circuit lay directly above Sargon's quay, indicating that his wall did not survive the thorough destruction of Sennacherib. Due to the lack of succeeding quay walls from the period of Assyrian reconstruction, it

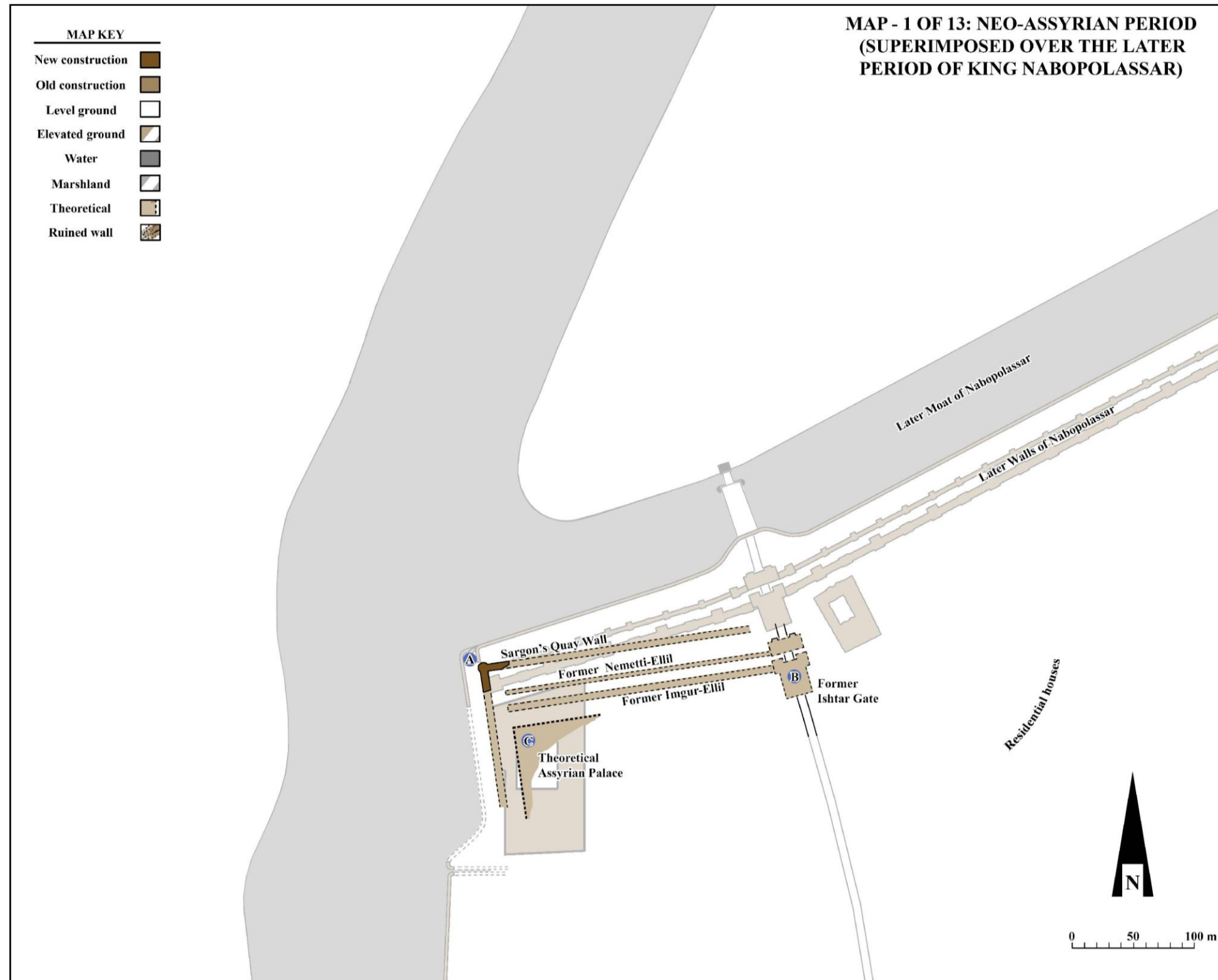


Fig. 14: Neo-Assyrian Period (Superimposed over the later period of King Nabopolassar).

is probable that a newer moat system was not established until the later time of king Nabopolassar. Completing the Assyrian era reconstruction, the layout of these walls is nearly identical to the later Neo-Babylonian period. If an Assyrian era palace existed, its location most likely sat in the general vicinity of Nabopolassar later residence (Fig. 14-C).

Neo-Babylonian Period (Chaldean Dynasty)

Following Assyria's fall, the new Chaldean Dynasty continued work on Babylon. The first king, Nabopolassar constructed a new river quay that replaced Sargon's wall and restored the moat defense system around Babylon's perimeter (Fig. 15-A). After initial construction, Nabopolassar extended the quay wall to the west on two separate occasions in an effort to push the Euphrates River away from the eastern shore (Fig. 15-B). Due to the later construction of the Southern Palace, a segment of the quay wall south of the wall's curve, did not survive in the archaeological record (Koldewey 1914: 142). The wall cuts off and then reappears slightly west into the river. This suggests that at an undetermined point, a second curve must have connected the two surviving portions (Fig. 15-C).

On the river's west bank, Nabopolassar started a similar quay wall, but did not complete construction (Fig. 15-D)(George 1992: 354). Inside the moat perimeter, Nabopolassar restored the city walls and the Ishtar Gate (Fig. 15-E). Using unfired mud brick, his construction laid down the unique rows of animal motifs that so famously decorate the surviving gate. Interestingly, the lowest rows of motifs lay beneath the Neo-Babylonian water table. This suggests that the lowest rows of motifs came from the Assyrian reconstruction period (Bergamini 1977: 113, 151), and that Nabopolassar continued an existing tradition. To signify the new royal presence and his legitimacy to rule, Nabopolassar constructed a small palace upon the "Babil place." Arranged around a large central courtyard, this palace contained numerous residential suites and offices. South of this courtyard, an audience hall served as the royal throne room (Fig. 15-F).

Upon Nabopolassar's death, his son Nebuchadnezzar II initiated a series of massive building projects. Inside the city, Nebuchadnezzar restored the Ninmach temple

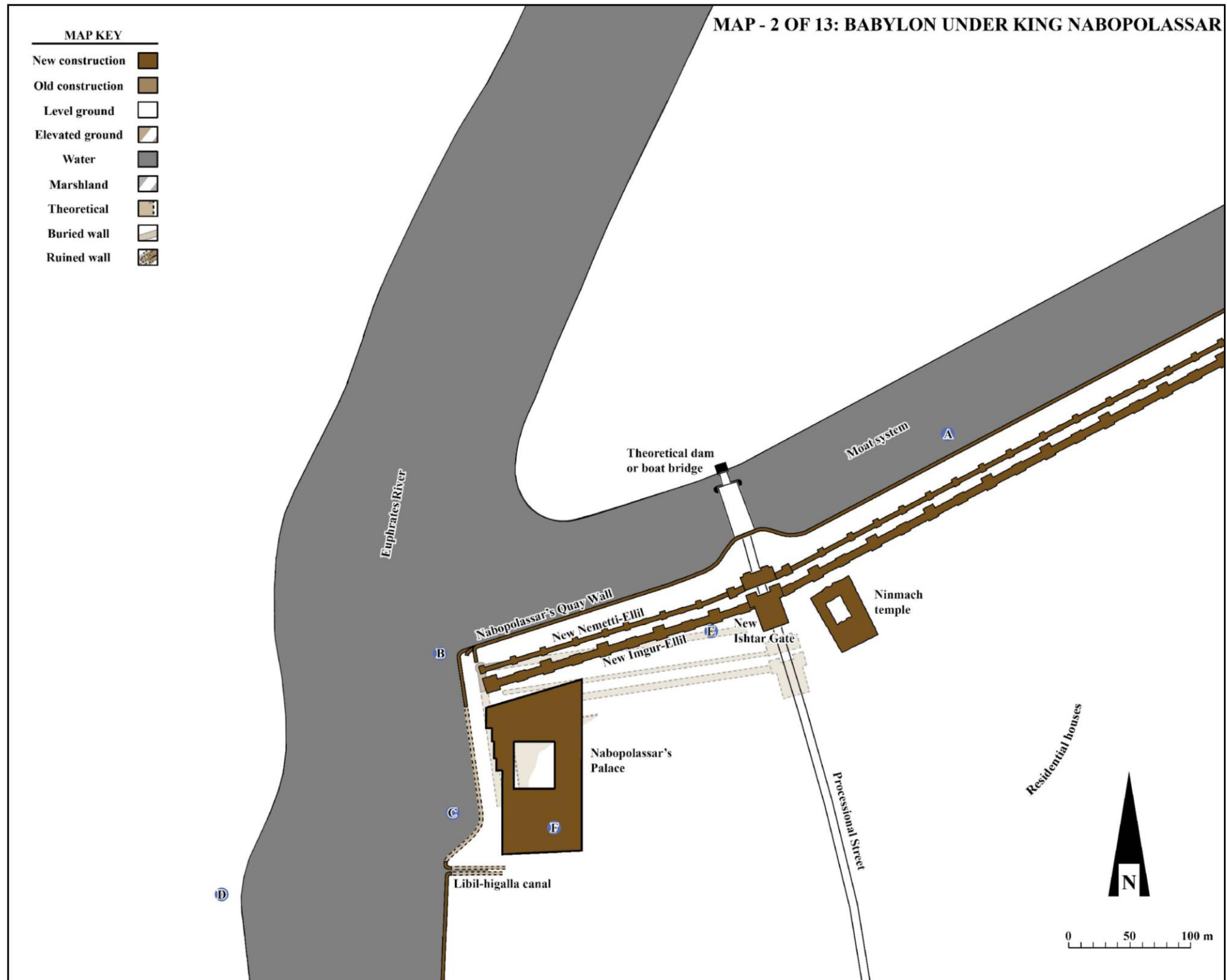


Fig. 15: Babylon under King Nabopolassar.

(Fig. 16-A) and started construction of a new palace addition east of Nabopolassar's former residence (Fig. 16-B)(Koldewey 1914: 181-2). Due to the high water table, the foundations beneath the older palace became weak (Koldewey 1914: 113). Changing water levels, perhaps remaining from a small flood (Bergamini 1977: 130), required periodic renovations that elevated the floor level to stay above the rising water. This resulted in doorways becoming considerably lower than when Nabopolassar first constructed the palace (Koldewey 1914: 113). Nebuchadnezzar decided that to protect his new residence, a platform should be raised beneath the palace addition prior to construction. In Nebuchadnezzar's time, the ground level at the edge of the city rested at 1.5 m above zero; to which zero represented the average water level (Koldewey 1914: 167). Inside the city, the ground level varied based on a given area's population density. Upon completion of the platform, the eastern palace addition rested at 12.5 m above zero (See p. 41).

The new addition contained a defensive wall that wrapped around the eastern perimeter. Koldewey believed that this enclosing wall replaced an older identical wall built by Nabopolassar; a wall that Nebuchadnezzar first restored and then later raised to enclose his palace (1914: 181-2). Koldewey's conclusion stems from an older segment of this wall (Fig. 16-C), which contained a doorway threshold at 6 m below Nebuchadnezzar's final pavement (Koldewey 1914: 70). Construction of this buried segment included unstamped bricks unlike those used by Nebuchadnezzar (Koldewey 1931: 7), but similar to those used by Nabopolassar (Koldewey 1914: 114). Koldewey's theory is confusing in that it makes little sense why Nabopolassar extended an enclosing wall so far into the east considering that his palace occupied only a small portion of the massive enclosure. It seems more probable that the lower construction represented an earlier abandoned phase of Nebuchadnezzar's palace. Even Koldewey acknowledged that the unstamped bricks could not date the structure since Nebuchadnezzar might have utilized his father's remaining stock piles before creating his own (1931: 7).

As further evidence for this abandoned phase of the palace, the Processional Street also underwent significant changes. While it is known that Nebuchadnezzar

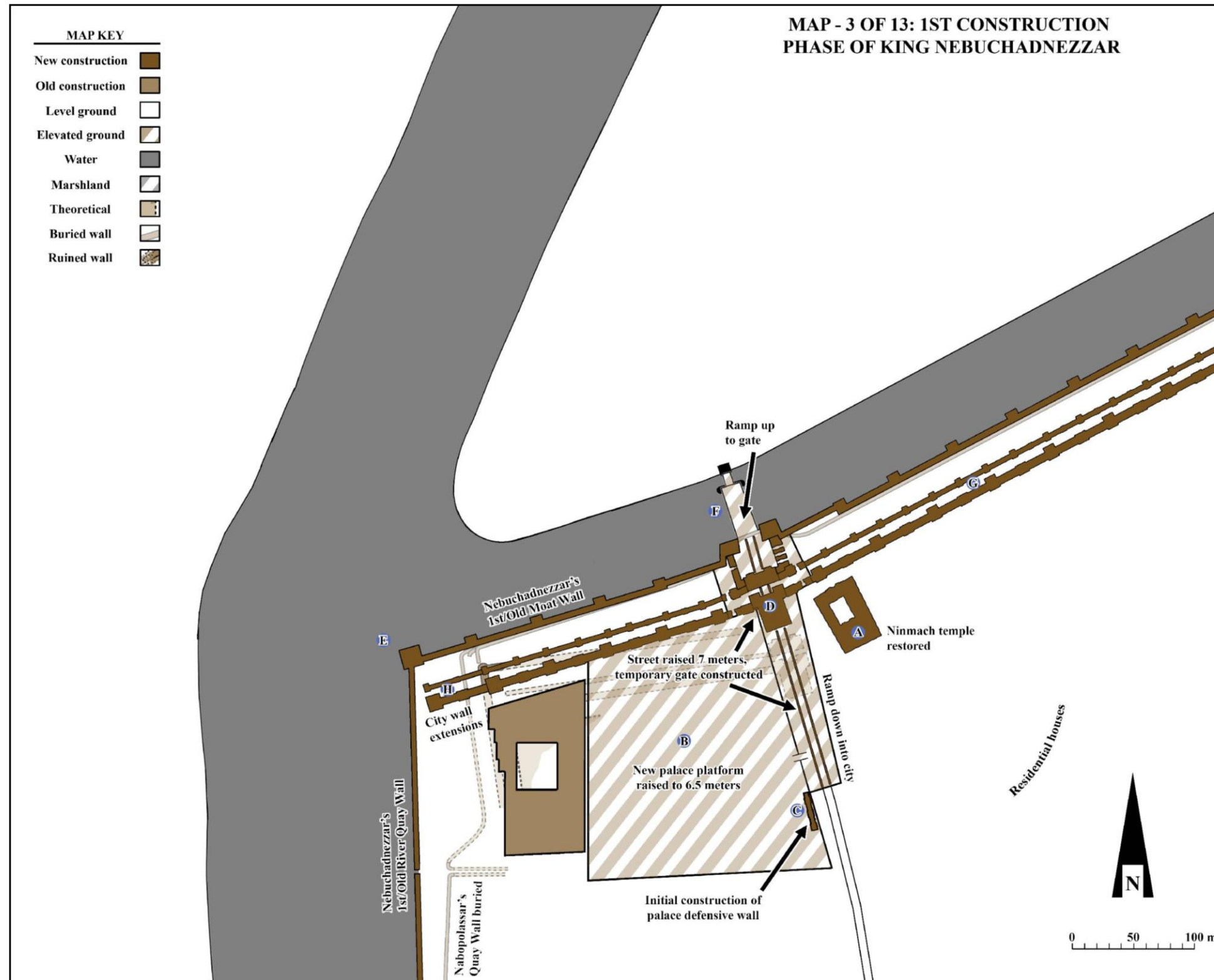


Fig. 16: 1st construction phase of King Nebuchadnezzar.

raised the Processional Street to reach his newly elevated palace, the earliest phase of the street's construction was not completed. Starting outside the city at ground level, the first phase of the Processional Street caused the roadway to ramp up to 7 m above zero, peaking at the Ishtar Gate (Fig. 16-D). At this level, a temporary gate replaced the original portal which became buried (Marzahn 1992: 24).

If the palace platform originally intended to reach 12.5 m above zero, then the 7 meter height of the street required an immensely steep ramp to gain access from the east going west into the palace. The doorway threshold at 6 m below the final pavement suggests that Nebuchadnezzar originally planned the palace floor to reach 6.5 m above zero; a height more consistent with the Processional Street's earlier phase. Later deciding that the palace should rest on higher ground, Nebuchadnezzar filled this area in and initiated new construction above it. This change in plan explains why at 7 m, only a temporary building replaced the Ishtar Gate, before construction again increased the roadway's elevation.

While construction continued on the eastern palace addition, Nebuchadnezzar replaced the quay wall of his father by building a new wall along both the riverfront and moat system (Fig. 16-E). Like his father's previous construction, the new quay protected the riverfront as a smooth uninterrupted stretch of wall. In contrast, a massive bastion served as the transition point before a moat wall lined with towers extended to the east. Due to the increased thickness and added towers, this moat wall served more as a defensive fortification than a simple quay wall. Although he did not discover the remains, Koldewey surmised this wall incorporated a bridge that crossed the moat to permit communication (Fig. 16-F)(1918: 50). On the moat wall, twin bastions bordered each side of the Processional Street. Whether or not a gate sat between these bastions is not clear. Due to the newly elevated street, steep hills bordered each side of the ramp, necessitating connecting walls which reached south from the bastions to the Ishtar Gate (Koldewey 1918: 11). Joining the gate, Nebuchadnezzar restored the city walls (Fig. 16-G)(Koldewey 1914: 145-6) and extended them further to the west (Fig. 16-H). Although Koldewey does not mention this extension, he stated that the restored southern wall

terminated at a massive tower (1914: 148). A similar massive tower spaced two wall segments to the east, indicates the wall's earlier termination point near the former quay of Nabopolassar. This extension closed off the newly claimed land created after Nebuchadnezzar's quay wall pushed the Euphrates River to the west.

Upon completion of Nebuchadnezzar's palace addition, three massive courtyards surrounded by administrative and residential compartments occupied the area east of Nabopolassar's former residence (Fig. 17-A). During construction, Nebuchadnezzar continued to reside in the lower palace while large ramps between the two structures permitted communication (Fig. 17-B)(Koldewey 1914: 111-12). Buried within the palace platform's southern edge, Nebuchadnezzar restored the ancient canal "Libil-higalla" (Fig. 17-C)(Koldewey 1914: 182). In addition to the many wells throughout the palace, this restored canal ensured a steady water supply to the newly expanded palace. To the east, this canal emerged from the platform and ran unroofed into the city.

After abandoning the lower phase of the Processional Street, Nebuchadnezzar initiated a 2nd phase which elevated the roadway, the Ishtar Gate, and the area of the Ninmach temple to 10.85 m above zero (Fig. 17-D)(Marzahn 1992: 24). This permitted accessibility to the newly raised eastern palace addition. While the raised temple appeared much like its former construction, the 2nd phase of the Ishtar Gate underwent a new decorative form. Like its predecessor, this gate also bore a decoration of animal motifs; however rather than using embossed sun dried mud brick, these motifs utilized flat fired mud bricks made with a new beautiful multicolored glaze set against a dark blue background.

Since raising these areas increased the steepness of the Processional Street, it is likely that Nebuchadnezzar initiated his new 2nd Moat Wall during this time (Fig. 17-E). By pushing the moat to the north, the angle of the road decreased and elongated the approach. Contrary to most reconstructions, the moat walls west of the Ishtar Gate did not exist at the same time. The redundancy of their construction suggests that Nebuchadnezzar dismantled the older wall (Fig. 17-F)(Koldewey 1914: 133). Only east of the Ishtar Gate did these two walls coexist (Fig. 17-G)(Koldewey 1918: 51); a

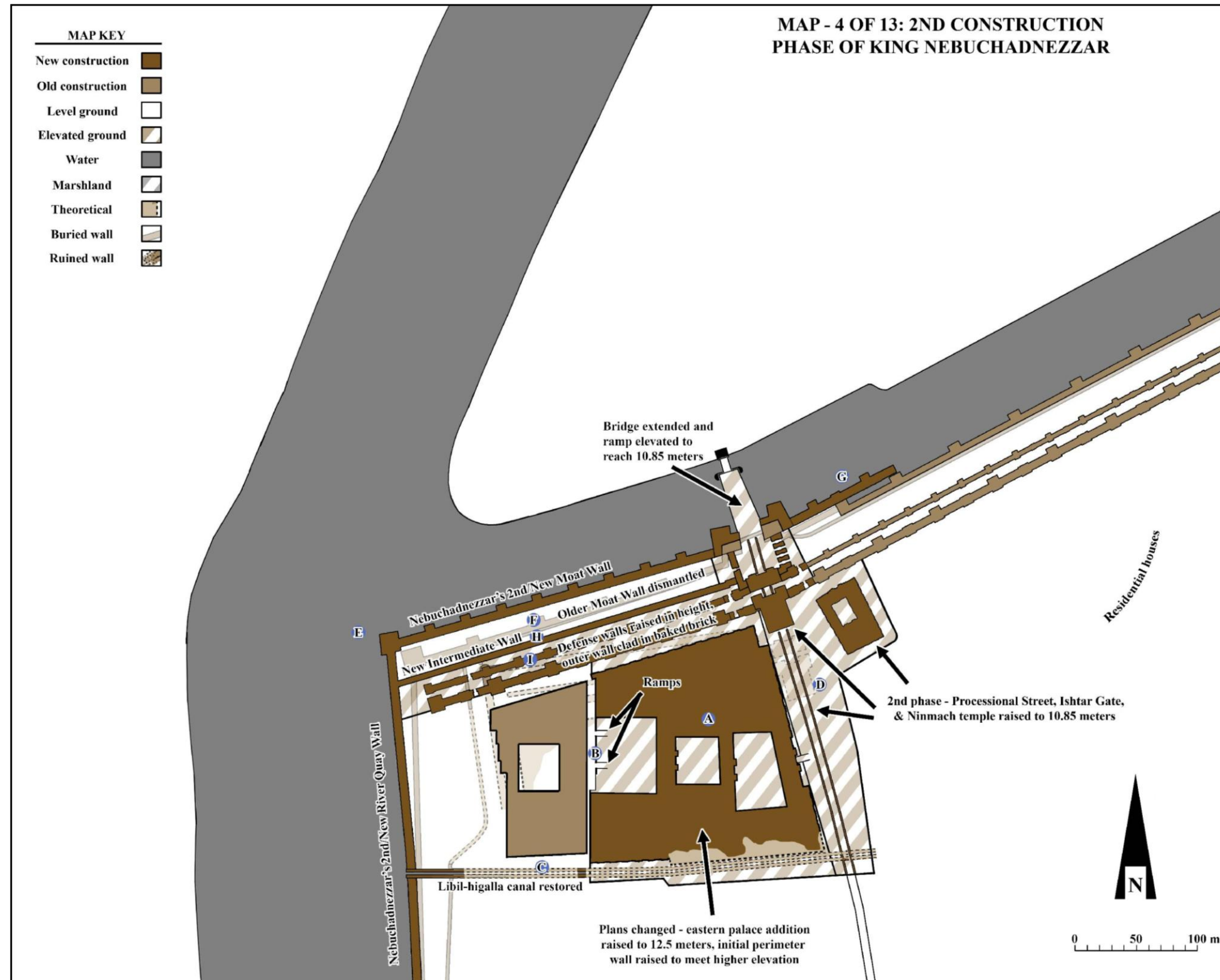


Fig. 17: 2nd construction phase of King Nebuchadnezzar.

continuance allowed due to the incompleteness of this 2nd Moat Wall project. South of the dismantled moat wall, Nebuchadnezzar constructed a new intermediate wall. This wall ran parallel to the city walls before terminating at the Ishtar Gate (Fig. 17-H). Although Koldewey did not explain the purpose of this wall, it is possible that while partially for defense, the wall acted mainly as a retaining structure for the newly raised palace platform.

Desiring that the defenses cover the eastern palace addition, Nebuchadnezzar elevated the city walls west of the Ishtar Gate (Fig. 17-I). To permit an adjustment in height, the narrower outer wall received an encasement of fired brick (Koldewey 1914: 146-48, 182). The walls east of the Ishtar gate remained unchanged since the land elevation projects did not affect the surrounding city.

Upon completion of the eastern palace addition, Nebuchadnezzar turned his attention to his father's former residence. Preserving only the foundational plan of the rooms, Nebuchadnezzar demolished the entire palace superstructure (Koldewey 1914: 113). Nebuchadnezzar elevated the foundations to an approximate height of 11.5 m above zero (Koldewey 1931: Pl. 32). During this phase, the former ramps disappeared beneath the final pavement. Now upon higher ground, Nebuchadnezzar rebuilt the walls of the former palace in their original plan. Only Nabopolassar's former throne room appears to have changed (Koldewey 1914: 115), an inner structure that Nebuchadnezzar enlarged by pushing its northern wall out into the main courtyard (Fig. 18-A).

Like its dismantled predecessor, the 2nd Moat Wall contained a massive bastion in the west. From this bastion, Nebuchadnezzar's 2nd River Quay Wall extended south along the length of Babylon's riverfront and expanded the eastern shore. Nebuchadnezzar filled this space with earth until the area reached equal height with the newly elevated Nabopolassar Palace. Upon this ground, construction on the palace continued by building a new Western Extension around a single large courtyard (Fig. 18-B). At the edge of this extension, a sloped embankment supported the platform (Fig. 18-C)(Koldewey 1914: 127). Finally, Nebuchadnezzar continued the defensive wall from

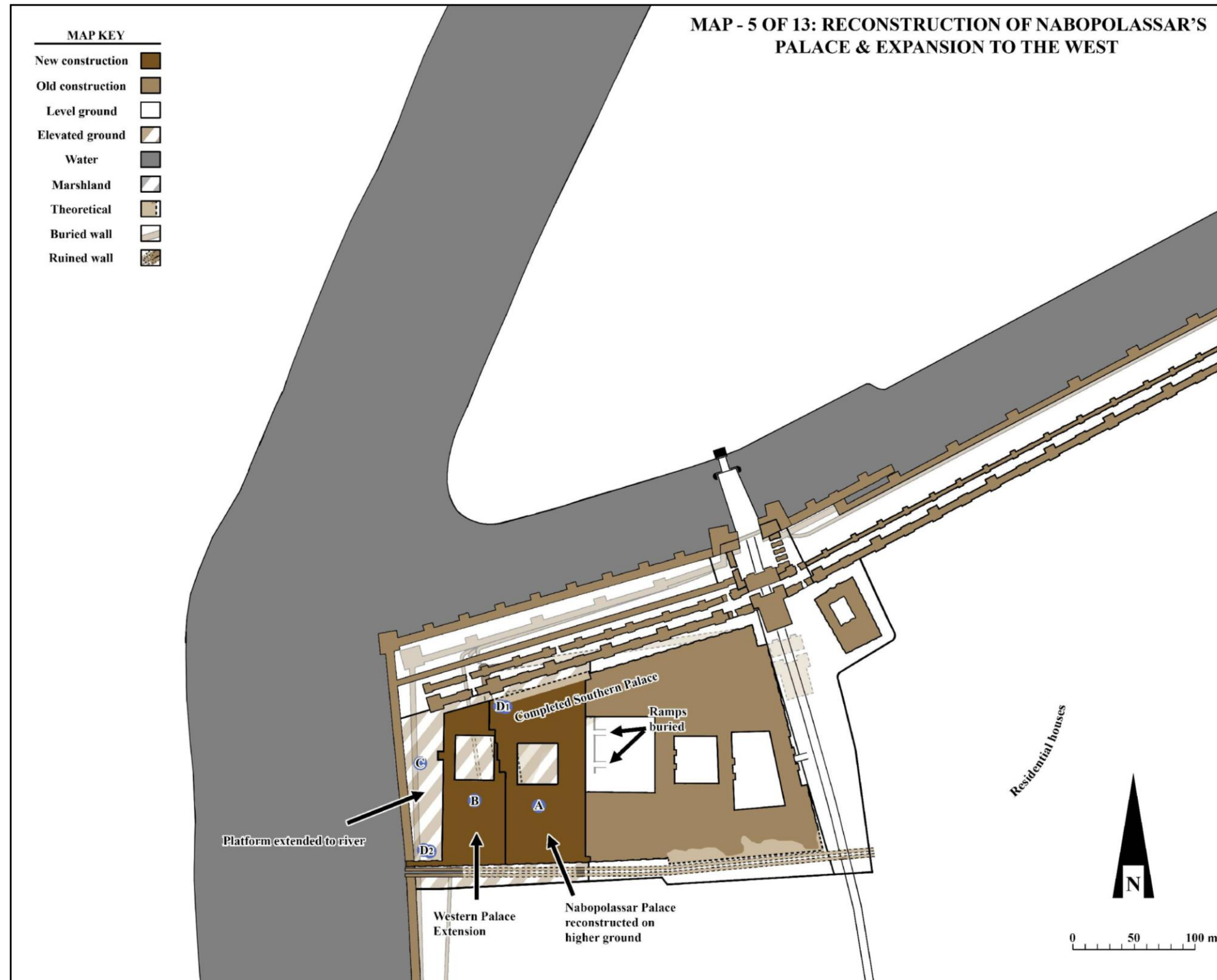


Fig. 18: Reconstruction of Nabopolassar's Palace and expansion to the west.

around the Eastern Extension to the north and south of his father's palace (Fig. 18-D1 & D2). Upon reaching the new Western Extension, the wall halted in the north, yet continued in the south, west to the river, uniting the entire area into a single massive palace of five large courtyards.

While this completes the Southern Palace, brief mention should be made regarding a variance of height on the palace platform. Frustratingly, Koldewey was not clear regarding elevations. Instead he stated that the Processional Street reached a maximum height of 12.5 m above zero (1914: 25); a height that the Ninmach temple and palace shared (1914: 55). His published illustrations and site maps suggest otherwise. An eastern facing cutaway illustration of the Acropolis, depicted that the land area directly south of the defensive walls reached approximately 14 m above zero; yet within the Southern Palace, the ground reduced down to 13 m (1914: 139, Fig. 87). Further confusing, an eastern facing cutaway of the Processional Street and Ishtar Gate portrayed a height of 15 m above zero (1914: 35, Fig. 21); a height which is repeated in his later works (1918: Pl. 19). It seems that the final phase of the Ishtar Gate reached higher than the floor of Southern Palace, negating Koldewey's original explanation. This idea is confirmed, upon viewing his site maps (1931: Pl. 3, 10, 13, 15-16, 20, 32). The first two courtyards of the Southern Palace lay at approximately 12.5 m above zero. Moving west to the river, the ground dropped progressively from 11.5 m down to 10.5 m above zero.

Returning to the discussion, the continuous rebuilding of the quay walls not only expanded the land area, but primarily ensured that the Euphrates River remained at a safe distance from eastern Babylon. These large efforts at controlling the river reached their epitome during Nebuchadnezzar's 1st northern advancement project. This resulted in the construction of the Western Outworks and the Old Wall of the North Citadel (Fig. 19-A1 & A2). Stretching north from the southwest edge of the palace, the Western Outworks consisted of a massive trapezium shaped structure built directly into the riverbed. Constructed of burnt brick walls 20-25 m thick (Koldewey 1914: 144; 1932: 27), the structure contained a large courtyard in its southern portion and many internal

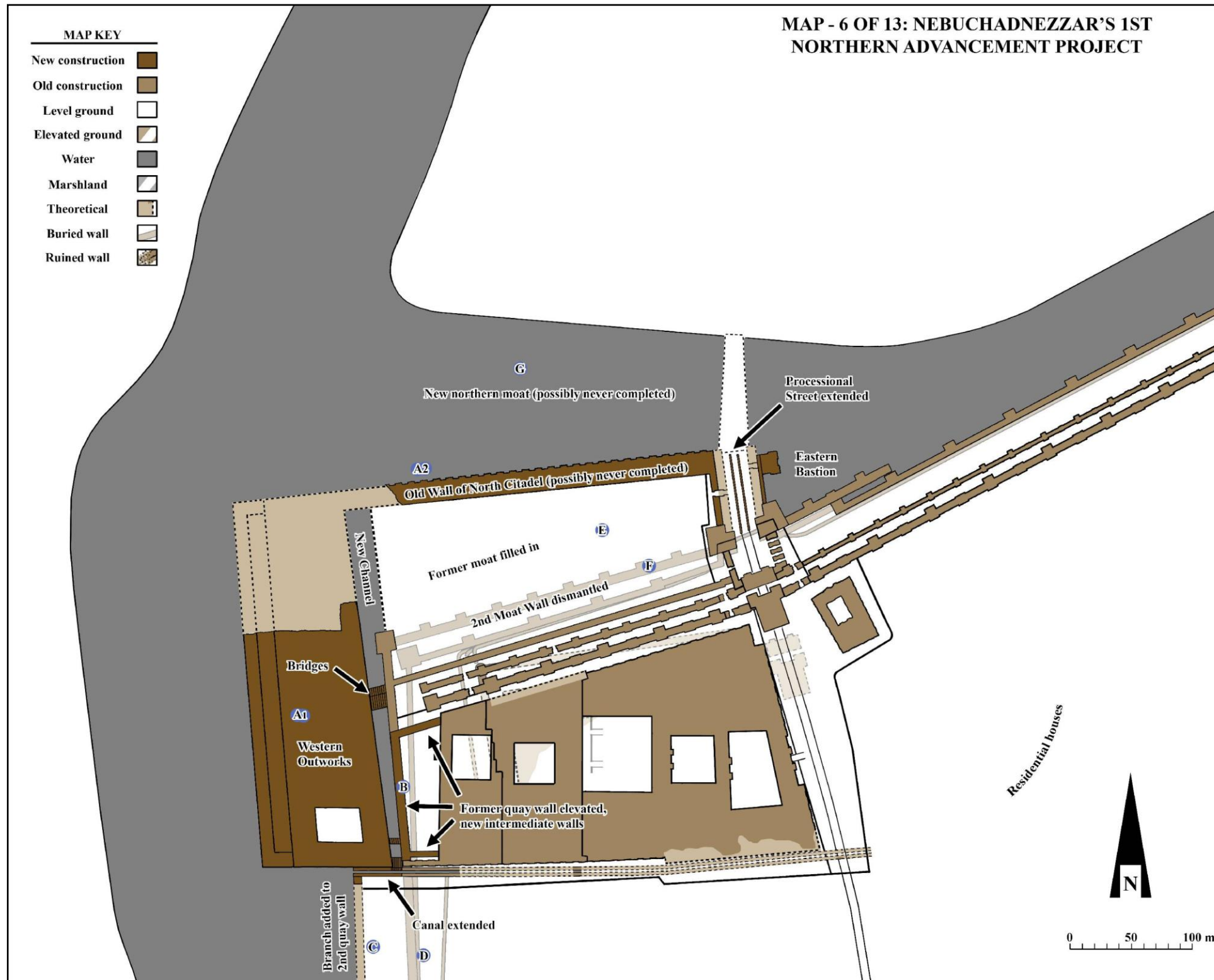


Fig. 19: Nebuchadnezzar's 1st northern advancement project.

rooms. Between the Outworks and the former river quay wall, the remaining space allowed a small channel to flow south. With the majority of the currents blocked by the Outworks, this channel ensured that water continued to flow into the Libil-higalla canal. During this process, the slope west of the palace disappeared underneath a fill of earth that brought the remaining area level with the western Acropolis. Although unclear, Nebuchadnezzar likely heightened the former quay wall to prevent the extended platform from collapsing into the channel (Fig. 19-B).

While clearly not a palace, the amount of construction effort amounted to the same. The Outworks compared almost equal in size to the expanded palace complex. By placing this structure within the river, Nebuchadnezzar created an obstacle that drastically forced the Euphrates to the west. Consequently, this created an area of dead water directly to the structure's south (George 1992: 355). To prevent the eastern shore from becoming a swamp, Nebuchadnezzar constructed a branch onto the 2nd Quay Wall directly north of the ziggurat complex. This branch jutted out to the west, before traveling north to the Outworks. Although the wall's archaeological remains are not complete, a surviving segment built onto the Outworks' southern face indicates the wall's point of termination. Upon completion, the wall projected only slightly into the Euphrates River (Fig. 19-C). Why Nebuchadnezzar did not push the quay wall further into the river is unclear. The location of this quay branch likely did not remedy the problem of the dead water zone. Like others before it, the area behind this new branch received a fill of earth. This buried the obsolete quay wall causing the waterfront's outward expansion (Fig. 19-D).

As part of Outworks, the Old Wall of the North Citadel pushed the land area considerably to the north. During this expansion, the former western moat became obsolete and filled in (Fig. 19-E). Again, contrary to most reconstructions, the 2nd Moat Wall likely was dismantled at this time (Fig. 19-F). Based on the new northern wall's position, Nebuchadnezzar clearly sought to create a new moat to the north; however it is very possible that this phase was not completed (Fig. 19-G). Koldewey suggested that the 17 m thick Old Wall of the North Citadel only reached a height of 6.8 m above zero

(1914: 156). He added that the wall might have been built higher; but that later construction dismantled and buried the eastern portions (1932: 5).

On the level for which the Old Wall of the North Citadel wall was intended, no other construction took place; instead Nebuchadnezzar initiated an entirely new building project on higher ground. Desiring an additional palace, inscriptions detail that Nebuchadnezzar sought a new land area that did not affect the city's interior plan (Koldewey 1914: 168). In order to accomplish this, Nebuchadnezzar needed to build outside the city walls. Abandoning his first project, a new 2nd northern advancement project pushed the land further to the north and doubled the land area that the first wall initiated.

This project resulted in two fortified enclosures north of the city. Nearly symmetrical in appearance, the new enclosures terminated in the north at the massive New Walls of the North Citadel (Fig. 20-A1 & A2). Behind these walls to the south, lay the Principal Citadel Walls, an equally massive second line of defense (Fig. 20-B1 & B2). Dividing these enclosures, narrow parallel walls reached south and connected back to the former moat wall bastions (Fig. 20-C1 & C2). Between the parallel walls, ran the newly extended Processional Street (Fig. 20-D). While a similar narrow wall enclosed the east, incomplete excavations did not determine the final appearance along western river front (eastern shore)(Fig. 20-E1 & E2). Although improbable from a defensive view point (Reade 2000: 208), Koldewey believed this area along the river initially remained open (1914: 169). Helping to defend the extended roadway, construction included a new lesser gate between the bastions of the Principle Citadel Walls (Fig. 20-F)(Koldewey 1914: 170). Should the defenses become comprised, this created an additional stage before reaching the Ishtar Gate.

Koldewey stated that the northern walls might have been built at different times (1914: 182). Agreeably, it is noticeable that the northern connecting walls contained separate foundations with no towers. In terms of a construction schedule, Koldewey's suggestion is possible; however, both walls were part of the same defensive scheme and

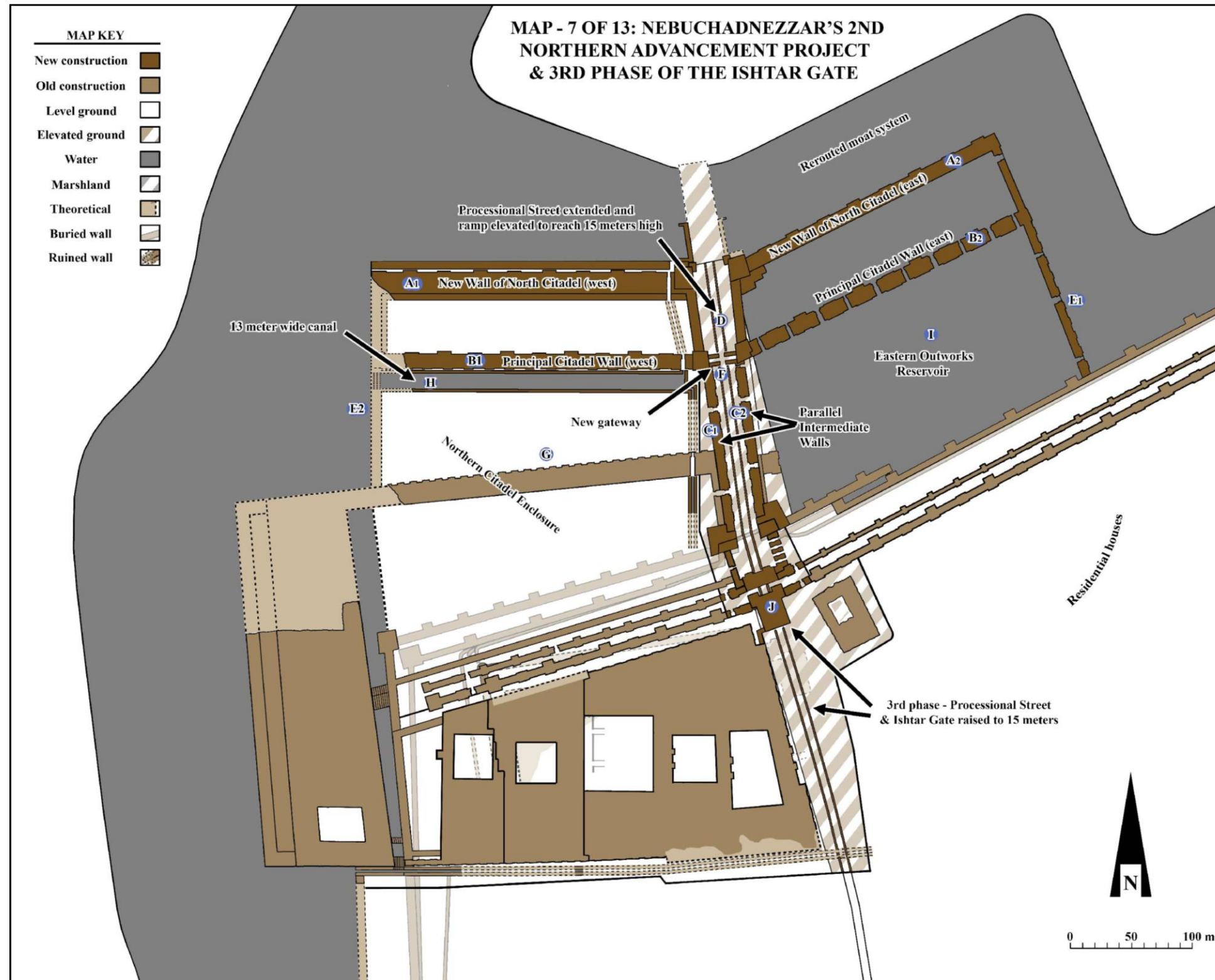


Fig. 20: Nebuchadnezzar's 2nd northern advancement project.

likely always planned. No evidence suggested initiation of a moat between the new northern walls. Only after the northernmost wall reached completion did Nebuchadnezzar construct the final moat. This moat ran east from the river, around both enclosures (Koldewey 1914: 179-80), where it eventually connected south back into the original moat system.

Like the defensive wall around the Southern Palace, the northwestern enclosure (Northern Citadel) intended to surround a new royal residence (Fig. 20-G). To supply the planned palace with water, construction of the enclosure included a large 13 meter wide canal which traveled east from the Euphrates River, before turning south at the Processional Street (Fig. 20-H). Later construction narrowed the canal to 1.8 m, enabling the length of the water way to receive a vaulted roof (Koldewey 1914: 167-168; 1932: 30) Why and when this construction took place is not clear (See p. 57, 187-188).

In the northeast, the second enclosure contained the Eastern Outworks (Fig. 20-I). Unlike its counterpart, this eastern enclosure lay on lower ground (Koldewey 1932: 36) and contained 10 unique openings in the Principal Citadel Wall. Koldewey suggested this area maintained a military ground (1914: 172; 1932: 30) while Bergamini (1977: 138) assigned the location as a reservoir; a subject for later discussion. At the end of these eastern walls, construction included long slots to allow eastern extensions; however, Koldewey did not find any evidence to suggest that this was initiated (Koldewey 1914: 174-6).

During construction of the northern enclosures, the Ishtar Gate again underwent a transformation. Nebuchadnezzar filled in the interior of the Ishtar Gate's 2nd phase, and then using the existing walls as foundations, raised the floor level from 10.85 m to 15 m above zero. Here in the Ishtar Gate's 3rd phase, Nebuchadnezzar magnificently rebuilt the structure combining the artistic styles of the 1st and 2nd phases (Fig. 20-J). This consisted of setting embossed colored brick motifs bearing alternating rows of bulls and dragons against a glazed dark blue background (Marzahn 1992: 24-6).

Between the parallel walls that divided the enclosures, additional construction raised the entire roadway at a gentle incline to reach the new gateway elevation.

Nebuchadnezzar repaved the center of the roadway using white limestone slabs set between side lanes of red breccia (Koldewey 1914: 25; 1932: 36; Marzahn 1992: 8). At road level, embossed lion motifs on the inside of the parallel walls walked down from the gateway to the bastions of the Principal Citadel Walls (Marzahn 1992: 26).

Inside the Northern Citadel enclosure, Nebuchadnezzar created a platform for his intended second palace reaching a height of 8 m above zero (Koldewey 1914: 156). Unfortunately, Koldewey did not complete excavations on the Northern Palace or its supporting platform. An understanding of these structures is limited. Ultimately, the final construction occupied an area much larger than what the palace actually required. After initial construction, the platform underwent two major extensions; one to the east and one to the west (Koldewey 1932: 15-16). The order of their construction and the completion of the upper palace during these phases is difficult to determine. An approximation can suggest that these changes likely happened within a short time frame and were tied to the events around them. Once the central platform reached completion (Fig. 21-A), Nebuchadnezzar commenced construction on the new palace (Fig. 21-B). Initially the plan focused around two large courtyards, each with an audience hall on the courtyard's southern wall. This twin courtyard arrangement somewhat mirrored Nabopolassar's raised palace with the western addition. Not long after, the platform's eastern extension made the palace more easily accessible to the Processional Street's 3rd raising (Fig. 22-A). The plan changed again when the king desired to expand the palace itself. To support this plan, Nebuchadnezzar extended the platform to the west (Fig. 22-B). Upon the extended platform, the palace finally reached completion (Fig. 22-C).

Following the death of Nebuchadnezzar, construction on the expanded Acropolis continued mostly in the form of restorations of existing structures (Koldewey 1914: 68, 182). Larger efforts focused elsewhere in Babylon. Although Nebuchadnezzar successfully pushed the Euphrates away from the Acropolis, he did not finish his father's work on the western bank. In later years the river continued to move further west than anticipated, ultimately leaving the ancient riverbed alongside the Esagila temple. This likely resulted in disastrous flooding in western Babylon, so much that the later king

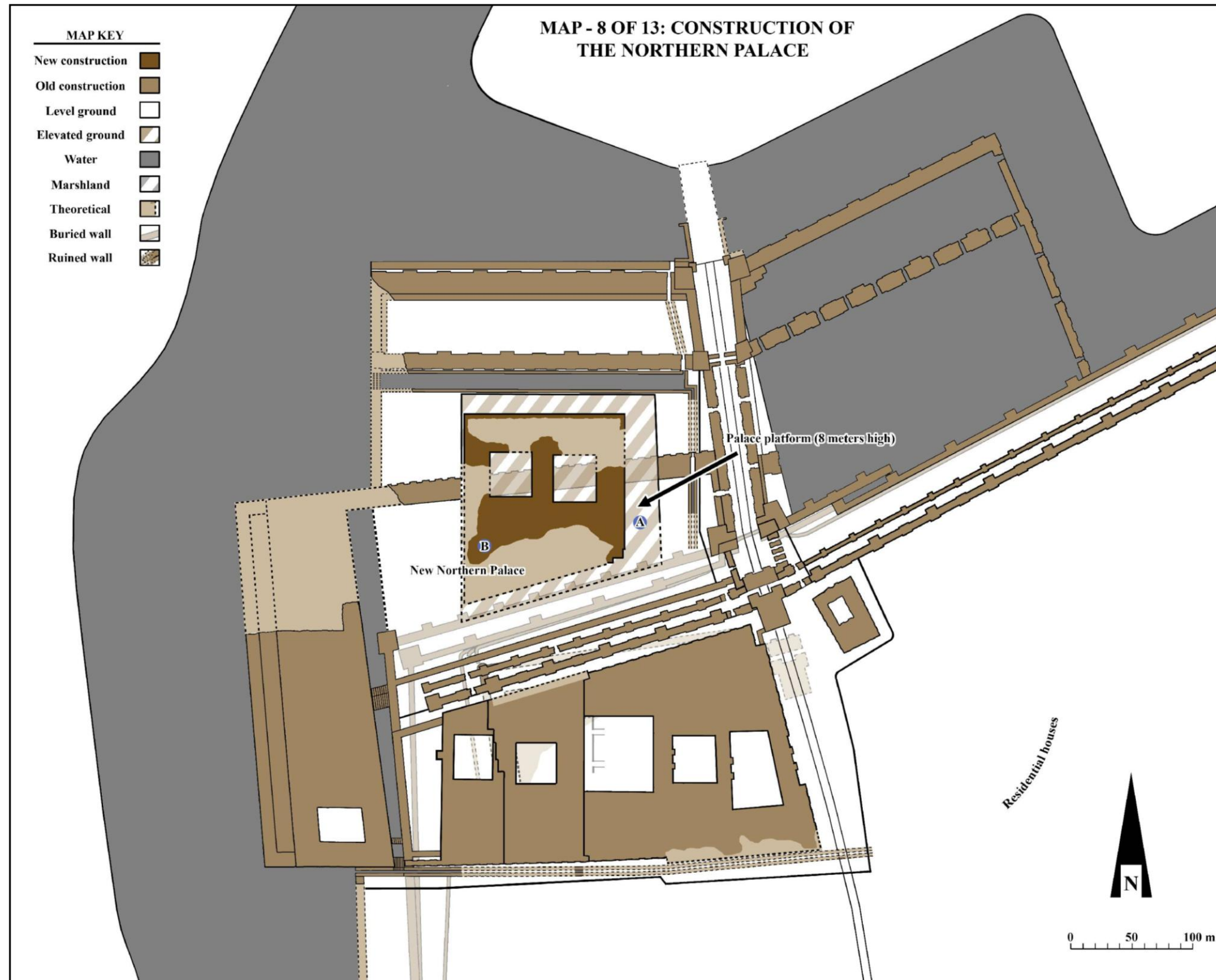


Fig. 21: Construction of the Northern Palace.

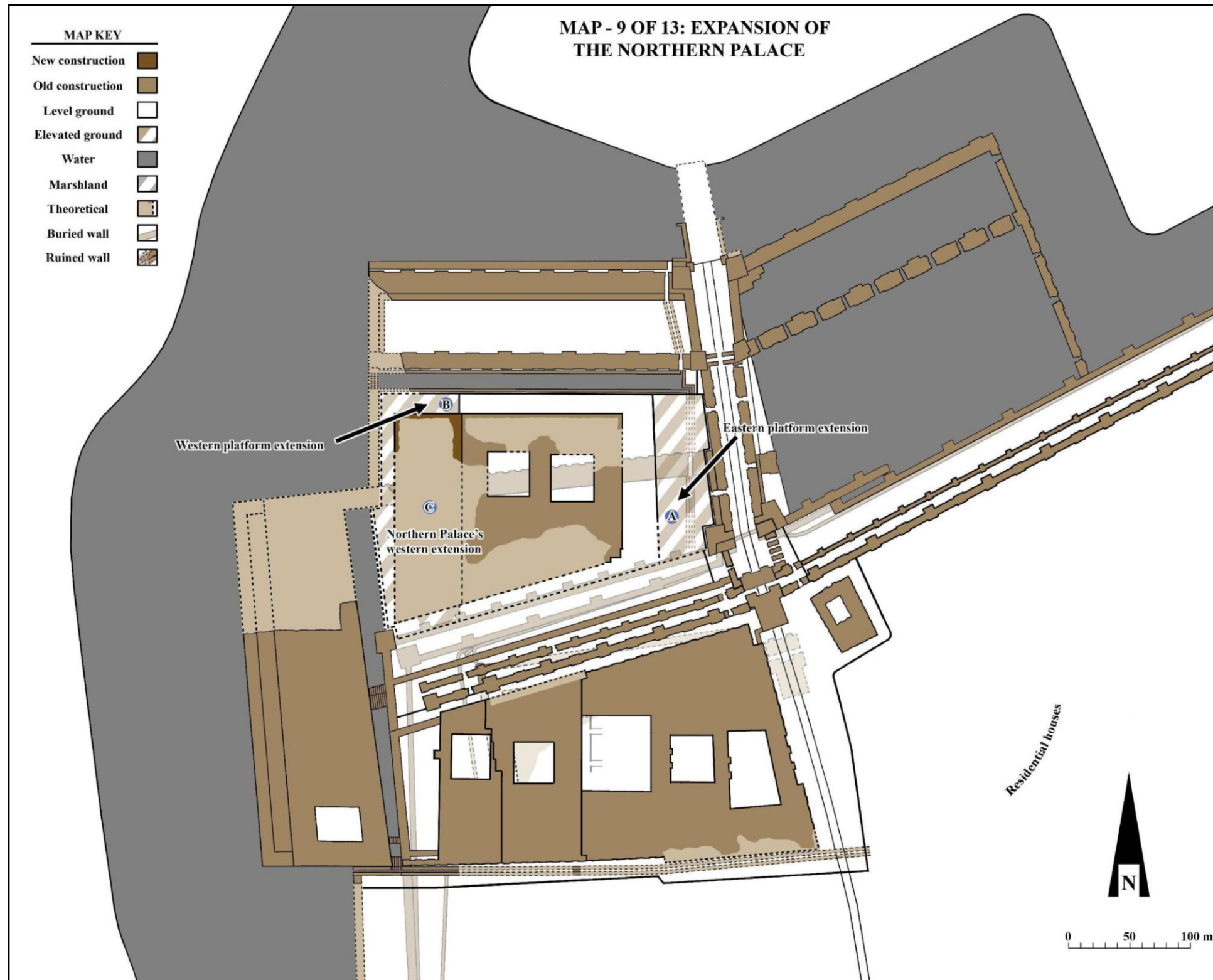


Fig. 22: Expansion of the Northern Palace.

Neriglissar (559-556 B.C.) redirected the river back to its ancient path (George 1992: 355). Although unclear, it is probable that efforts from this time focused on stabilizing the western bank to prevent a similar occurrence from happening again.

Large construction upon the Acropolis did not resume until the reign of Nabonidus (555-539 B.C.), the last king of the Chaldean dynasty. Replacing Nebuchadnezzar's 2nd River Quay Wall with its westward branching extension, Nabonidus built a new quay and upper wall (Wall of Nabonidus) along the eastern inner city portion of the Euphrates River (Fig. 23-A). Despite many published map reconstructions, Koldewey did not describe any archaeological evidence to suggest that this wall continued north of the Acropolis. Unlike preceding river quays, this wall closed off the waterfront as a strong defensive fortification (Bergamini 1977: 128). Like the Aurelian wall in later Rome, this wall perhaps signified a changing of the times in terms of security, especially with the rising Persian Empire to the east. This wall connected to the southwest corner of the Western Outworks and allowed an expansion of the waterfront. This westward expansion solved the earlier issue of the dead water zone located directly south of the Outworks. A fill of earth raised the land recovered from the river (Bergamini 1977: 122) causing the city to extend west to the new wall (Fig. 23-B). To ensure that merchants could access both the river quay and the inner city warehouses, the wall included many small doorways within the wall's towers (Koldewey 1914: 201).

Persian Period (Achaemenid Dynasty)

After the fall of the Chaldean Dynasty, the early Persian kings of the Achaemenid Dynasty continued to maintain the structures in and around the Acropolis. The most noteworthy addition to these monuments took form in a structure unlike any other built in Babylon. In between the Southern Palace and the Western Outworks, the new rulers constructed the Apadana (Fig 24-A). This distinctly Persian building consisted of a columned audience hall and a northern facing portico. Continuing the plan of the palace, the architects aligned this structure with the former audience halls of the Chaldean kings. The poorly preserved remains led to much debate regarding which

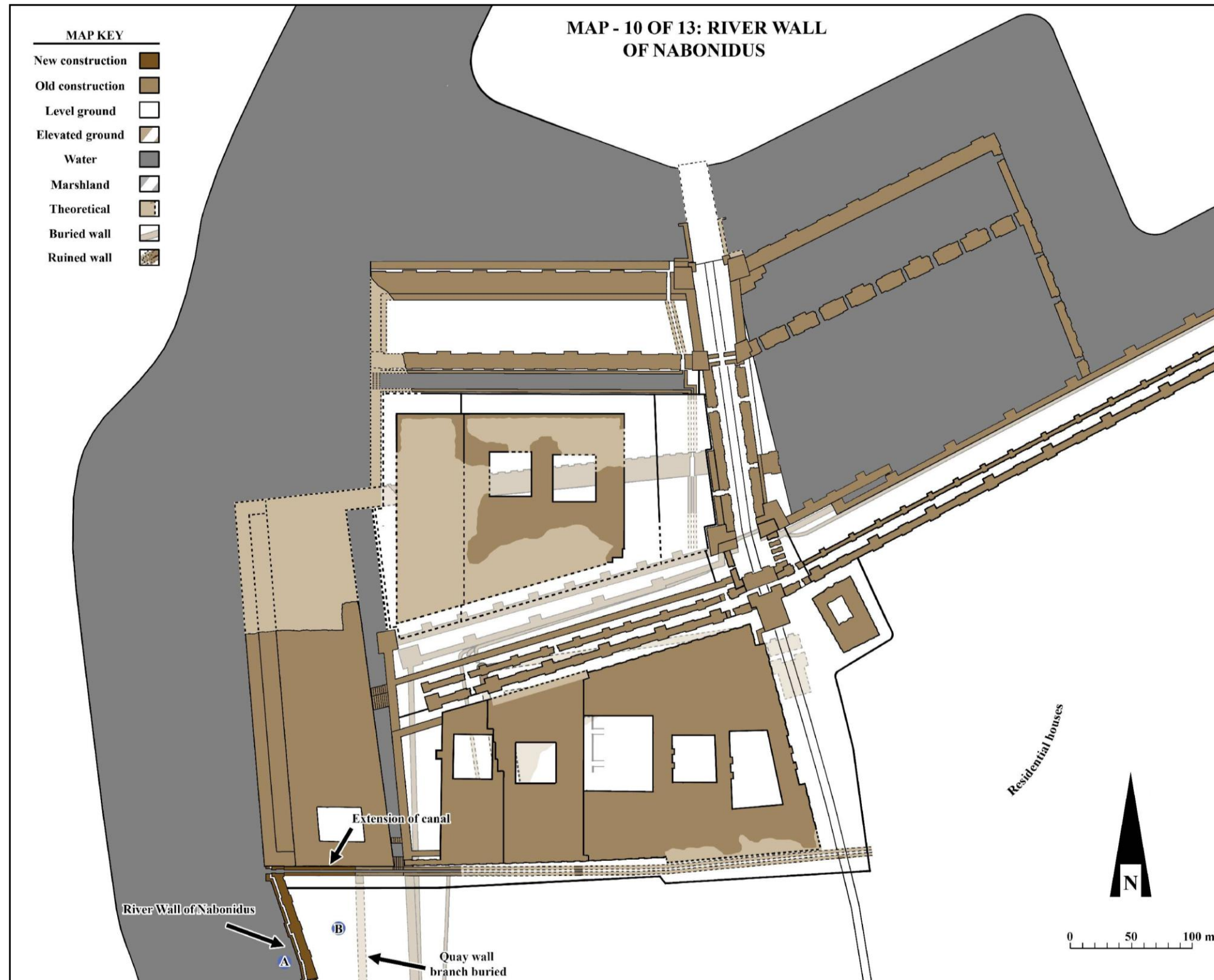


Fig. 23: River Wall of Nabonidus.

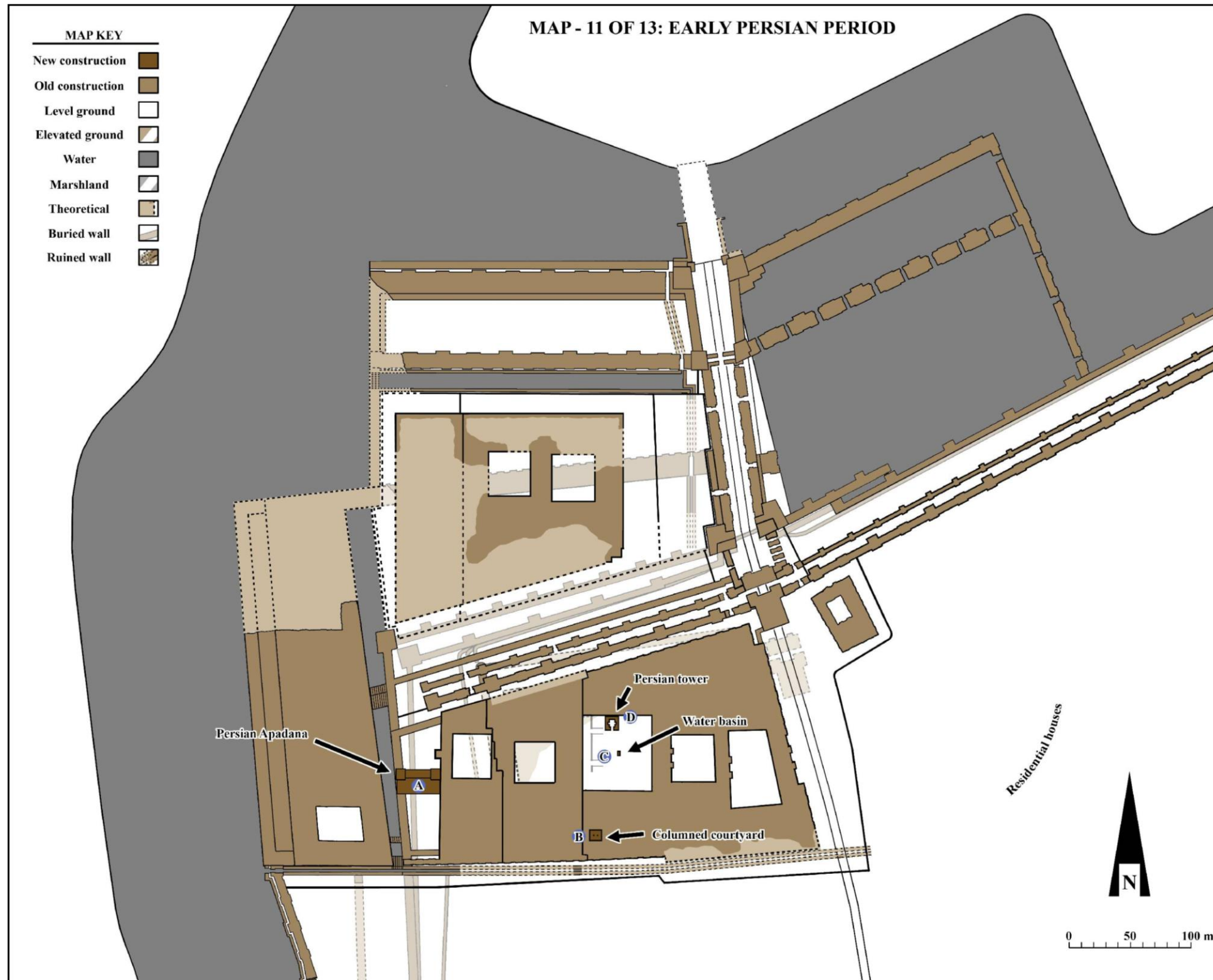


Fig. 24: Early Persian Period.

king built this structure. Koldewey found cuneiform fragments that indicated the possible reigns of King Darius I in 521-486 B.C. (1914: 128), King Xerxes I in 485-465 B.C., or King Artaxerxes II Mnemon in 404-359 B.C. (1914: 182; 1931: 121). A later interpretation suggested the reign of Artaxerxes III Ochus in 358-338 B.C. (Unger 1932: 368). With the exception of some (Vallat 1989), more recent interpretations place the construction back to Darius I (Olmstead 1959: 162-163; Schmidt 1953: 28; Haerinck 1973: 129).

Although less substantial, changes also occurred within the Southern Palace. South of the throne room, a private courtyard received a new roof supported by columns consisting of palm trunks beautifully decorated with spiraled rope (Fig. 24-B)(Koldewey 1914: 108; 1931: 93). To the north, renovations included a small water basin cut into the center of the massive Principle Court (Fig. 24-C)(Koldewey 1914: 103). Perhaps for religious purposes, this basin might have been linked to a new tower constructed on the court's northern wall (Fig. 24-D)(Koldewey 1931: 77). Essentially at the heart of the palace, some scholars suggest that this unique tower could be the remains of a Zoroastrian fire temple for the use of the Persian kings (Schmidt 1941: 790, Fig. 1, 802). Although not easily dated, it is probable that most of these improvements took place early in the Persian period as a way of imprinting the new rulers' authority on the palace. Reaching skyward from the central court, a burning fire temple visible from outside the Acropolis surely signified the Persians intention to stay.

It is at this point in the progression of the Acropolis, that this thesis reconstruction takes place (Fig. 24). The monuments reached the peak of their architecture and construction. After this point, Babylon underwent many changes that altered the fortunes of the city and the monuments on and around the Acropolis.

At an undetermined point during the Achaemenid Dynasty, the Euphrates River left its western bed and moved into eastern Babylon (Fig. 25). Entering near the east corner of the northern walls, the river traveled west through the city quarters, south of the Acropolis, before rejoining the river's ancient bed alongside the Esagila temple. Matching Herodotus' descriptions (1.181), this placed the Southern Palace on the

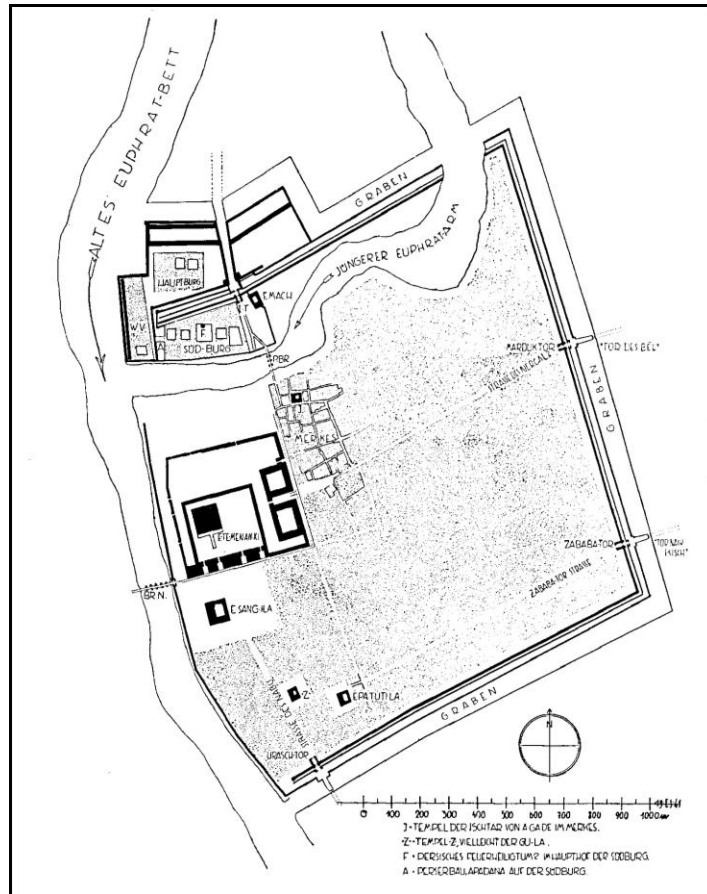


Fig. 25: Persian era course of Euphrates River (Schmidt 1941: 790, Fig. 1).
 This image explains the changes that the Euphrates River inflicted upon Babylon, further leading to discussion in Babylon's topography.

northern bank and the ziggurat Etemenanki on the southern bank. There are many suggestions to when and why this happened. The earliest known possibility dates between Cyrus' conquest and the 24th year of Darius I's rule. A letter dated to this time mentions a boat bridge connecting the palace to the town (Gullini 1979: 188).

Using the Persian building as a clue, the river likely changed during Darius' reign but after the Apadana's completion. The available space between the palace and channel determined the small size of the Apadana. If the river moved before the Apadana's construction, the now obsolete channel should not have been a limiting factor since the channel could have been filled in to allow a larger structure.

Reasons for the river's change compiled by Ravn (1942: 61-4) followed by George (1992: 356) explain that the Neo-Babylonian efforts so forcibly channeled the Euphrates' bed, that the river finally broke its banks north of the city and chose an easier eastern path. The odd shape of these structures, mainly the Western Outworks, resulted in water awkwardly crashing against the Acropolis (Damerji 1979: 41). Ravn and George continue as detailed by Herodotus (3.159), that Babylon's walls might have been absent due to their earlier destruction by Darius or later by Xerxes in response to rebellions at the beginning of their reigns. An absence of walls would have allowed the river to flow south into the city unrestricted. More extreme, the river's alteration might have been intentionally engineered to punish the Babylonians. A deliberate destruction of the quay wall by Xerxes unleashed the waters into the city (Bohl 1962: 113; Reade 2000: 202). An alternative less dramatic theory, suggested that the Persians did this not to punish, but in a more controlled manner, to separate the Acropolis with a buffer from Babylon's main populace (Schachermeyr 1970: 57). Based on the devastation that followed, this last suggestion is highly unlikely.

Regarding the city walls, it is more plausible to believe that they survived into this period. The suggestion by Herodotus could simply be propaganda against the Persians, showing that they destroyed not only Greek cities, but their own as well. Despite his explanation of the walls' earlier destruction, Herodotus contradicts himself by describing the walls as intact during his lifetime, even marveling at their immensity (1.178-79). Later descriptions from the Macedonian period (Diodorus 19.100.5-7) state that the walls remained not only standing, but defensible during the wars of succession following Alexander the Great's death. It is more plausible to believe that these walls only suffered partial destruction as a result of the river's movement. After that point, the western, eastern, and southern city walls remained intact, while Babylon's inhabitants now utilized the river as the new northern boundary.

Reexamining the archaeological data, some believe that the river never actually moved and that Koldewey and other early archaeologists based their assumptions mainly off of Herodotus' description (Rollinger 1993: 148-166; Boiy 2004: 66, 317). Although

raising interesting discussion, this viewpoint seems to trivialize the archaeology. Koldewey found river sediment east of the Ninmach temple and southeast of the Acropolis (1914: 50, 150). Bergamini's later study (1977) of the ancient water levels confirmed Koldewey's original findings and expanded the archaeological evidence. River sediment indicated that a flood destroyed part of the northern defenses, sweeping away both mud-brick walls, leaving only scant traces of the forward fired-brick moat wall (1977: 126-7). The depression left from the river shows that the water flooded into the city, through streets and houses alike. It is probable that the residential Merkes quarter, higher due to its long habitation (Koldewey 1914: 240), redirected the water to the west. The water then passed over the Processional Street (Koldewey 1914: 50) and through the Wall of Nabonidus (Bergamini 1977: 124).

While the higher Acropolis saved the royal palaces from destruction, the lower Eastern Outworks did not survive the initial flood (Koldewey 1914: 173; Bergamini 1977: 139). Even after the Outworks' destruction, layers of sediment show that the uncontrolled river continued to expand and contract from the new bed into these ruins. To ensure that future flooding did not create erosion, the Persians constructed a large quay wall along the new eastern bank of the Acropolis. While Koldewey often mentions this structure, he did not map the plan. His scattered descriptions of an advanced wall explain that the structure started near the Processional Street's entrance (1914: 177), then ran parallel to the road (1914: 170) cutting deep into the Eastern Outworks' walls (1914: 173). Koldewey's early sketch of the Acropolis (Fig. 26) portrayed that the wall turned east, then south through the former city defenses ultimately rounding the Ninmach temple. Schmidt discusses this wall (1941: 809) and in a partial map reconstruction (Fig. 27) theoretically displayed the portions past this point. His sketch proposed that the wall connected from the temple, then ran south to the new river bank, where the wall turned west before terminating at the Southern Palace. This wall not only united the entire Acropolis (Koldewey 1914: 182), but also separated the damaged and now abandoned lower portions of the Eastern Outworks (Fig. 28-A). Once the Persians

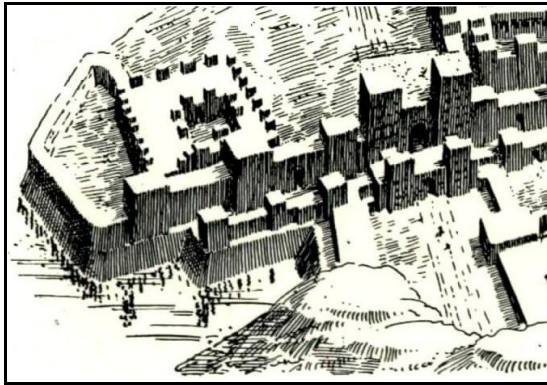


Fig. 26: Early sketch of Persian wall.
Cropped from Koldewey (1914: 66, Fig. 43).

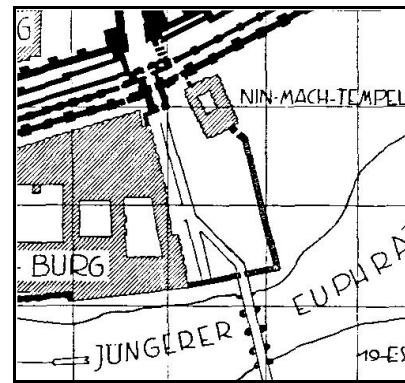


Fig. 27: Persian wall southeast of Acropolis.
Cropped from Schmidt (1941: 808 Fig. 12).

constructed the advanced wall, the river remained free to expand and contract without further threat to the Acropolis (Fig 28-B).

The status of the moat system following the river's movement remains unclear. Bergamini indicated that based on erosion patterns, water continued to flow past Neo-Babylonian quay and moats walls long after maintenance ceased (1977: 115). However, this might simply reflect the early decades of the Achaemenid Dynasty prior to the river's movement. Without continuous northern access to the river, the western city's moat likely dried up. In the eastern city with the Acropolis, the flood destroyed the northern moat at the same time as the city walls (Bergamini 1977: 125). North and east of the Acropolis, sediment indicated that water remained present (Koldewey 1914: 150,173, Bergamini 1977: 139), but not necessarily on a permanently flowing basis. The remaining eastern and southern city moat probably survived in some form due to their continued contact with the river. How much water flowed here is questionable. Sediment from the initial flood and the lack of maintenance surely contributed to these areas becoming swamp land, which like around the northern and eastern Acropolis, only flowed during flood seasons. Nevertheless, a swamp presented a defensive boundary. Limited flowing water might explain why the canal in the Northern Citadel was narrowed to 1.8 m and roofed over (See p. 46, 187-188). Although Koldewey did not determine when this narrowing occurred, it is plausible this event happened after the



Fig. 28: Middle Persian - Macedonian Periods.

river moved. Perhaps the Persian kings sought to concentrate the reduced flow of water east towards the Northern Palace (Fig. 28-C).

An additional change involved elevating the Processional Street so that the roadway lost its slope and became horizontal (Fig. 28-D)(Koldewey 1914: 25; 1932: 39). The lesser gate between the Principle Citadel Walls disappeared underneath this new pavement and was not reconstructed (Fig. 28-E)(Koldewey 1914: 170). Like the river and the palatial modifications, this renovation cannot be easily dated. However, surrounding changes near the Acropolis likely influenced the construction. After the Euphrates destructively moved into the east, the river bed and water reached a higher level (Bergamini 1977: 124). It is probable that the accompanying flood and silt raised much of land area requiring this adjustment. Unfortunately, Koldewey did not specify to what level the Persians raised the street. The Ishtar Gate's pavement reached 15 m above zero. If meeting that height, then somewhere outside the city, the roadway again must have ramped down to the natural ground level (Fig. 28-F). It is unclear how this elevation took place without altering the surrounding lower defenses. Although previously not discussed, the parallel walls lining the Processional Street surely required advancing stepped wall segments to account for the street's previous incline. Perhaps the walls were reconstructed. Since the walls' superstructures no longer exist, upper renovations cannot be determined. Koldewey did mention that the Persian advanced wall narrowed the main approach at the northern bastions (1914: 177). This might have been part of a defensive renovation resulting from the modified roadway. Broken brick now repaved the street (Koldewey 1914: 170) indicating that the Persians hastily carried out construction. The elevation ultimately buried the fierce lions that once lined the avenue as well as the magnificent limestone and red breccia pavement. Although likely still impressive, the image desired by Nebuchadnezzar no longer existed.

Alexander the Great

By the time of the Alexander the Great, Babylon had long recovered from the flooding of the Euphrates River. Commerce continued and the city rebuilt around the

new river bed. One can imagine Alexander's first glimpse of Babylon. Following the battle of Gaugamela in 331 B.C., Alexander marched south into the city along the raised and now horizontal Processional Street. To his east, the ruins of the northern city wall and the Eastern Outworks projected from the surrounding marshland. To his west, now visible from higher ground, the former twin palaces of Nebuchadnezzar magnificently greeted the new conqueror. Past the Ishtar Gate, the road sloped down to the Euphrates River, where beyond, inner Babylon extended across the horizon. As described, a boat bridge extended south into the city (Fig. 28-G), continuing the street to the sanctuary of Marduk. Staircases destroyed as possible punishment by Xerxes, the decaying ziggurat Etemenanki rose above the city abandoned and inaccessible (Schmid 1995: 68, 76, 92-93).

Scantly preserved in the archaeological record, any efforts by Alexander upon the Acropolis do not appear to have altered the appearance. Seeking divine favor or perhaps an effort to appease the Babylonian clergy, Alexander instead mainly focused on restoring the sanctuary of Marduk and other portions of the city.

Macedonian Period (Seleucid Dynasty)

The topographical changes of Babylon's final dynasties are more difficult to determine. If not initially buried under later periods of habitation, the remains often did not survive the test of time. Combined with the archaeology, the historical events help portray how the Acropolis finally declined.

Following Alexander's death, the wars of succession between General Antigonus and Seleucus devastated parts of Babylon (Oates 1986: 140). During the conflicts, Demetrios, son of general Antigonus captured one of the citadels and burned it (Diodorus 19.100.7). Which citadel Demetrios destroyed is not clear. This citadel might reflect the Summer Palace north of the city and not one of those on the Acropolis (Reade 2000: 203). Regardless, the Acropolis remained besieged for some time during this conflict (Diodorus 19.100.7), likely starting the decay of its structures.

Following Antigonus' defeat, Seleucus and the succeeding kings of the Seleucid Dynasty continued to maintain Babylon as one of their residences (Kuhrt 2001: 84-5). Signs of slight remodeling on the Acropolis appeared as decorative wall plasters and renovations. The Seleucid kings reconstructed the Persian Apanada (Fig. 28-H), yet interestingly did not change the architecture or decoration (Schmidt 1941: 828-30; Kuhrt 2001: 87). This suggests that Persian influence still remained within the palace. Between the Ishtar Gate and the temple of Ninmach, more recent excavations revealed an undated Seleucid storehouse built parallel to the Processional Street (Fig. 28-I)(Abdul-Razzak 1983: 19). Other changes do not seem to have occurred. Like Alexander, these kings focused most of their efforts outside the Acropolis.

Parthian Period (Arsacid Dynasty)

In the mid to late 2nd century B.C., Babylon passed between Seleucid and Parthian rule many times before the Parthians gained regional stability. If the palaces initially remained intact, it is probable that those in power sought to occupy them as the highest most defensible points in the city. No longer a royal residence or a regional capital, any occupation on the Acropolis likely resembled a military outpost. It is not clear whether occupants maintained these structures during these conflicts or exactly how long they survived after.

Diodorus described that the Parthian general Himerus burned large parts of Babylon during his quest for power (34-5.18). More unrest continued when Babylon became a primary fighting ground between the Parthians and the former southern Seleucid satrap of Characene. Inscribed reports from 124 B.C. detailed fires within the Southern Palace during this political instability (Boiy 2004: 179). These events as well as the mid 1st century B.C. Parthian civil war between Mithradates III and Orodes II (Boiy 2004: 192) contributed to the city's decline. Diodorus continued that by the 1st century B.C., the Esagila temple as well as the royal palaces were ruined, and that Babylon became sparsely populated (Diodorus 2.9.9). Indeed, continued fighting for control likely emptied the city and devastated the Acropolis.

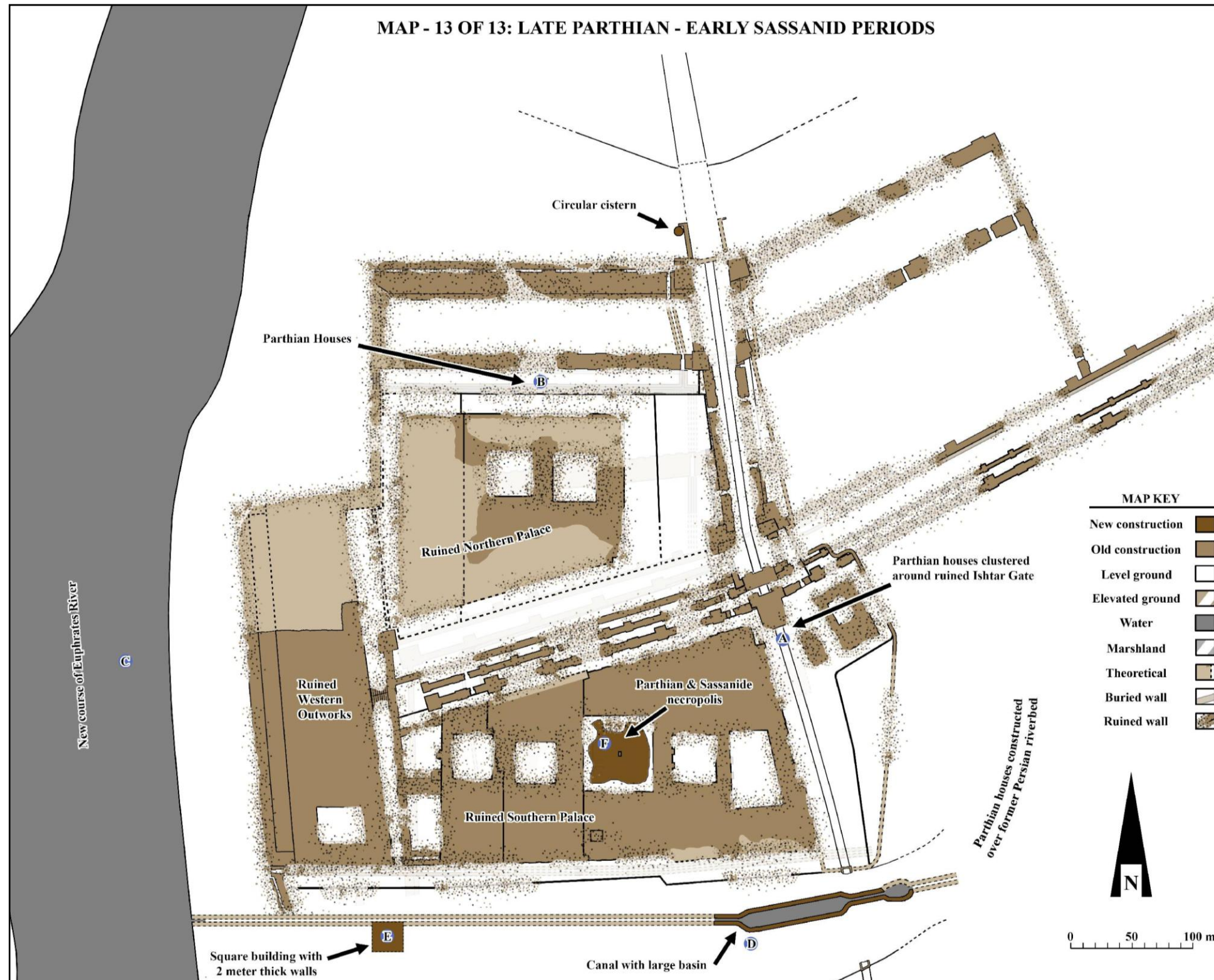


Fig. 29: Late Parthian - Early Sassanid periods.

Koldewey confirmed the Southern Palace's later ruin due to poorly built walls constructed over the original plan (1931: 77). Reusing broken Nebuchadnezzar bricks, new residences, along with brick graves sporadically intermixed with the ruins (Koldewey 1914: 182). To the east, more houses clustered together around the Ishtar Gate (Fig. 29-A). Interestingly, these houses left the portal free (Koldewey 1914: 49) suggesting that even if the gate was ruined, the portal still remained in use. Outside the main walls and lying at a lesser elevation, the Northern Palace likely suffered first. The palace had been burned as indicated by the remnants of scorched legal tablets recovered from the ruins (Reade 2000: 206). To the north of the palace, Parthian houses scattered across the former canal (Koldewey 1914: 167-168; 1932: 30), further emphasizing the enclosure's ruined state (Fig. 29-B).

At an undetermined point, the Euphrates River once again moved back to its original course west of the Acropolis (Fig. 29-C)(Koldewey 1914: 182; Bergamini 1977: 124). In the river's place, a new canal appeared directly south of Nebuchadnezzar's original Libil-higalla canal, which by the late Persian period became obsolete. This newer canal contained a large basin west of the Processional Street (Fig. 29-D). Many published maps and reconstructions based off of an early map drawn by Unger (Fig. 30)



Fig. 30: Parthian canal incorrectly displayed in Neo-Babylonian era map. Map cropped and modified from Unger (1931: Pl. 57).

incorrectly detail this canal during the Chaldean Dynasty. Excavations did not reveal an entrance to this canal along the early Neo-Babylonian quay walls or in the later defensive Wall of Nabonidus. The recycled broken Nebuchadnezzar bricks (Koldewey 1914: 50) clearly indicate that the canal belonged to a later period. Additionally, laying at a depth of -1.40 m with an upper banquette of +1.40 m (Bergamini 1977: 124), the canal served a water level much higher than Neo-Babylonian times.

West of this canal, directly south of the Western Outworks, a 90 by 60 meter mound originally from an unknown period (Reade 2000: 203), and once suggested as a site for the Hanging Gardens (Stevenson 1992: 43-5), has been confidently linked to the Parthian period (Fig. 29-E). Excavations revealed a substantial square mud brick building containing walls over 2 meter thick and more than 20 m long (Roaf & Killick 1983: 207).

By the late Parthian period, the squatters inhabiting the Southern Palace decreased; at least within the Principal Court. Throughout the court, the late inhabitants broke through the pavement and dug graves as low as the earliest floor level (Fig. 29-F). Koldewey described these burials as endless and stacked one above the other (1914: 102, 182). While brick graves were commonly interspersed amongst continued residential areas in the city, the large scale of these burials in the palace, suggested that the ruined building became increasingly unusable. Like other Mesopotamian ruins, the Acropolis and its structures slowly eroded and collapsed from brick robbing. Eventually the citadels of the Neo-Babylonian kings became unrecognizable, leaving only desolate mounds as testament to Babylon's by gone age of glory.

CHAPTER V

RECONSTRUCTIONS: PART I

Outer Defenses

In the late 6th century B.C., a long ruin extended 18 km around Babylon's eastern farmland. Before the Persian conquest, the so-called "Osthaken" formed a massive outer fortification (Previously shown on Fig. 11). This defense consisted of two walls spaced 12 m apart; an inner of sundried brick, 7 m wide, and an outer of fired brick, 7.8 m wide. Immediately in front, a 3.3 meter wide quay wall, also of fired brick, held back a moat system (Koldewey 1914: 1; 1932: 41). The fortification's purpose bore considerable similarity to the Long Walls in ancient Athens. In times of emergency, towns and villages from all over could safely retreat into its enclosure. Inside the protected northern end, farthest from the city, Nebuchadnezzar constructed his so-called "Summer Palace" (Koldewey 1932: 41). The palace consisted of an immense fortified building set upon an 18 m high platform (Koldewey 1914: 11). It has been proposed that this palace served as the military administration for Babylon's arsenal, as well as the later location for Alexander the Great's death (Reade 2000: 203, 215). While the Palace likely survived into the Macedonian period as indicated by Reade (2000), the Persian king Cyrus deemed the Osthaken too troublesome to remain standing (Josephus, *Apion* 1.142). If the Persians lost control of Babylon due to the frequent internal rebellions, this wall created an overwhelming outer obstacle in addition to the inner city defenses. While the ruin does not appear on this reconstruction, it established the northern approach to Babylon. The fortification's shattered remains had to be passed before reaching the inner city defenses.

Inner Defenses

Beyond the ruins, separate defenses, no less impressive, surrounded the city proper. Only the Acropolis and ziggurat surpassed them in elevation. Unlike most cities of the time, which contained walls that followed the shape of the inner neighborhoods,

Babylon instead contained straight and organized walls which dictated the inner city plan. The flat Mesopotamian terrain allowed a traveler to witness their full length, but not the city beyond them. Eight gates permitted interior access (George 1992: 141, Fig. 7). Excavations revealed that a fortified quay wall, 4 m wide, constructed of fired brick, held back the surrounding moat. Two additional walls stood roughly 18 m to the south. Constructed of unfired brick, the outer Nemetti-Ellil and the inner Imgur-Ellil, stood 7 m apart and contained respective widths of 3.72 and 6.5 m (Koldewey 1914: 150-152). As previously discussed in Chapter II Methodology, these walls are shown in the reconstructed drawing at 9, 11, and 14 m tall respectively (Fig. 31).

Relief fragments from Assurbanipal's (668-627 BC) North Palace at Kuyunjik, Nineveh (Fig. 32), show a similar defense at the Elamite city of Der (Lampl 1968: 53). In this depiction, a moat bridge passed through a lower fortified quay wall, before approaching a gated inner and outer city wall. In the background, a palace overshadows the scene. While Nebuchadnezzar built Babylon on a much grander scale, this image gives some understanding to what no longer exists.

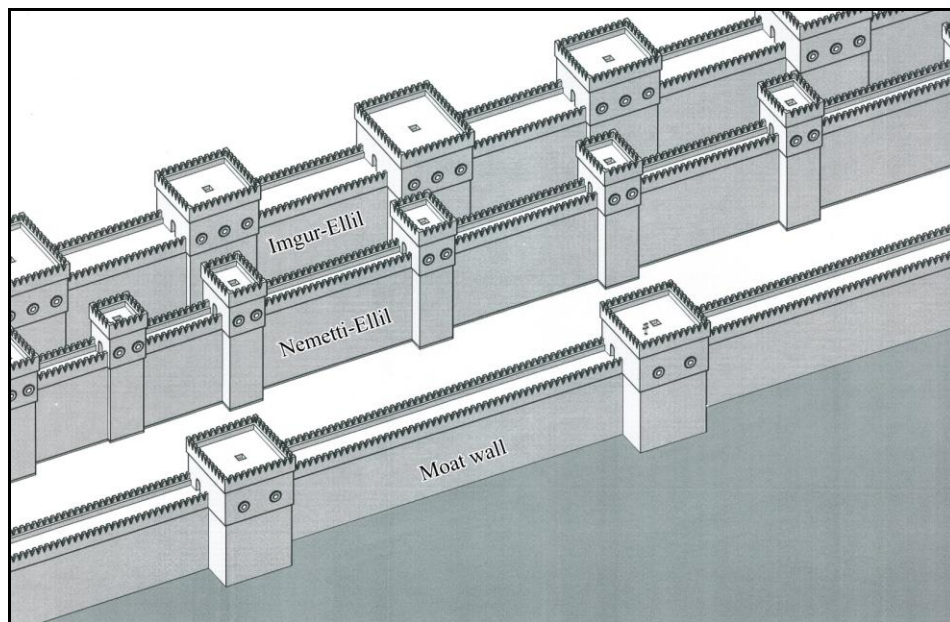


Fig. 31: Reconstruction on Inner City Defenses.

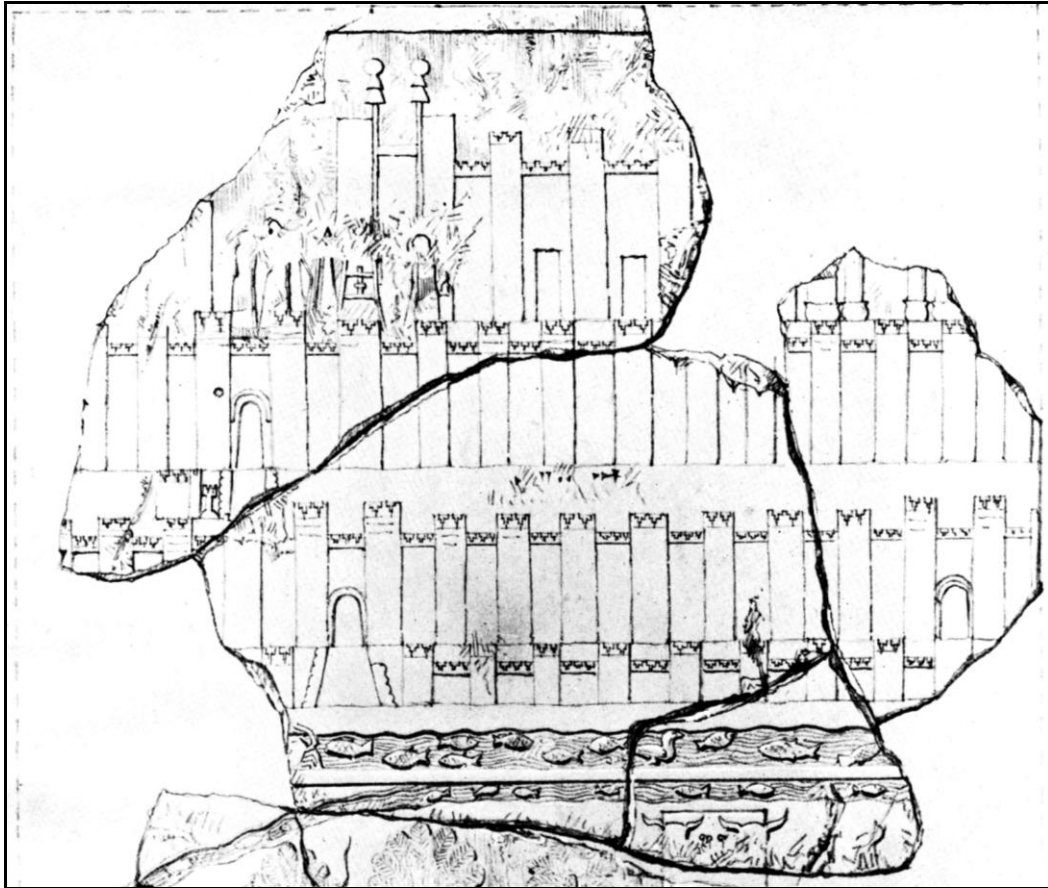
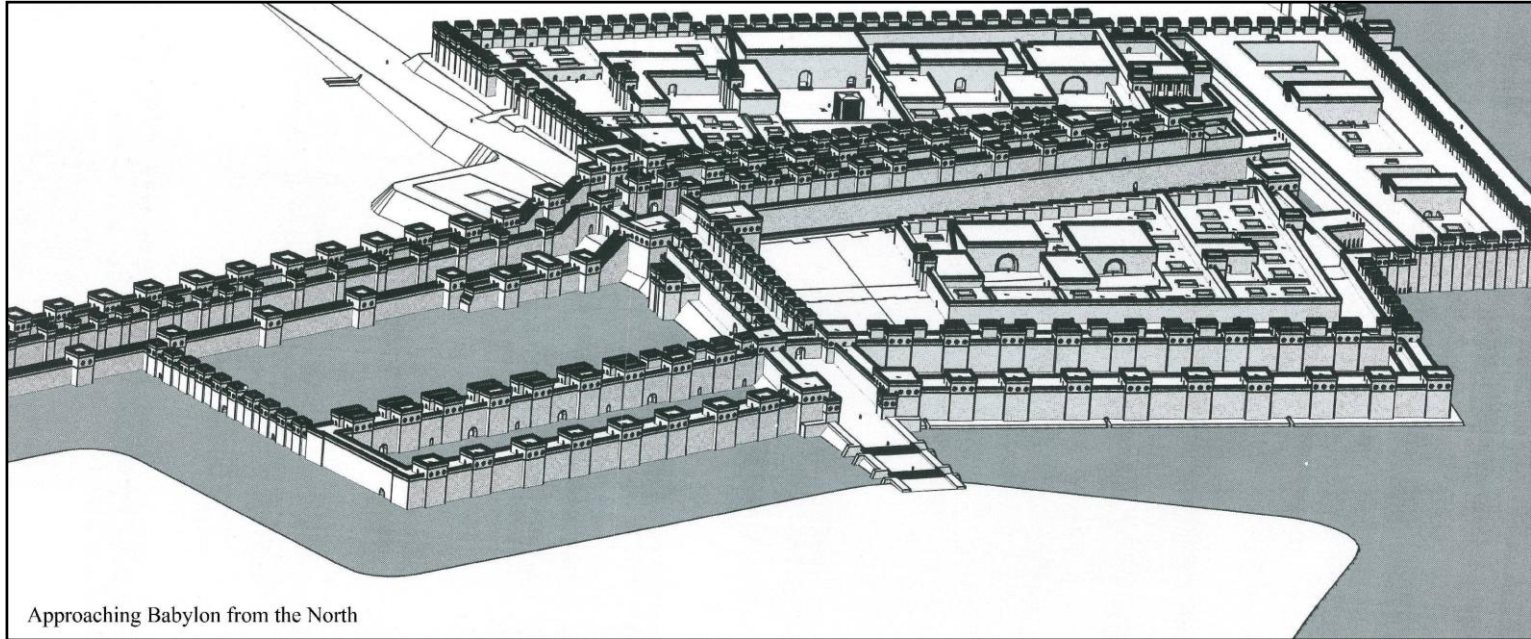


Fig. 32: Depiction of similar Mesopotamian defenses, suggested to be the Elamite city of Der. From Gadd (1936: Pl. 28). This image presents important insight into how Babylon's defenses might have appeared.



Approaching Babylon from the North

Fig. 33: Reconstruction of Babylon's Acropolis approached from the North.

Approaching from the north, Babylon's Acropolis rose up from the river's eastern shore, where beyond, stood the ziggurat. Here, the rectangular defenses around the city changed form. At the main gate, additional defenses reached north from the Acropolis, enclosing the Processional Street, and creating an imposing approach into the city (Fig. 33).

Moat Bridge

Excavations along inner Babylon's eastern and southern edge revealed that the moat system had a medium width of 75 m (Bergamini 1977: 136). Based on staircases leading into the moat, the depth ranged between -2.70 and -2.92 m below zero (Bergamini 1977: 131). Remains of rotted planks and reeds suggest boat bridges once facilitated communication to the opposite shore. However, at an undermined period, earthen dams replaced these bridges. The dams extended approximately 70.5 m from the city, where a permanent narrow pier allowed a temporary bridge to cross the remaining 4.5 meter section (Fig. 34). This strange unexplained alteration severely reduced water flow and led to silting (Koldewey 1918: 4; Bergamini 1977: 136). While the introduction of these earthen dams cannot be dated, it is probable that they appeared near the early Persian period; the same time as this reconstruction. The reduced need for moat defenses in a larger and more secure empire likely led to the moat system's neglect.



Fig. 34: Moat bridge at the Zababa Gate in southeastern Babylon (Unger 1931: Pl. 10, Fig. 19). This cropped image details the appearance of Babylon's lesser bridges in relation to the city's northern approach, which required a more substantial bridge.

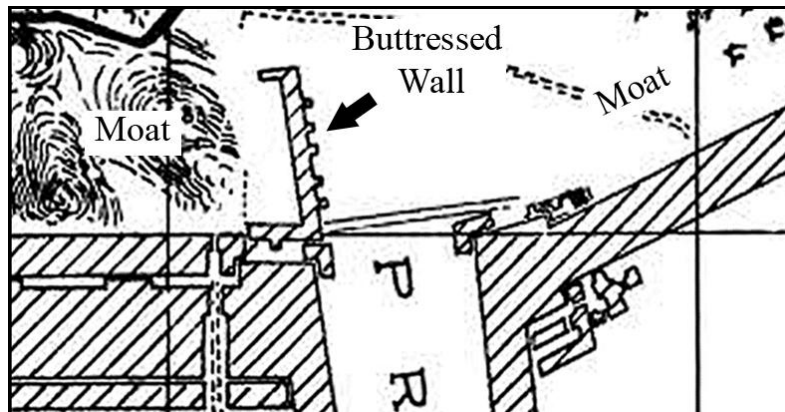


Fig. 35: Moat dam with buttresses. Modified & cropped from Koldewey (1931: Pl. 1).

Koldewey did not complete excavations on the northern moat leading to the Acropolis. From the Processional Street's southern shore, excavations uncovered only 35 m (1932: Pl. 24) of a similar earthen dam before work stopped. This has led to some misinterpreted reconstructions of the northern moat bridge. Many reconstructions display a full dam crossing over a narrower northern moat without a removable siege bridge. The importance of the Acropolis makes this configuration highly improbable. Instead, the northern moat likely shared the same width as others in Babylon, while the dam contained one or more removable bridges in case of threat. In contrast to other dams, this dam contained side walls supported by inner and outer burnt brick buttresses (Fig. 35)(1914: 180; 1932: 39). This can be explained as sturdier construction to support the elevated Processional Street.

Reconstructing this area is difficult, but not impossible. While Koldewey only excavated the western side of the dam, it makes sense that the eastern half shared the same design in order to evenly carry the street's weight. It is improbable that narrow piers completed the unexcavated portions of the bridge. Since the ramp leading up to the Ishtar Gate started from outside the defenses, it is more likely that additional buttressed wall segments lay undiscovered to the north. To permit the passage of water, construction required channels to separate sections of the dam; while above, removable siege bridges maintained communication along the roadway (Figs. 36 & 37).

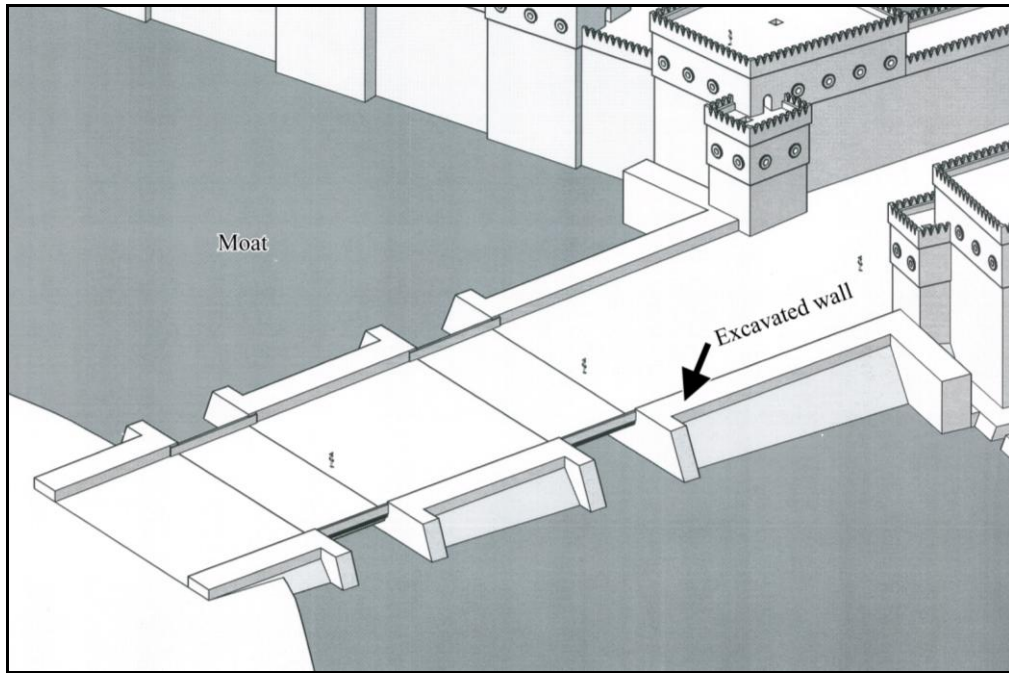


Fig. 36: Reconstruction of the northern moat dam with removable siege bridges.

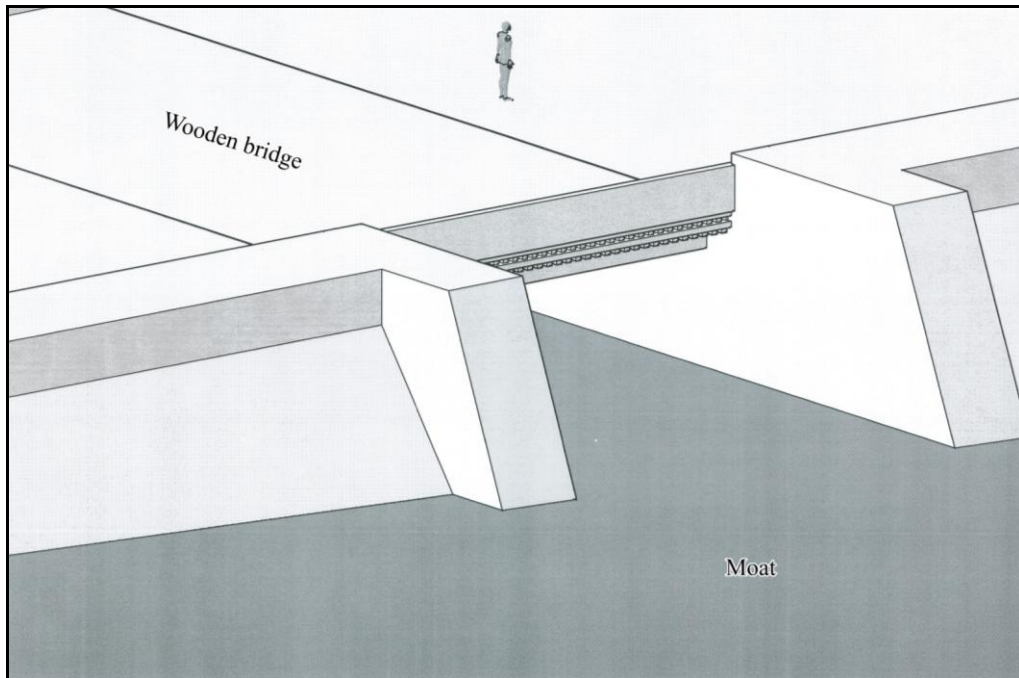


Fig. 37: Removable siege bridges.

Lower Processional Street and New Wall of the North Citadel

Crossing over the moat bridge, great bastions straddled the Processional Street; each with a lesser forward tower (Koldewey 1914: 176). From these bastions, defensive walls ran west and east (Fig. 38). Excavations in recent decades revealed a large platform 30 by 40 m between the bastions. Perhaps the remnants of a gateway, nothing of the superstructure survived to describe the platform's purpose (Roaf & Killick 1983: 207). Without more information, this building does not appear in this reconstruction.

On the west, the New Wall of the North Citadel represented the extent to Nebuchadnezzar's northern advancement projects. Although this ground once formed part of the river, Nebuchadnezzar filled the area with earth to facilitate his new construction. Placed approximately 1.5 m above zero (Koldewey 1914: 167), the wall consisted of fired brick 17.50 m wide, with towers spaced 15 m apart (Koldewey 1932: 31, Pl. 24). While this wall could support an enormous height, the impressive width

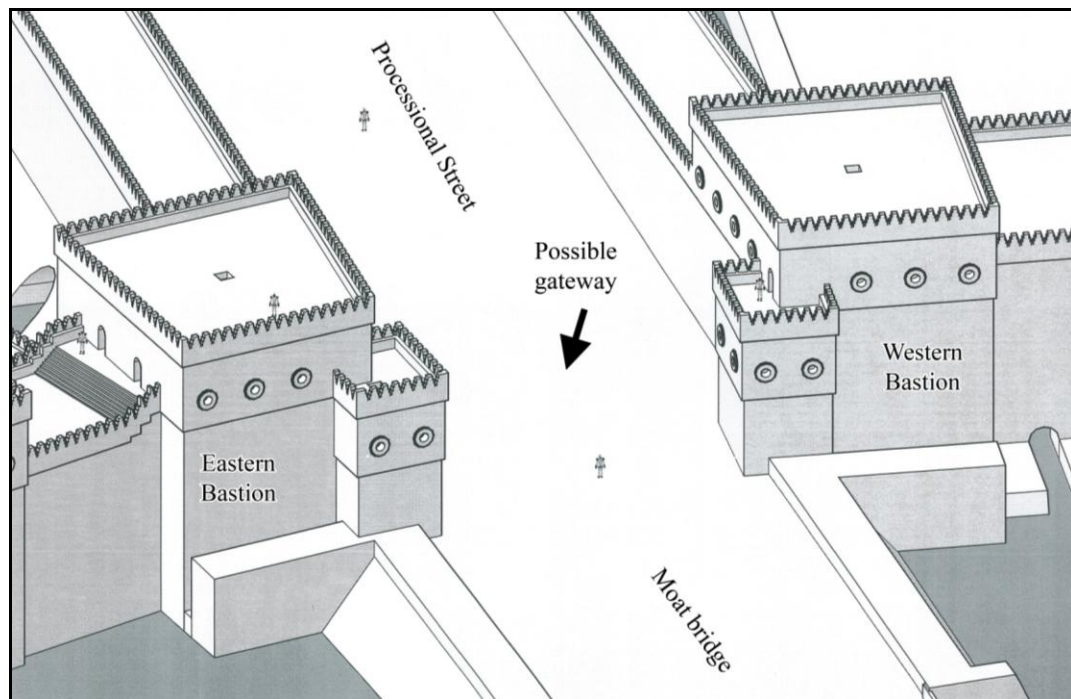


Fig. 38: Bastions on the New Wall of the North Citadel.

instead likely served as a precaution against water. Directly in front of this wall, a supporting wall made of immense limestone blocks prevented erosion into the foundations (Koldewey 1914: 177). Additionally, the position of this wall required communication with both the street level bastion and an intermediate wall that led to the Principal Citadel Walls. This suggests that despite the impressive width, the wall shared a common height with the surrounding defenses. Like the innermost city wall, the height of these defenses has been restored to 14 m. This chosen height accommodates not only the wall's superior design, but also the incline along the Processional Street (Fig. 39).

Although the passage of water north of this wall left a depression in the landscape, the ancient bed is difficult to interpret. Koldewey did not determine whether this anticipated erosion came from the moat (Fig. 40) or the Euphrates River (Fig. 41). The moat alone seems improbable, since no other moat area in Babylon received this reinforcement. Direct contact from the river also seems unlikely, since the currents risked flooding and re-bedding to the east. Perhaps the wall's design intended to catch only some of the southeast flowing currents. The result would direct water into the moat system, while allowing the bulk of the river to continue south (Fig. 42).

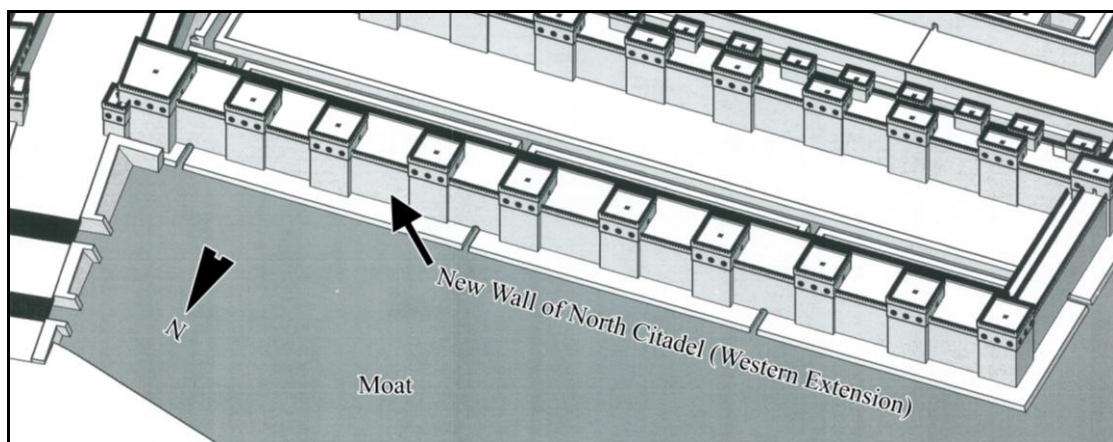


Fig. 39: Reconstruction of the New Wall of the North Citadel.

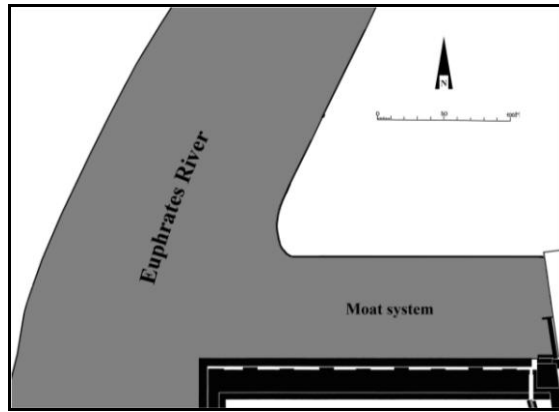


Fig. 40: River/moat configuration 1.

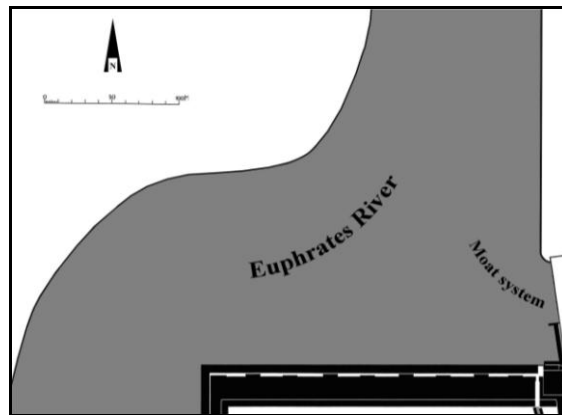


Fig. 41: River/moat configuration 2.

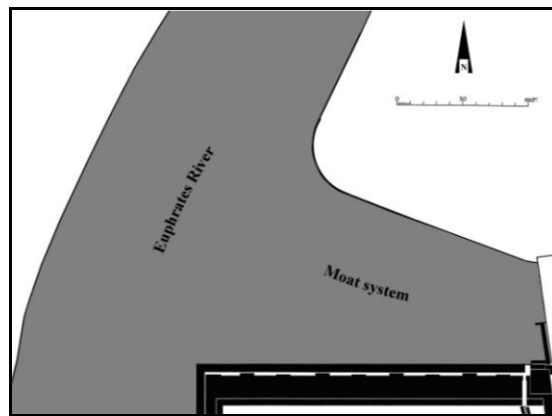


Fig. 42: River/moat configuration 3.

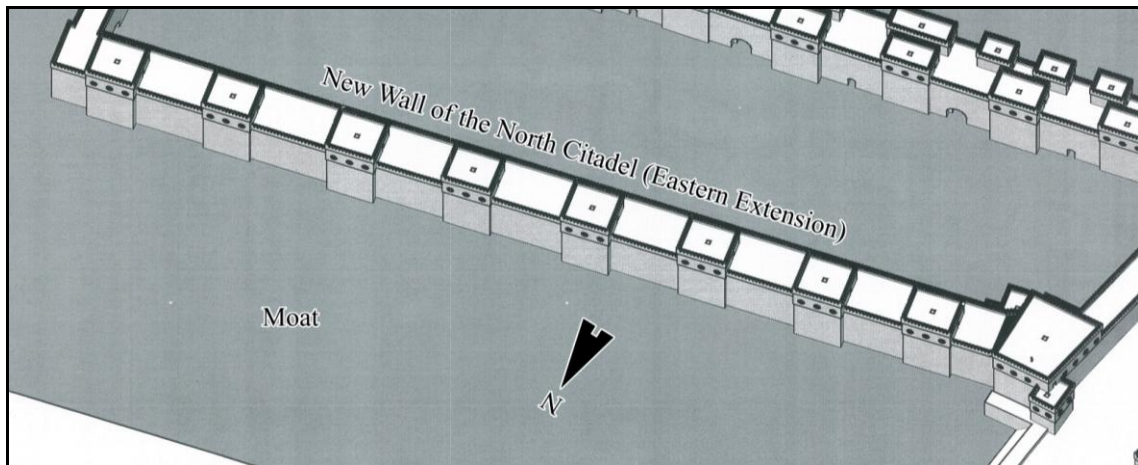


Fig. 43: Reconstruction of the New Wall of the North Citadel (Eastern Extension).

Across the Processional Street, the New Wall of the North Citadel's eastern extension contained an approximate 10 m wide burnt brick construction. Incomplete excavations revealed only a single tower located to the far east (Koldewey 1932: 35, Pl. 24). As part of the same defensive operation, this eastern wall likely contained the same defensive height and tower spacing as its western counterpart (Fig. 43). In contrast to the west, Nebuchadnezzar did not raise this ground during his northern advancement projects (Bergamini 1977: 137). This means that the whole structure sat at a lower elevation. Confirming this idea, Koldewey discovered a ramp or staircase to the south of the northeast bastion that permitted access to the higher Processional Street (Koldewey 1914: 177; 1932: 39).

Reconstructing this area required that the wall contain ascending steps to reach the street level bastion (Fig. 44). Unfortunately in Babylon, there are few preserved examples of staircases upon which to base a reconstruction. Using the ziggurat at Ur as a basis, an approximate reconstruction can be achieved. Ur-Nammu's staircase contained steps set two brick course high and spaced approximately 29 cm deep (Woolley 1939: 101).

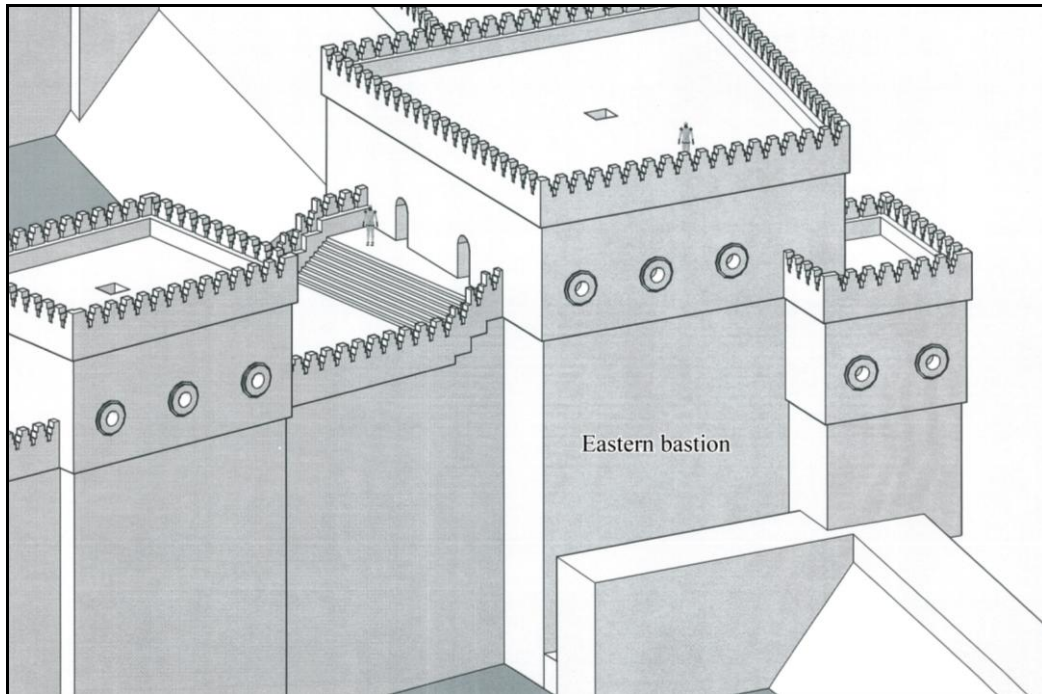


Fig. 44: Reconstruction of the Eastern Bastion with stepped wall and staircase.

Principal Citadel Wall

Returning to the roadway, the Procession Street gently inclined towards the Acropolis. The roadway consisted of white limestone slabs set between side lanes of red breccia (Koldewey 1914: 25; 1932: 36; Marzahn 1992: 8). Enclosing the street, two short intermediate walls stretched north and joined to a second set of bastions. These bastions marked the Principal Citadel Walls, the second line of defense before reaching the Acropolis.

Between the bastions, two lesser walls created a gateway (Koldewey 1914: 170). In many reconstructions, this gateway is overlooked. Part of the reason is likely linked to the insignificant appearance. Compared to other gates in Babylon, this structure lacked a substantial gatehouse chamber and appeared as though temporary; an idea somewhat reinforced due to the structure's later demolition during the Persian period. However, as Koldewey pointed out, in conjunction with the massive bastions, this structure appeared as any other fortified gateway. To accommodate that idea, the

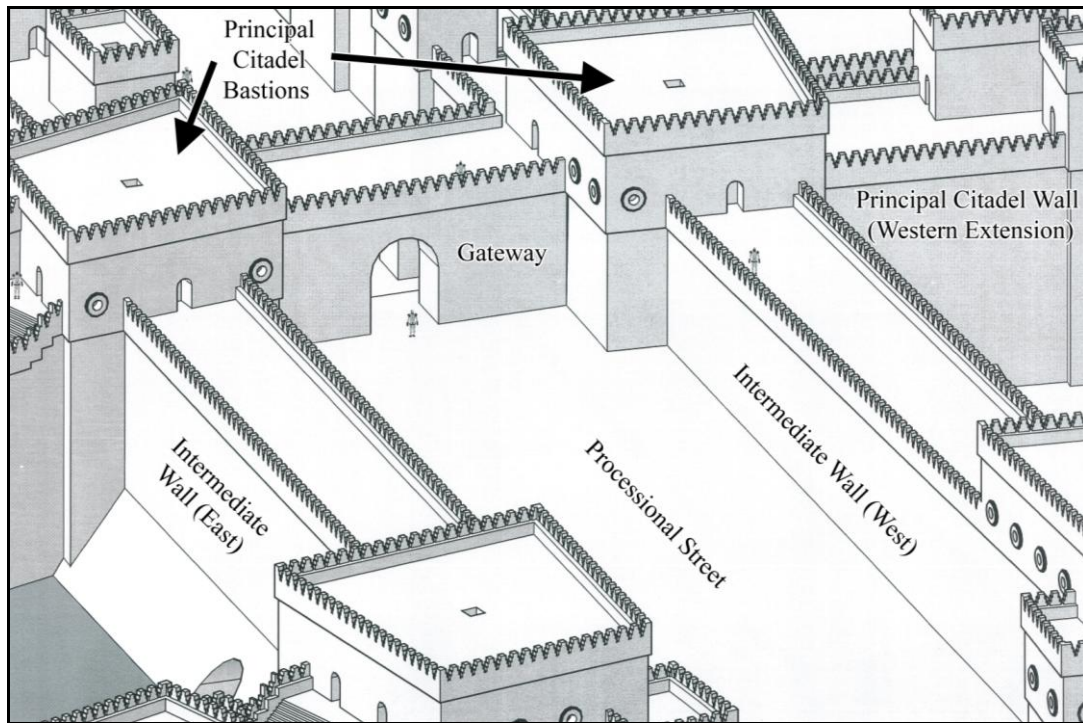


Fig. 45: Reconstruction of the Principal Bastions with fortified gateway.

gateway has been reconstructed to the height of the surrounding defenses. This allowed communication over the street between the adjacent bastions (Fig. 45).

The Principal Citadel Wall's western extension served to enclose the Northern Palace. Constructed 10 m wide of burnt brick (Koldewey 1932: 35), this structure likely reached equal height with the New Wall of the North Citadel. Although a second line of defense would normally contain an increased height, the wide valley separating the fortifications did not necessitate this attribute. The northern façade and southern rear of this wall both contained separate towers, alternately spaced. This arrangement resulted in double blockhouses across the upper parapet. Without a surviving superstructure, the widths of the blockhouses cannot be determined and therefore have been conjecturally divided and spaced apart based on the wall's width (Fig. 46).

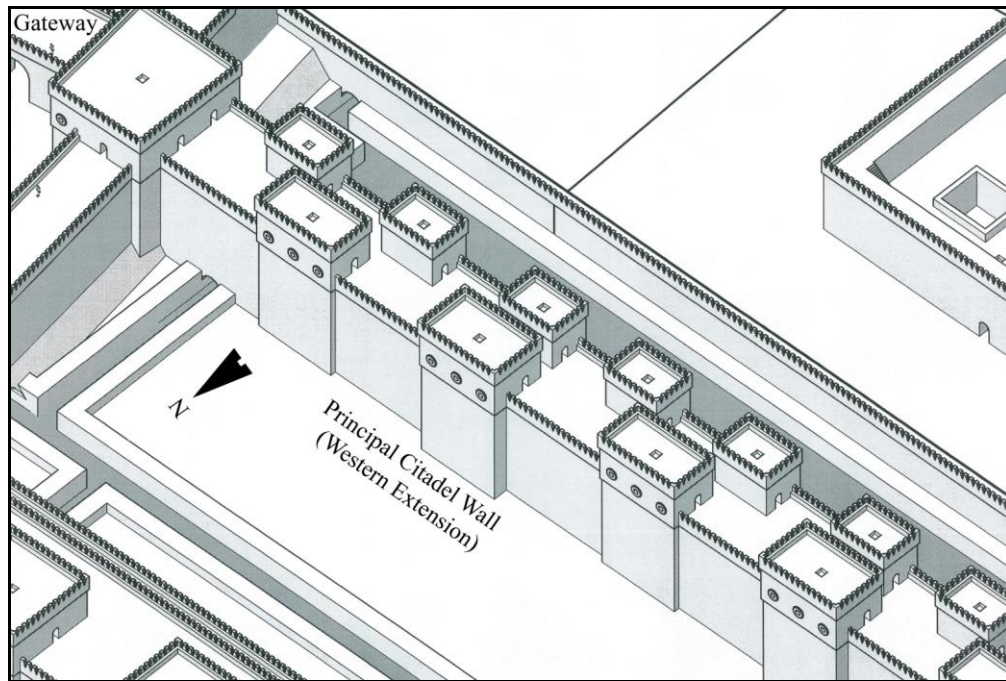


Fig. 46: Reconstruction of the Principal Citadel Wall (Western Extension) with double blockhouses.

The Eastern Outworks

The Principal Citadel Wall's eastern extension contained wider rear towers than its western counterpart. In reconstructing this area, the wide design created unusually long blockhouses on the upper south parapet. More unusual, between each front tower, a passageway permitted access through the wall (Fig. 47). These varied between 3 to 5.25 m wide (Koldewey 1914: 172; 1932: 34). From a defensive perspective, these numerous passages represented weak points and require explanation. Beyond this wall, a large enclosure was formed between the Eastern Moat Wall, the inner city defenses, and the Processional Street (Fig. 48). These so-called "Eastern Outworks" mirrored the Northern Citadel in their defensive arrangement. In contrast, Koldewey did not locate any structure or pavement within the enclosure. Koldewey suggested that this open area might represent a military ground used during times of siege. Troops gathered and used the passages as sally ports for sorties (Koldewey 1914: 172; 1932: 30). While an interesting idea, a thorough study by Bergamini (1977) explained that the results from

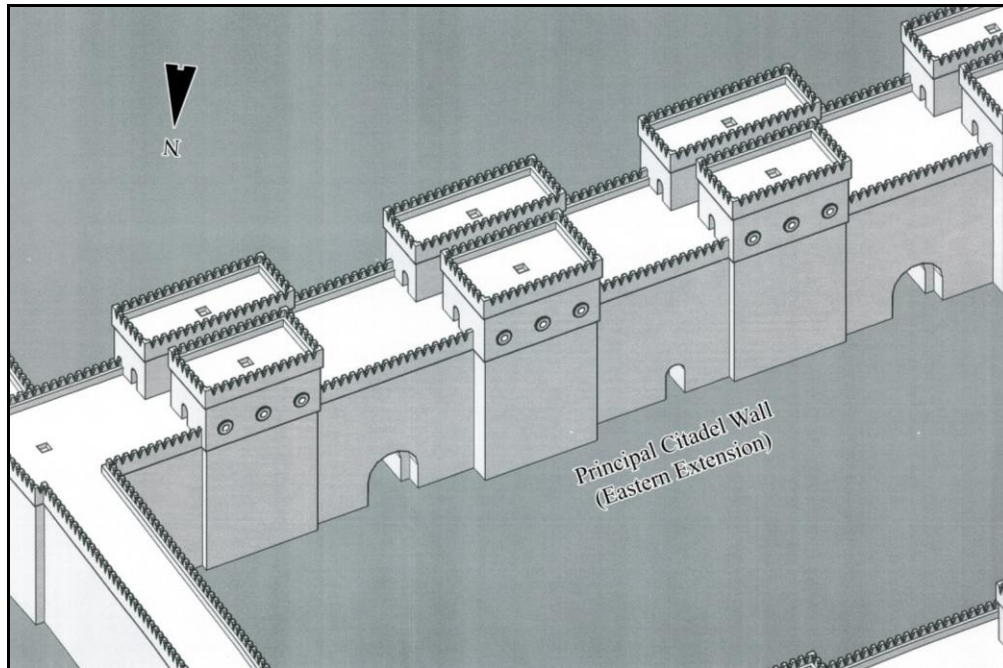


Fig. 47: Reconstruction of the Principal Citadel Wall (Eastern Extension) with long blockhouses & lower passageways.

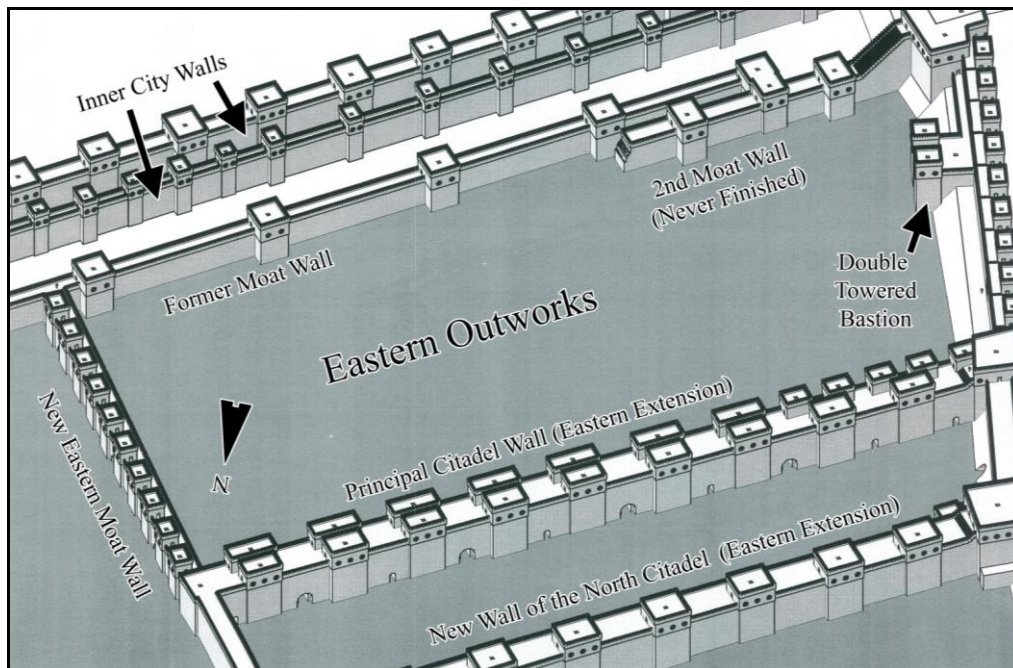


Fig. 48: Reconstruction of the Eastern Outworks enclosure.

such a compound would be negligible. Like the North Citadel Wall's eastern extension, Nebuchadnezzar did not raise this land area. Troops passing through this wall faced confinement in a small area on lower less defensible ground (Bergamini 1977: 136-7). Even Koldewey acknowledged surprise at the area's low depth, a level he believed to be no more than 50 cm above the water table (1932: 36). Bergamini goes on to explain that the threshold of these passages actually lay below the water level at the time of their use. After the Euphrates River moved, the resulting flood destroyed the Outworks and the area remained inundated (Koldewey 1914: 173; 1932: 36). This supports the idea that at the time of use, the land must have been well below the water level (Bergamini 1977: 139); deeper than what Koldewey believed. Bergamini instead proposed that the open area contained a "reservoir or river-water clarification basin" designed to prevent silting in the moat system.

While Koldewey did not complete excavations on the New Wall of the North Citadel's western extension, he discovered a single canal opening (1914: 179) which may allude to the existence of others. In theory, secured canal openings may have allowed water to enter into the citadel, before flowing east into the Outworks. The wall passages allowed this water to fill the reservoir. When needed, similar passages in the Eastern Moat Wall released fresh water into the moat system. Of these passages, the northernmost passage served as an overflow spillway (Bergamini 1977: 137-9). The complex canalling of water displayed elsewhere in Babylon makes this concept believable. Continued scholarly reference (Gullini 1979: 187; Wiseman 1983; 1985: 57; Reade 2000: 206) suggests gaining approval to Bergamini's idea.

Wiseman added to this plan by suggesting that additional canals connected to the Euphrates River (1983: 141). Alternatively, his reconstruction reversed the water flow west to irrigate a proposed location for the Hanging Gardens (Fig. 49-A). Saving the Gardens for another discussion, some of these canals are plausible if discounting Wiseman's direction of water. In between the northern walls of the North Citadel, the valley could have maintained an undiscovered canal that ran west to east (Fig. 49-B). Wiseman's theoretical canal, combined with additional openings in the north wall,

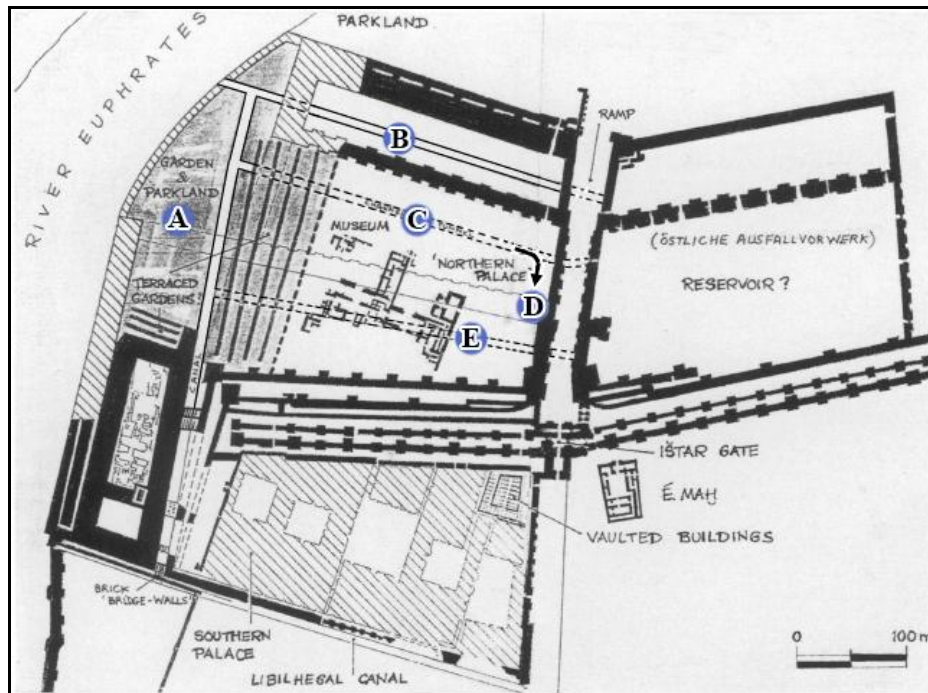


Fig. 49: Northern Citadel canal system. Adapted from Wiseman (1983: Pl. 33, Fig. B). The added letters A-E represent key points that analyze Wiseman's reconstruction.

ensured a continuous water flow from the passing Euphrates into the Eastern Outworks. Further south, Wiseman depicted the 13 meter wide canal discovered by Koldewey as a second water source (Fig. 49-C). However, Koldewey's excavations revealed this central canal abruptly turned south (1914: 167; 1932: 2, 5), not passing into the Outworks as Wiseman depicted (Fig. 49-D). Wiseman's third canal theoretically passed underneath the Northern Palace (Fig. 49-E). While excavations did not reveal such a canal, the idea is feasible since smaller conduits from the central canal branched south into this area (Koldewey 1914: 167; 1932: 2, 5).

Unfortunately Bergamini's plan portrayed only passage depths and nothing more to suggest what he envisioned. The ability to collect water during high flows and release it during low flows required access to adjustable sluices. It is probable that the architects somehow incorporated these sluices into the defensive walls above the passageways. Since the superstructures no longer exist, there is no way to determine how this appeared.

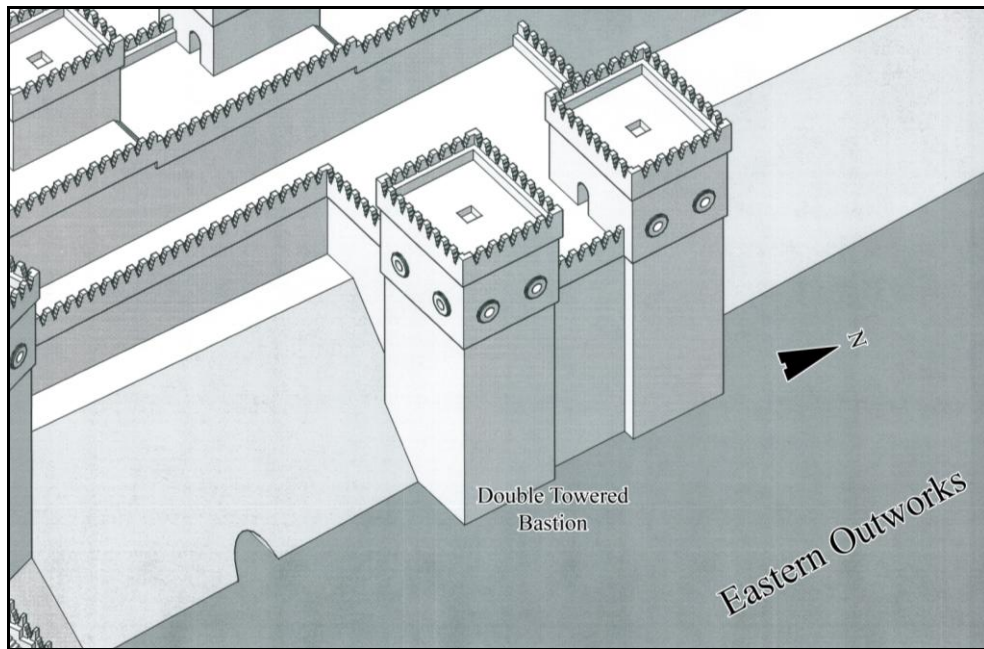


Fig. 50: Reconstruction of double-towered bastion.

Although the water plant's specific features cannot be determined, the general appearance of the Outworks is not difficult to reconstruct. Aside from the unique openings, the Principal Citadel Wall's eastern extension appeared exactly like its western counterpart in design and structural height. The main difference lay in its physical elevation. Like the New Wall of the North Citadel's eastern extension, this wall also required ascending steps to reach its street level bastion.

Inside the reservoir, an upper walkway (Koldewey 1914: 170) lined the defenses bordering the Processional Street. At the southern end of this walkway, a unique double-towered bastion projected into the Outworks. Like the walkway, the Processional Street provided access to this structure (Koldewey 1932: 27). Perhaps an observatory to monitor the reservoir or the moat system before it, Koldewey never determined the structure's purpose (Fig. 50).

To the south, Koldewey believed that before the construction of the Eastern Outworks, the moat system used the 1st Moat Wall and the incomplete 2nd Moat Wall simultaneously (1918: 51). However, at the points where completed sections

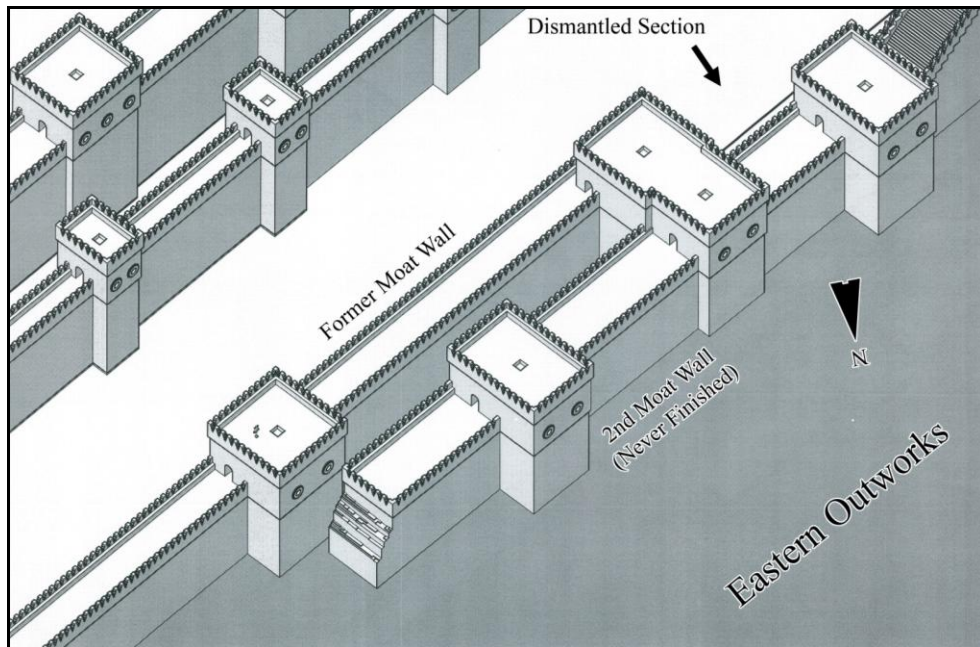


Fig. 51: Reconstruction of overlapping moat walls.

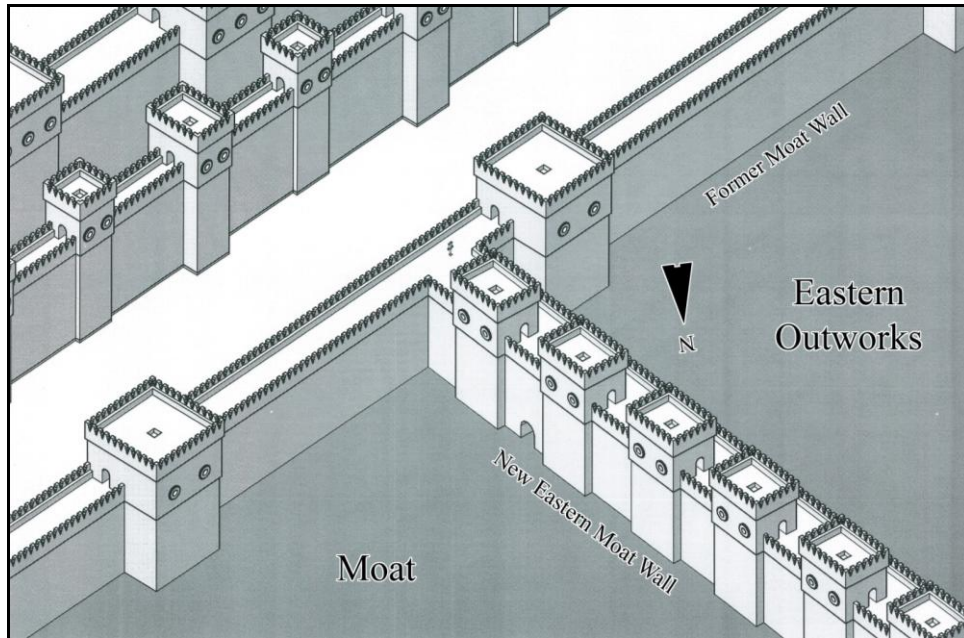


Fig. 52: Reconstruction of the New Eastern Moat Wall connecting to the older 1st Moat Wall.

overlapped, Nebuchadnezzar dismantled portions of the older wall (1914: 133). After the Outwork's construction, the combined enclosed moat walls was then used as internal quay walls (Fig. 51). When Nebuchadnezzar rerouted the moat around the Eastern Outworks, he attached the new Eastern Moat Wall onto its predecessor. The new wall likely adopted the same height as the old wall to maintain communication; a height theoretically restored to 9 m (Fig. 52).

Upper Processional Street

Returning to the Processional Street, further admittance required passage through the earlier mentioned gateway. Beyond this point, the Processional Street led up to the magnificent Ishtar Gate. From a distance, the gate stood out from the rest of the defenses like a shining blue beacon welcoming allies, but warning adversaries of Babylon's power. Koldewey recovered the glazed brick remains from both the gate and street during excavation. Following analysis, the Berlin Pergamon Museum reconstructed these fragments into full building facades. As part of the display, a smaller model detailed both areas to help visitors understand the complete reconstruction (Fig. 53). Well understood, this area of the Processional Street and of the Ishtar Gate only requires brief discussion.

Reaching south from the bastions, two defensive walls lined the Processional Street. Built as part of the northern advancement project, these defenses shared the same architecture as the Outworks' new Eastern Moat Wall (Fig. 54). In that respect, the parallel walls' conjectural heights have been reconstructed to 9 m. Unlike the lower street, glazed decoration adorned these walls. In between and on the towers, embossed lion reliefs, fierce in appearance, walked down from the Acropolis. Two to a space, there were 60 lions on each side, 120 total (Koldewey 1914: 28; 1932: 38-39).

Contrary to the Berlin model, the parallel walls required advancing stepped wall segments to account for the street's gradual incline. Connecting each segment, short staircases have been added to the reconstruction to maintain communication. On the west, two doorways provided access to Northern Palace platform; the 8 meter high

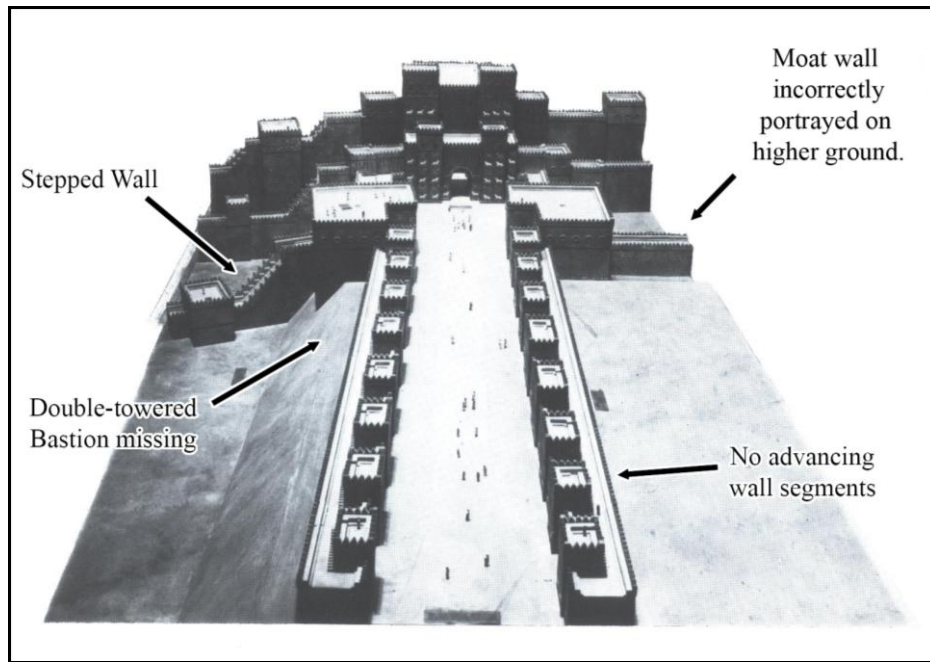


Fig. 53: Model of the Ishtar Gate and Processional Street (Oates: 1986: 158, Fig. 112).
Image modified with explanatory notes describing problems with reconstruction.

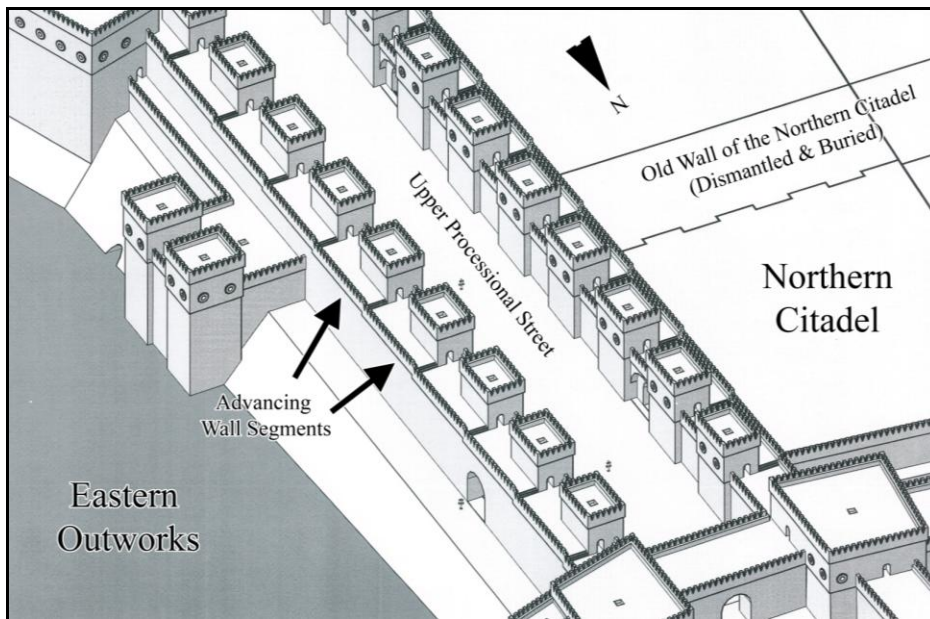


Fig. 54: Reconstruction of advancing wall segments on the parallel defensive walls.

portion of the Acropolis. On the east, three doorways accessed the Outworks; two to the street level walkway, one to the projecting double-towered bastion. It should be noted that this bastion shared foundations with the Old Wall of the North Citadel, a structure that Nebuchadnezzar later buried beneath the Northern Palace. This final doorway confirms that despite the bastion's earlier construction, Nebuchadnezzar never demolished the building like he did the older wall. Absent on the Berlin model, this unique bastion has been added to this reconstruction.

Former Moat Wall Bastions

Past these walls, twin bastions marked the former moat defenses. Obsolete in their original purpose, the bastions now protected the forecourt to the Ishtar Gate. Each bastion consisted of two in one. When Nebuchadnezzar initiated his 2nd Moat Wall, he attached new bastions onto the north side of their predecessors (Koldewey 1918: 5). After dismantling the 1st Moat Wall (Koldewey 1914: 133), the new construction included shortening the older bastions on their southern ends. Once the Processional

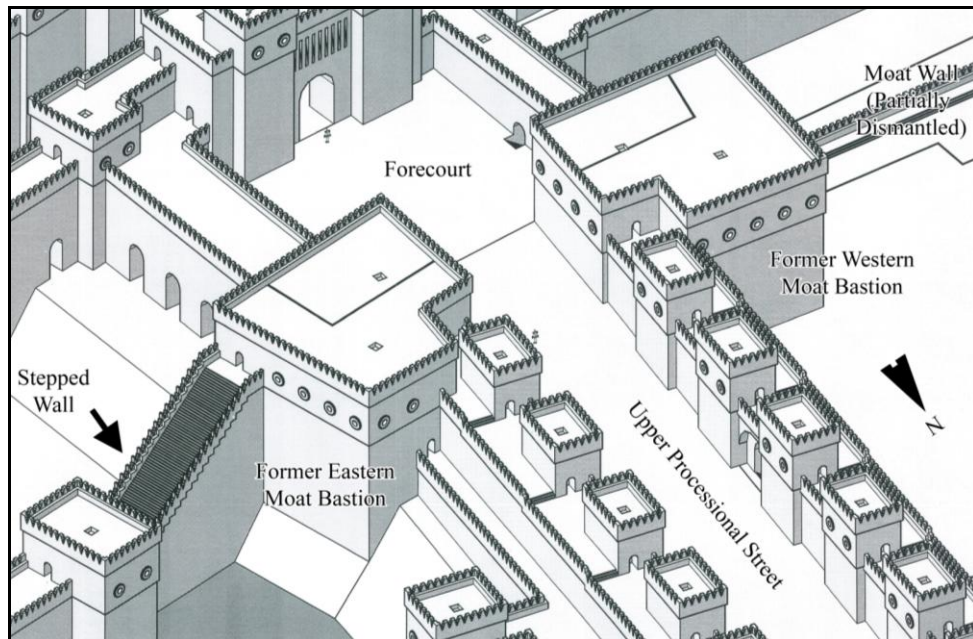


Fig. 55: Reconstruction of the Former Moat Wall Bastions.

Street reach its final elevation, the bastions required their superstructures to be heightened to communicate with the newer surrounding defenses (Fig. 55).

As portrayed on the Berlin model, the eastern bastion likely maintained communication with the Eastern Outworks by incorporating steps into the former moat wall. This reconstruction is probable since the moat wall now served a new purpose as a reservoir quay wall. However, across the Processional Street, the Berlin model portrayed the western moat wall on higher ground as though indicating Nebuchadnezzar elevated the wall to maintain communication with the western bastion. The western moat wall's loss of identity makes an elevated restoration improbable. As discussed in the topography section, Nebuchadnezzar likely dismantled that section of wall. The only exception to that idea, is if Nebuchadnezzar reused the structure as a retaining wall for his Northern Palace platform. Unfortunately, Koldewey did not complete excavations in this area to determine if this was the case. This idea will be discussed more in detail later. Regardless, even in that function, the wall likely did not require a heightening of the superstructure.

The Ishtar Gate

From the bastions, two walls reached south to the Ishtar Gate. This created a forecourt open on the north (Koldewey 1918: 7). On each side beyond these walls, the ground sharply sloped down away from the Processional Street (Koldewey 1918: 11). Inside the court, Koldewey found the remains of pedestals that he believed to be the bases for statues. Nebuchadnezzar's inscriptions state that great bronze bulls and serpents guarded this court (Koldewey 1914: 38; 1918: 40).

During the Babylonian New Year festival, this gateway marked the ceremonial entrance for the cult statues' great procession. Unlike other structures in Babylon, excavations revealed substantially intact portions of this building. Built of sundried mud brick, these remains pertained to an earlier gate of Nabopolassar. Even deeper, the remains possibly outdated the Neo-Babylonian Period (Bergamini 1977: 113, 151), suggesting an Assyrian level structure. Throughout the site, Koldewey found an

abundance of blue glazed brick fragments. These unique bricks indicated to Koldewey that the gate's later remodeling looked substantially different from the gate's older visible remains. However, this applied only to decorative form. As Nebuchadnezzar elevated the ground level, the structure continued to rise on the same foundation and plan. Each time, workmen dismantled the roof and arched doorway, only to rebuild these features on higher ground (Koldewey 1918: 41). In a sense, the structure became a buried tower, of which only the top remained visible (Fig. 56).

The Ishtar Gate's plan included two gatehouses; a lesser for the outer wall Nemetti-Ellil, and larger for the inner Imgur-Ellil. Similar to those from their respective walls, each gate contained towers that straddled their entrance. The newest gates, both built of burnt brick, were encased in an outer layer of blue glaze, decorated with alternating figures of embossed bulls and dragons (Koldewey 1914: 38).

Even in a ruined state the Ishtar Gate impressed Koldewey. The wide foundations suggested that the gate once contained great height. Reliefs of similar Assyrian gates display how their superstructures rose higher than the surrounding defenses (Fig. 57). Although acknowledging conjecture, Koldewey (1918: 45) theoretically reconstructed these gates to approximate 13 and 23 m tall (1918: Pl. 19).

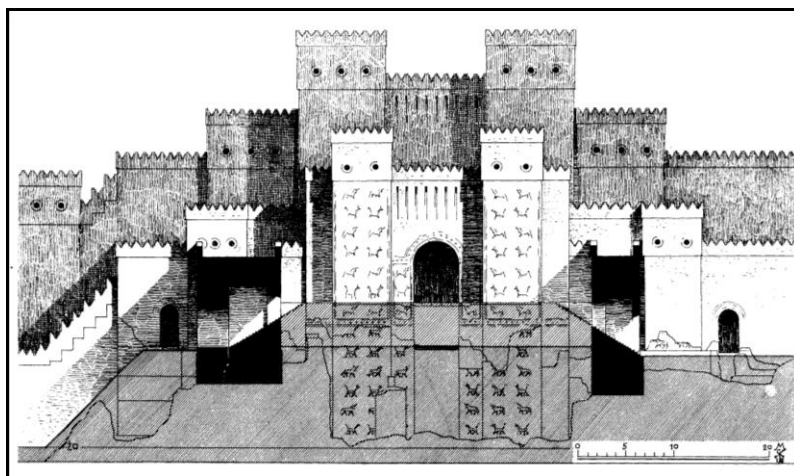


Fig. 56: Ishtar Gate above and below. From Koldewey (1918: Pl. 19). This image portrays the subterranean portions of the Ishtar Gate, a substructure that supports the newer gate portrayed in this thesis reconstruction.

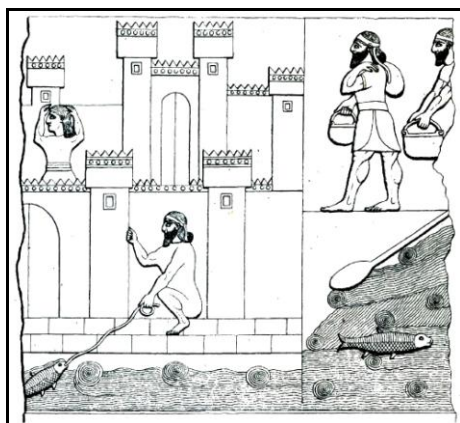


Fig. 57: Gatehouse rising higher than surrounding defenses. From Layard (1853: Pl. 39B).

The outer gate contained walls less than 3 m wide and the inner gate contained walls approximately 7 m wide. Based on those figures, Koldewey's reconstructed heights are not unrealistic. This made the Ishtar Gate perhaps the tallest structure on the Acropolis.

As mentioned, the Pergamon Museum reconstructed the glazed brick reliefs in their gallery. This reconstruction consisted of the upper Processional Street and the outer lesser gate. The height unfortunately only went as high as the museum roof permitted (Marzahn 1992: 26). Nevertheless, upon completion, the gate proved to be one of the most unique pieces of architecture to ever come out of the ancient near east.

Defensive Proportions at the Ishtar Gate

As one of the primary focal points on the Acropolis, the Ishtar Gate helped determine the proportion of other structures (Fig. 58). Starting with the outer gate, there are two lines of fortification that intersect this structure. That means including the outer gate, three separate defensive heights were required. The least important of these defenses was formed by the intermediate walls that connected the former moat bastions to the Ishtar Gate. Above these walls, the more important outer city wall Nemetti-Ellil served as the second highest structure. Finally, the roof of the outer gate sat above both of these defenses ensuring dominance over the first two fortifications as well as control of the main portal (Fig. 59).

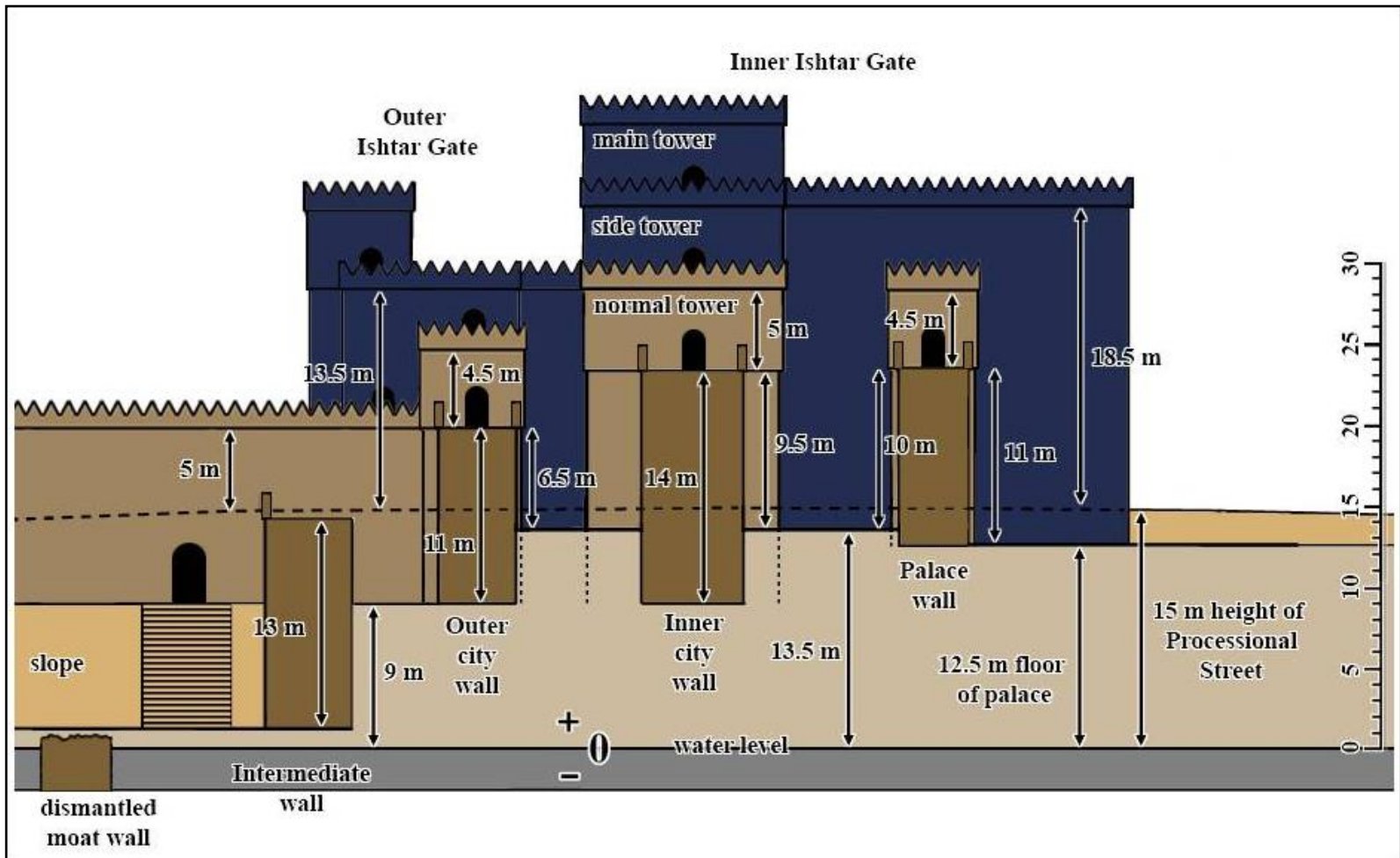


Fig. 58: Defensive Proportions. Modified collage of cutaway images from Koldewey (1914: 35, Fig. 21, 139, Fig. 87).

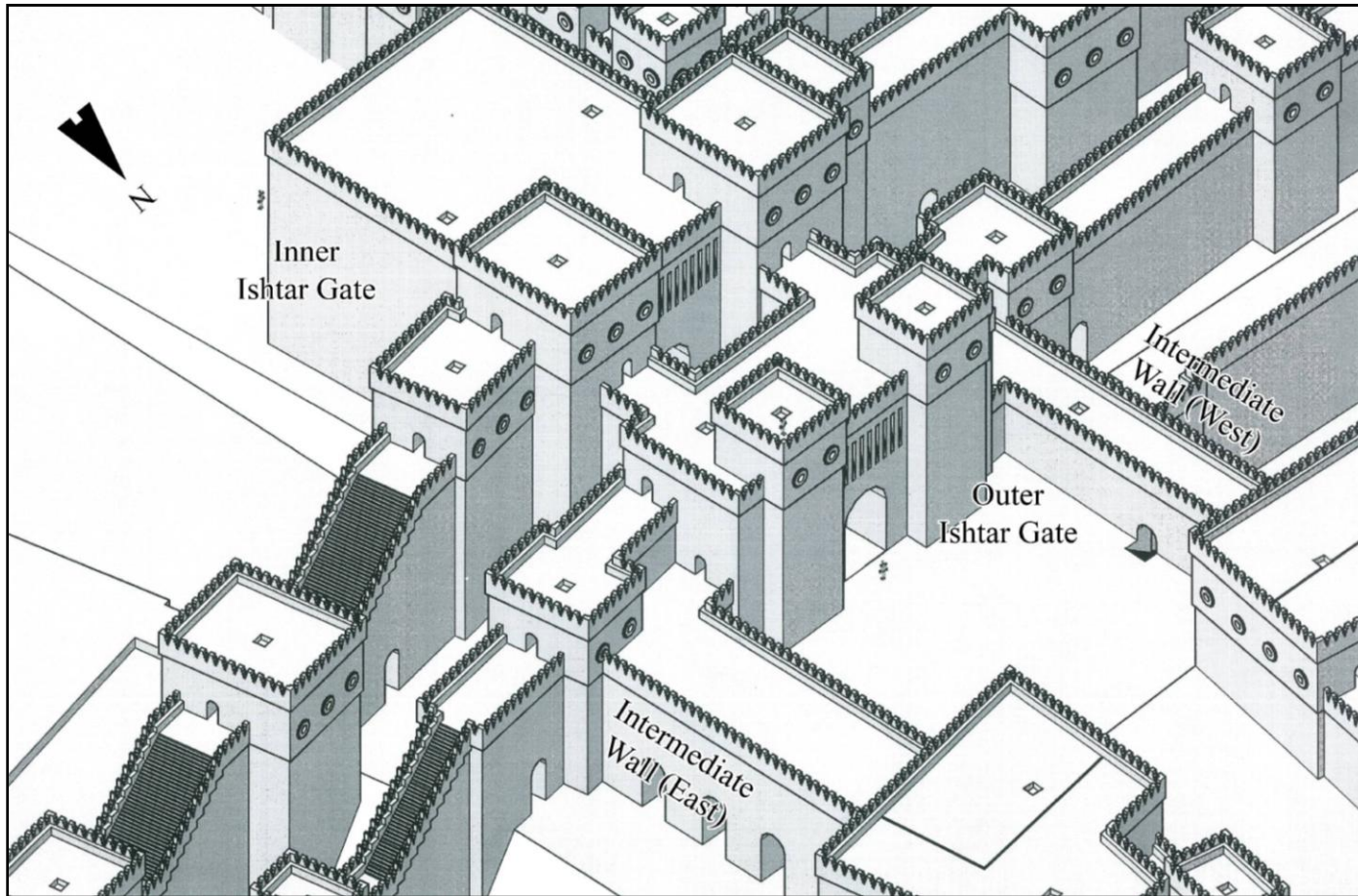


Fig. 59: Reconstruction of the Ishtar Gate.

Upon passing through the first gate, the second gate guarded the inner city wall Imgur-Ellil and prevented final access into the city proper. In this location, the defenses required two heights. The inner defensive wall lay higher than all the structures that came before it, however still sat lower than the inner gate.

As discussed in the topography section, Nebuchadnezzar elevated both the Ishtar Gate and the city walls during his 2nd phase of the Processional Street. In this form, the gate and its connecting defenses likely resembled scenes commonly displayed in iconography. However, when Nebuchadnezzar elevated the Ishtar Gate during the 3rd phase, the walls likely stayed at the same height, resulting in the walls stepping down from the gate. By this time, the Southern Palace reached completion. An additional raising of the city walls would have compromised the palace by placing the palace defenses at a lower height.

In Koldewey's reconstruction of Ishtar Gate (Previously shown as Fig. 56), he illustrated that to maintain communication with the newly elevated gate, the immediate wall segments on each side of the outer gate received a heightening. This heightening caused the wall segments to reach equal elevation with the blockhouses on each side of the gate (Fig. 60). Strangely, he did not apply this same concept to the inner city wall. Without portraying this concept, this meant that the inner wall Imgur-Ellil received a heightening with the 3rd phase of the Ishtar Gate. The Berlin model used this scheme which in turn caused the inner city wall to tower over the palace defenses. To correct these defensive proportions, the reconstruction in this thesis allowed the inner city wall to step down from the Ishtar Gate in the same manner as the outer city wall. To maintain communication back to the gate, one of the blockhouses west of the inner gate contains the same roof height as the nearby wall segment (Fig. 61).

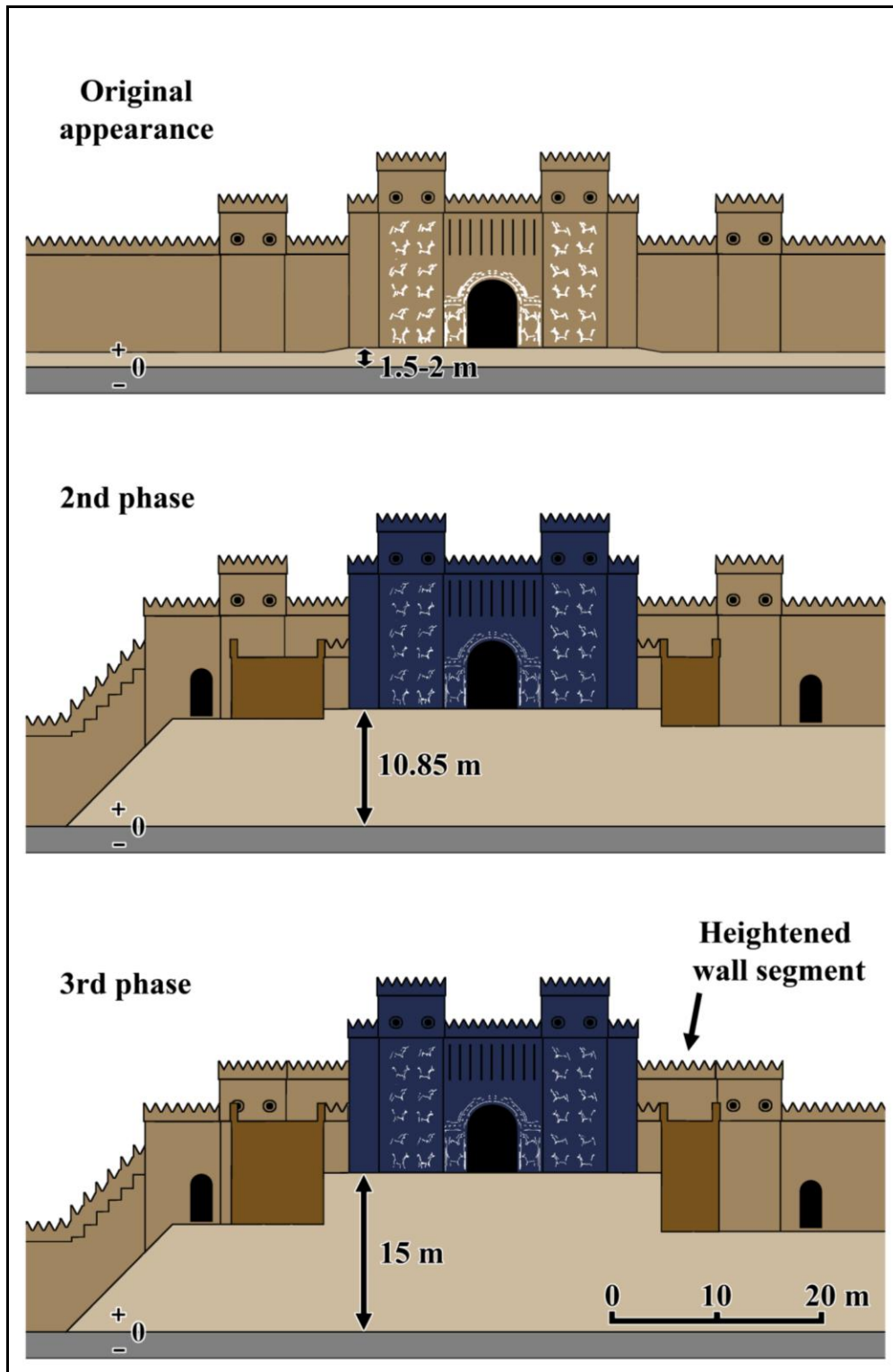


Fig. 60: Progression of Outer Ishtar Gate leading to stepped wall segments. Third phase modified from Koldewey 1918: Pl. 18).

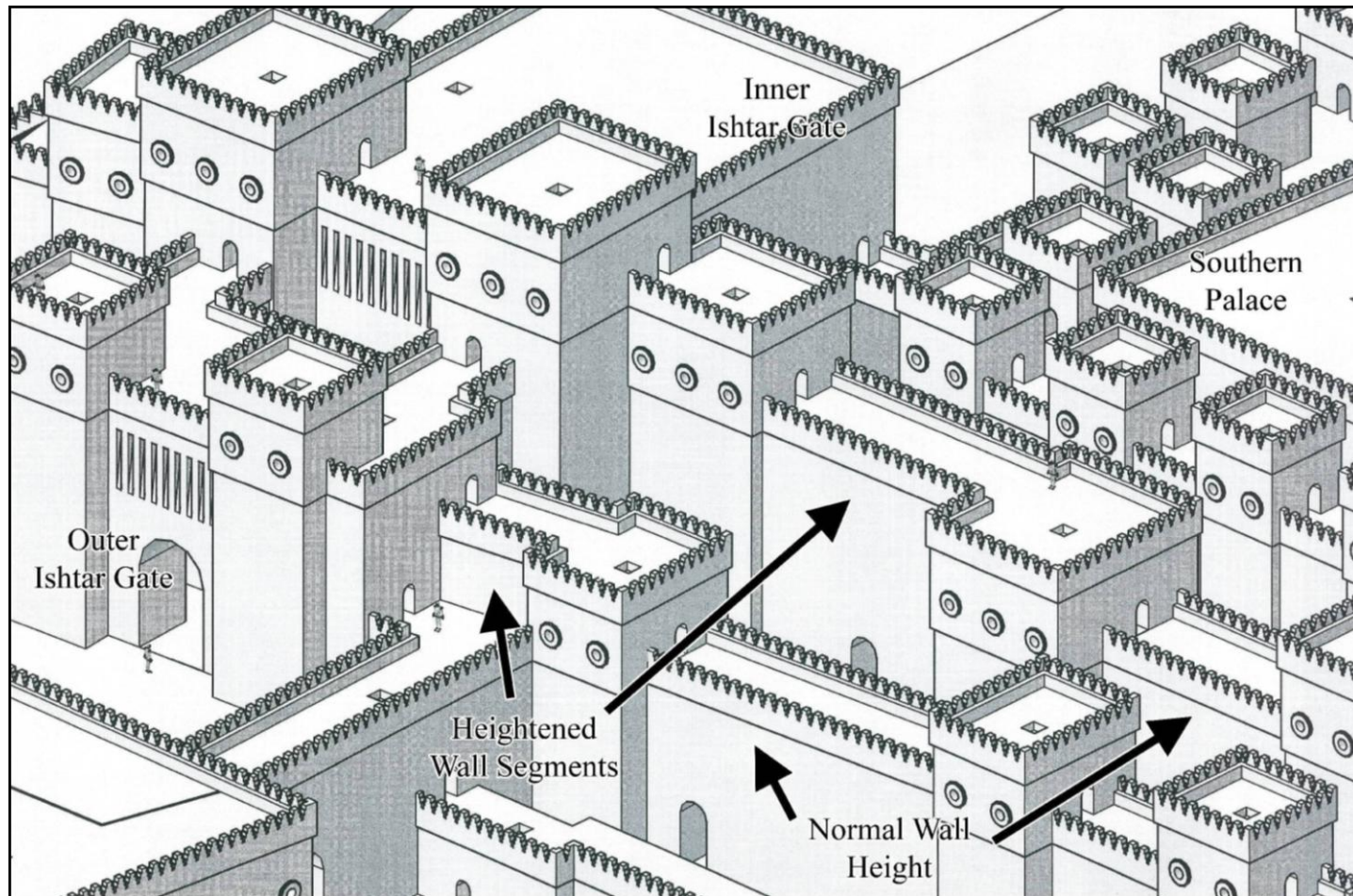


Fig. 61: Reconstruction portraying heightened wall segments on both inner and outer city walls.

The Acropolis and Temple of Ninmach

Upon passing through the Ishtar Gate, a viewer stepped out onto the highest point of the Acropolis (Fig. 62). To the west, the Southern Palace occupied the majority of the area, of which a defensive wall prevented internal visibility. Directly south, the Processional Street continued from the Ishtar Gate and gradually descended into the city below (Koldewey 1914: 52).

East of the Ishtar Gate, the Ninmach temple lay at the Acropolis' edge. Like other royal buildings, a platform or "Kisu" helped support the temple throughout its numerous raising and restorations (Koldewey 1914: 61-62). Due to the small scale of this structure and its disassociation with the palaces or their related defenses, this building has not been reconstructed and will not be part of this discussion.

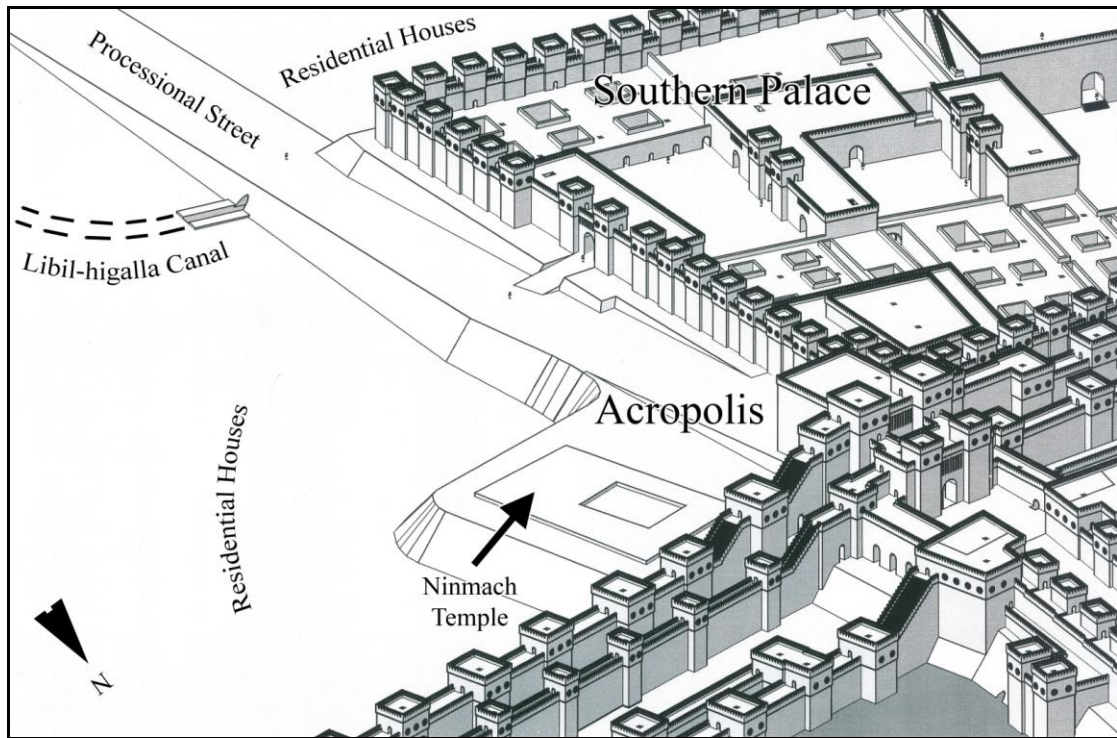


Fig. 62: Reconstruction of upper Acropolis.

CHAPTER VI

RECONSTRUCTIONS: PART II

Southern Palace

Located just inside the city walls, Nebuchadnezzar built the Southern Palace (Sudburg) upon a varied 12.5-10.5 meter high terrace overlooking the city (See p. 41). Although the superstructure of this building is gone, the remaining foundation trenches and wall remnants (Fig. 63) preserved enough information to understand the complete plan of the palace (Fig. 64). The Southern Palace represents the primary surviving example of a royal Babylonian residence from the first millennium B.C. (Kuhrt 2001: 77). Although Nabopolassar started the foundations, the palace reached its final expanded form through the vision of Nebuchadnezzar. Succeeding rulers made modifications, but none changed the overall plan.

Perhaps copying the palaces of the former Assyrian empire (Heinrich 1984: 227; Reade 2000: 203), Nebuchadnezzar's elevated citadel transformed the appearance of the royal residence. Keeping the plan of his father's palace, Nebuchadnezzar raised the original foundations up through his terrace and expanded the building into a massive complex. The newly expanded palace started at the Processional Street and terminated at the Euphrates River. Nebuchadnezzar used these boundaries and the angle of the city walls to determine the final shape of the palace. Upon completion, the palace took the form of a trapezium that covered an area of approximately 300 x 120-200 m (Badawy 1966: 95). Surrounding this structure, a massive wall protected the interior and closed off visibility from the rest of the city. The main entrance was situated in the east just off of the Processional Street. Inside the palace, the plan divided the structure into blocks of buildings arranged around five massive courtyards. These courtyards gained importance as one progressed further west. Between the courtyards, gatehouses ensured division and security. To the north and south, residential and offices suites surrounded an abundance of smaller private courtyards. Combined, these suites "housed the staff, the royal household, and the administrative offices of the empire" (Goodnick-



Fig. 63: Aerial view of Southern Palace ruins by Georg Gerster/Comstock. From (Wood 1997: 228-9). This image portrays the absence of structural remains in the Southern Palace and quantifies why a reconstructive study is necessary.

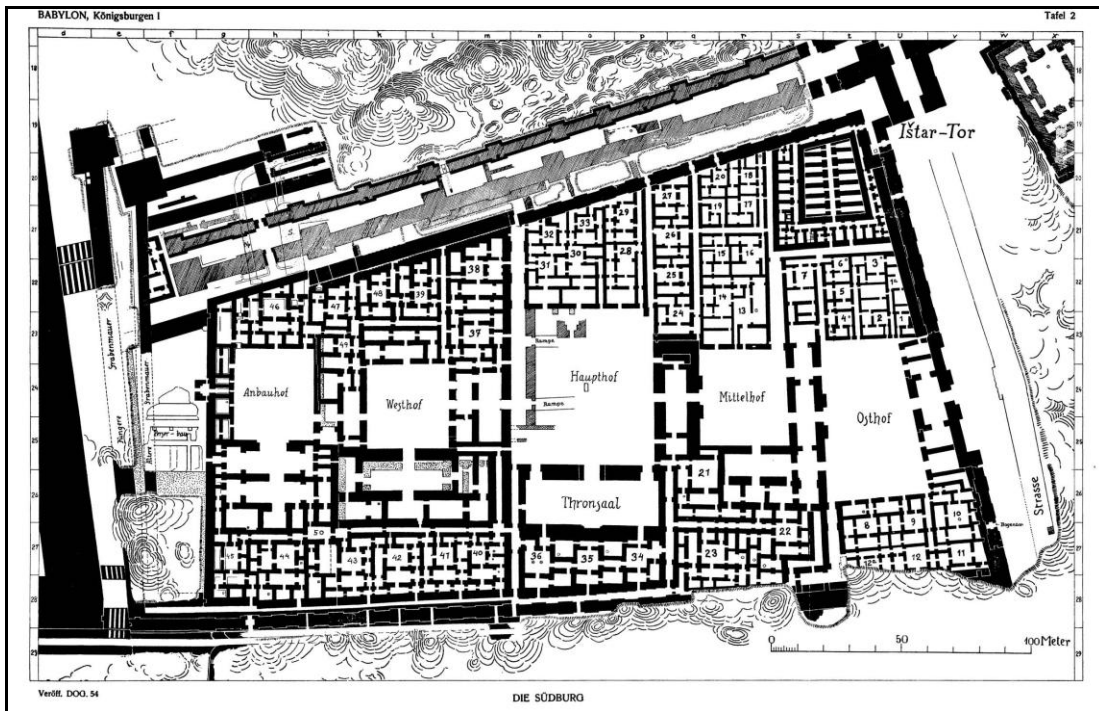


Fig. 64: Plan of the Southern Palace. From Koldewey (1931: Pl. 2). This site plan will be broken down into individual sections within this chapter for analysis.

Westenholz 1996: 210).

With the exception of the eastern courtyard, the remaining four courtyards each contained a large reception hall to the south. Of these halls, the largest was situated at the center of the palace and is believed to have been the main throne room. The arrangement of these reception halls resembled those found in palaces at Assur and Mari (Badawy 1966: 95). Since Zimri-Lim's palace at Mari was destroyed about one thousand years before Nebuchadnezzar's time, these similarities likely followed an established traditional plan that had been maintained since the Old-Babylonian period (Hrouda 1983: 14).

Despite the opulence that went into the palace's construction, Nebuchadnezzar built the structure primarily as a fortress. The design intended to continue and expand upon already existing city defenses. In the event that Babylon fell under siege, the intricate moat system and towering walls created almost impenetrable obstacles. For this reason, the city gate provided the most desirable point for penetration. If invaders successfully overcame the gate's defenses, the palace wall formed an additional line of defense to prevent access to the king. Past this wall, each phase of the palace formed a new barrier that progressed west towards the river. These barriers utilized the major courtyards with their large audience halls and dividing gatehouses. The courtyards could be sealed to entrap the enemy. The audience halls and gatehouses acted as individual fortresses where archers could launch arrows from the crenellated rooftops into the lower courtyards. To reinforce compromised locations, the outer wall allowed defenders easy mobility to any point on the palace perimeter. As depicted in other structures from Assyrian iconography (Fig. 65), this wall contained blockhouses above each tower. If invaders gained access to the top of the wall, similar mobility could be prevented by locking these blockhouses from the inside. This is likely the reason why the palace wall contained so many towers. The large number of blockhouses made this wall easily defensible, while immensely frustrating to an enemy. Those successful in scaling the wall found themselves trapped between towers and exposed to archers on top of the crenellated blockhouses (Fig. 66).

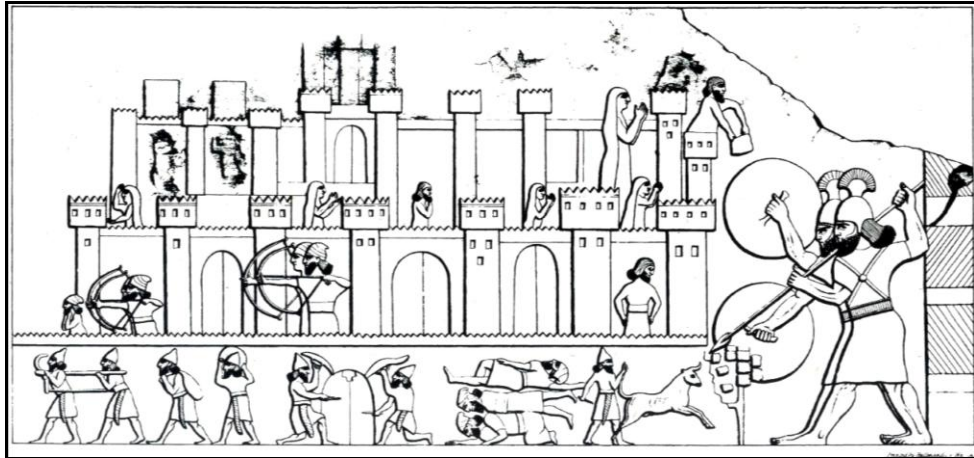


Fig. 65: City and palace under siege. From Layard (1853: Pl. 66).

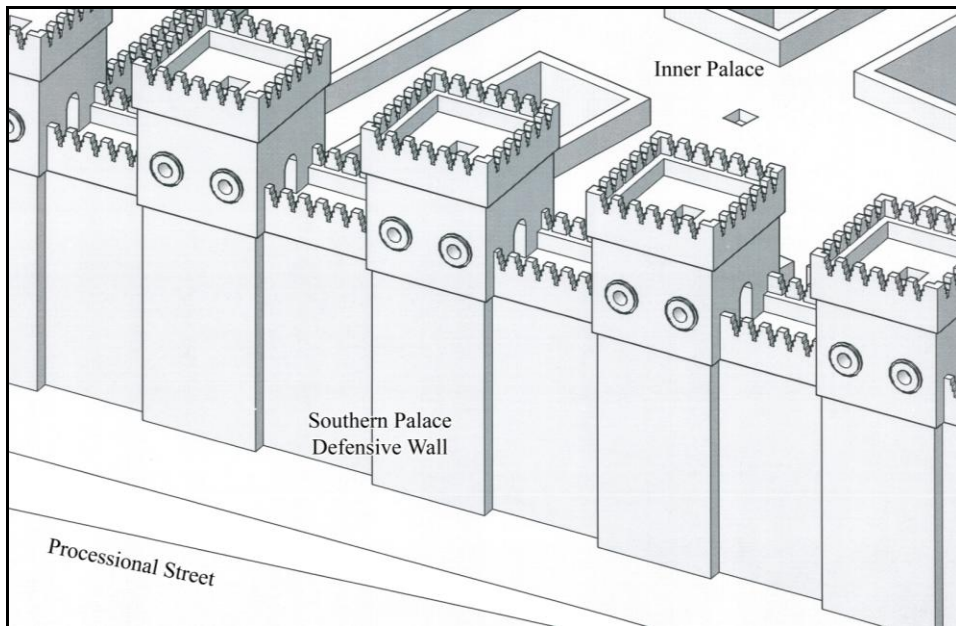


Fig. 66: Reconstruction of crenellated blockhouses on the Southern Palace defensive wall.

The majority of the palace buildings contained wooden ceilings. This has been stated several times in Nebuchadnezzar's inscriptions (Koldewey 1914: 85; 1931: 34, 40). Visually, the palace roof likely appeared very flat. The main exception, lay in the audience halls and gatehouses. To display monumental importance and maintain security, the wide foundations of these buildings suggest that their rooflines towered over the rest of the palace. Koldewey believed that many of these monumental structures contained barrel vaulted ceilings (Koldewey 1931: 34), an idea that has been largely contested by modern scholars (Heinrich & Seidl 1968; Hrouda 1983: 14; 1986: 120). Regardless of the interior design, these larger structures also featured flat rooftops to enable their usage as battle platforms.

The interior layout of the palace followed the same arrangement as smaller private Babylonian residences although on a much larger scale (Koldewey 1931: 26). In private residential units, the plan consisted of rooms arranged around small courtyards. This allowed protection against the hot climate while ensuring light into the surrounding rooms. The primary room or "family room" always appeared south of the courtyard to render the room less exposed to the sun and therefore remained cooler during the day. Behind this room, lay the bedrooms of the family. Storerooms and servant quarters encircled the courtyard in the west, north, and east (Badawy 1966: 86-89). In the Southern Palace, the large audience halls mimicked the family room of a private residence. Mimicking the remaining rooms, entire residential units each with their own small private courtyard surrounded the great open courtyards. South of the audience halls, lay the more important residential units of the royal family and state officials. The residential units of the retainers and staff filled the spaces north of the great courtyards (Koldewey 1914: 72, 90).

Residential buildings with adjoining offices suites formed the most common structure encountered within the palace. Most servants and officials lived behind the office they served (Koldewey 1914: 75). At first glance, these appear as a maze of corridors and rooms. Koldewey took great care to map the arrangement of these spaces. Hallways and open alleys divided access to the residences. Based on the archaeological

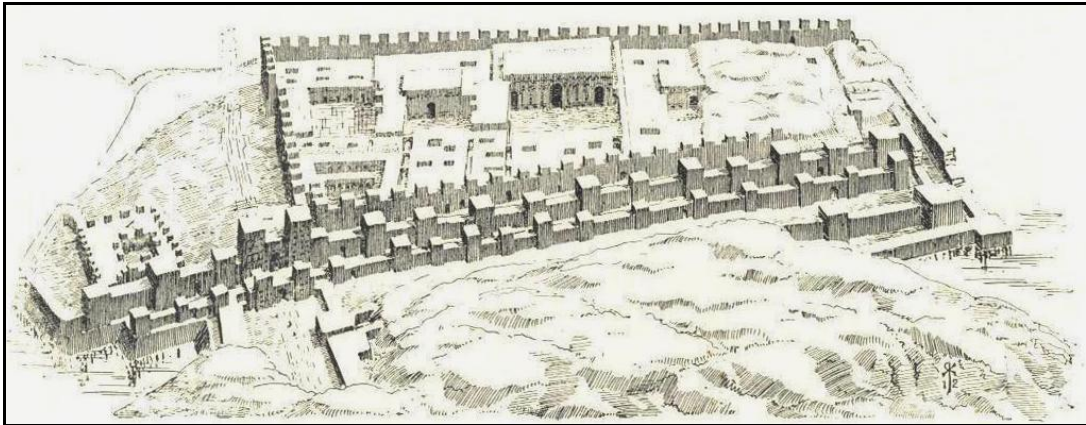


Fig. 67: Koldewey's sketch of the Southern Palace (1914: 66, Fig. 43). This image sets a precedence upon which to build the palace reconstruction with necessary changes and additions.

evidence, it is difficult to determine which areas contained covered hallways and which areas remained open as alleys between buildings. In order to reconstruct these areas, the widths of the passageways as well as the remnants of supporting doorway arches give indications of how they originally appeared. Narrow passageways with numerous doors likely served as roofed corridors. This is especially true of passageways in the southern portions of the palace. Since these areas provided access to the more elite residences, the architect took great care to insulate them against the outside heat. In the northern portions of the palace, passageways varied in width and contained fewer doorway arches. These areas likely remained open as alleyways between buildings. Although Koldewey did not confirm this arrangement, his interpretive sketch of the Southern Palace seems to indicate that he believed this idea as well (Fig. 67). The few doorway arches that did exist in the north likely served as bridges to provide rooftop communication between buildings.

Due to the sturdy burnt brick construction, many of the residential units could have carried an additional storey (Koldewey 1914: 102; 1931: 98); however, this design is unlikely. To ensure the privacy of royal and important occupants, it is more probable that residential units carried a similar one storey height to prevent visibility into other courts. The thicker walls instead intended to served as insulation against the harsh Mesopotamian heat.

Excavations did not reveal internal staircases within the residential suites (Koldewey 1914: 102; 1931: 98). This is not to say that staircases did not exist, since even one storied buildings required roof access, but only that staircases may have utilized a material that did not survive. The use of ladders seems highly probable (Badawy 1966: 88). Individual suites likely contained roof access through a hatch. On the reconstruction, these access points are represented by small 1x1 m openings on the roof. Koldewey believed that narrow chambers in the temples might have contained staircases (1914: 63,102). Similar chambers can be found in numerous locations throughout the palace. To reach higher structures such as audience halls and gatehouses, it is probable that staircases continued from the roof level over dense areas of wall. Following that idea, this reconstruction places theoretical staircases in areas that contain these features as well as a necessity to communicate with a higher level.

Above the residential buildings, the private courtyards broke up the monotonous flat roof (Figs. 68 & 69). Koldewey's reconstruction portrayed these areas as simple square pits without defining features. Yet, more architectural elements must have been present, at least in the form of retaining walls around private courtyards and along the perimeter of each building. Dividing walls separating residential units likely did not exist. Contrary to modern houses in this region, dividing walls would have prevented the building's unified defense in times of a threat. Koldewey suggested that anything was possible regarding the pinnacles of ordinary walls, including ornamentation (1931: 35). Unfortunately, due to a lack of information, these walls have been reconstructed without detail. This allows the reconstruction to display that retaining walls surely existed but represents that their final form cannot be determined.

Compared to modern standards of lighting, the interior of these buildings received very little illumination. This is especially true concerning interior hallways, which Koldewey theorized necessitated tiny skylights in the roof (1931: 35). Windows were not a common feature in Mesopotamian architecture (Handcock 1969: 160). Due to the harsh climate, houses admitted light to interior rooms mainly through protected courtyard doorways (Badawy 1966: 87). While extremely rare in Mesopotamia,

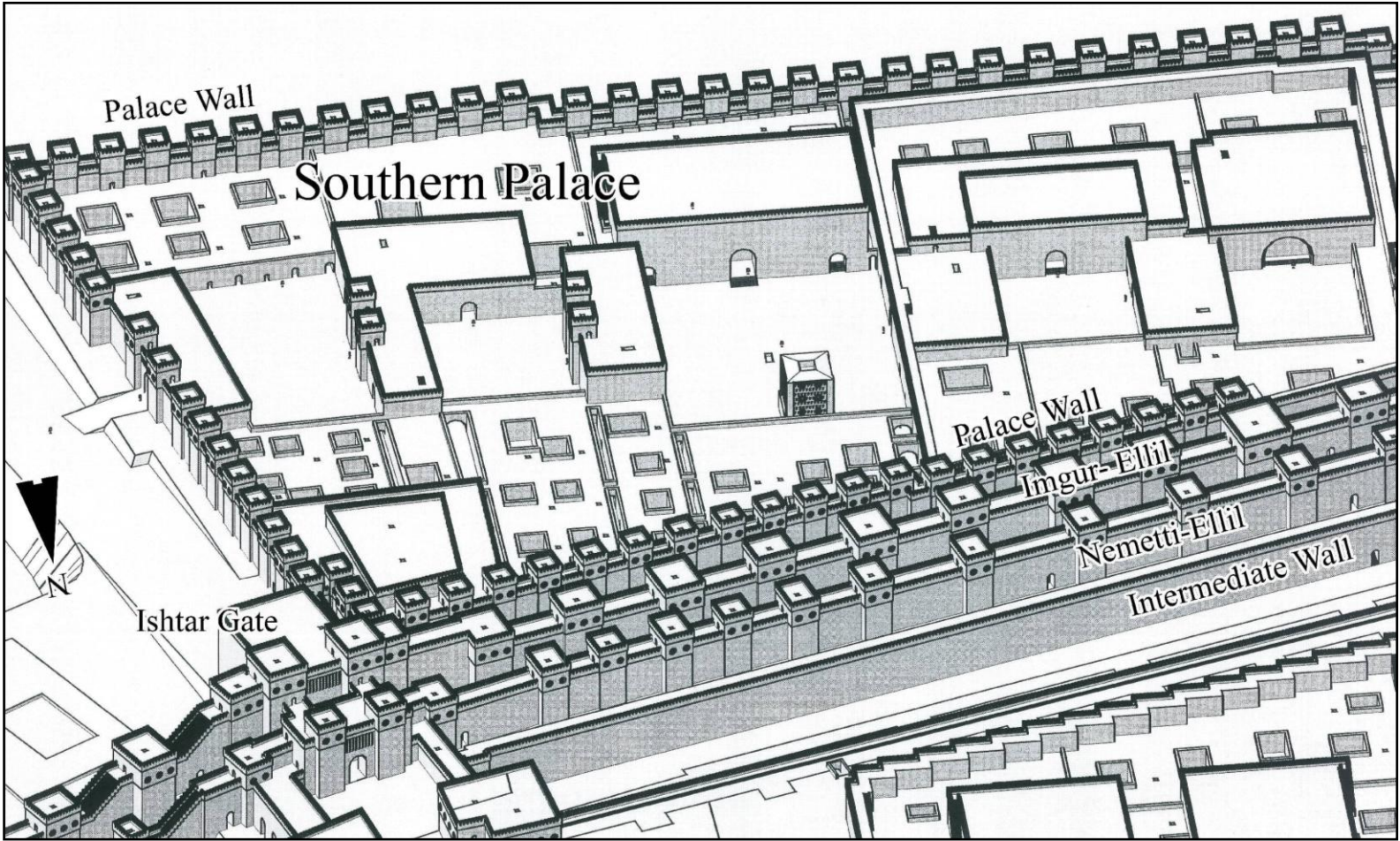


Fig. 68: Southern Palace reconstruction I.

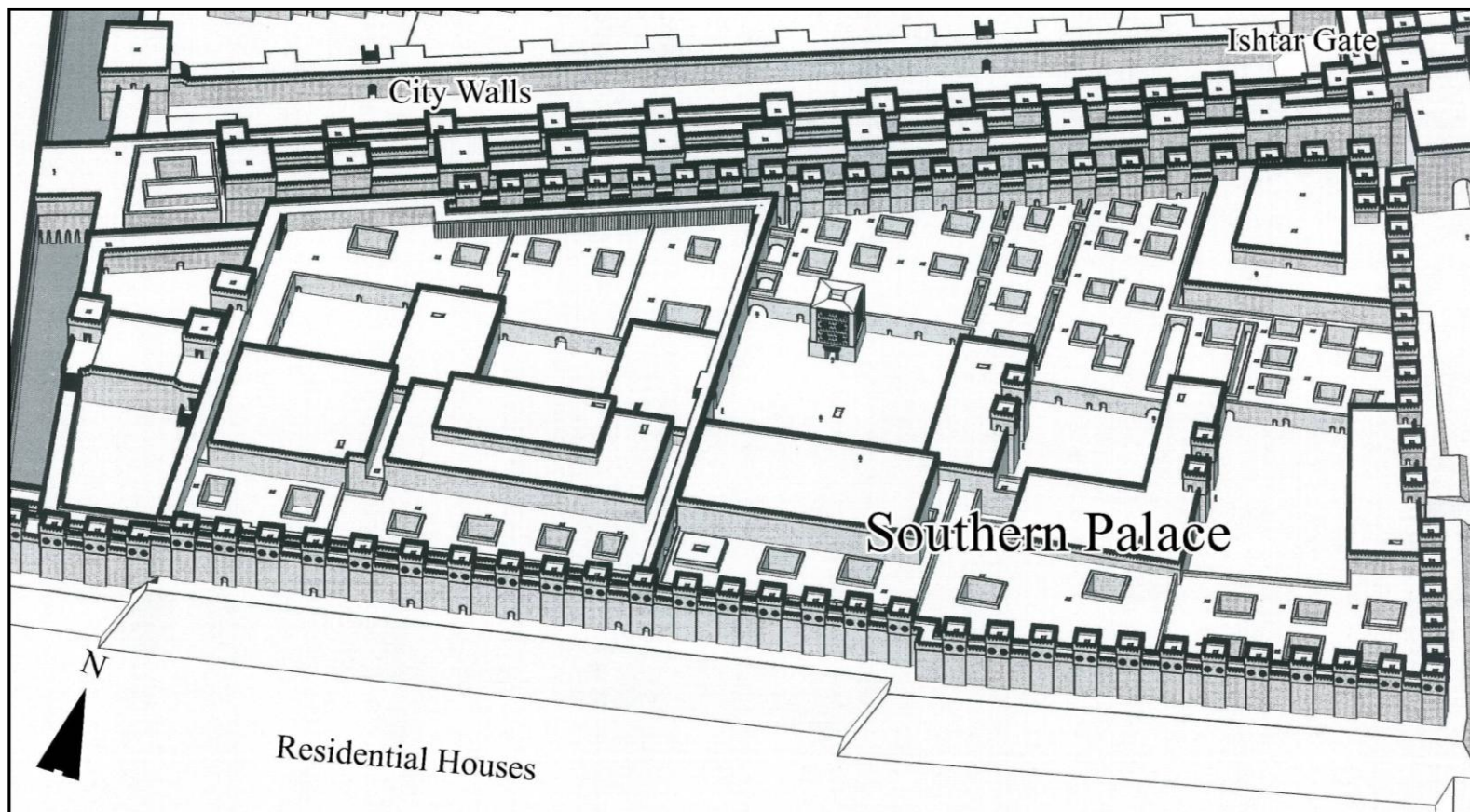


Fig. 69: Southern Palace reconstruction II.

excavations at Eshnunna prove that small windows existed. However, these windows incorporated a terracotta grille that allowed only minimal light and ventilation (Frankfort 1934: 11, Fig. 6, 14, Fig. 9). Koldewey did not find any evidence of windows in Babylon (1914: 75). For that reason, they are not a feature that appears on this reconstruction.

It is difficult to determine the exterior color of the residential buildings. Koldewey found evidence of a white gypsum-plaster on the inside walls of the main palace gate (1931: 34). Whether or not this extended to the rest of the palace could not be determined. Due to this lack of information, comparisons must be sought elsewhere. It is known that the temples in Babylon contained a white plaster that resembled marble (Koldewey 1914: 55). In Babylon's temple to the god Nabu, decorations in the form of geometric designs adorned the walls (Roaf & Postgate 1981: 173). A more simple structure located in the Merkes city quarter, possibly a residence, contained wall paintings in red, black, and brown geometric designs (Roaf & Killick 1983: 207). In the palace at Mari, plastered walls escaped monotony through the use of beautifully painted murals (Gates 1984: 73, 75-78). To be discussed later, Nebuchadnezzar's throne room consisted of glazed brick reliefs set against a dark blue background. Similar blue glazed decoration, extended to the gatehouses in each courtyard although on a much smaller scale (Koldewey 1914: 88-89). Due to the monumental importance of the Southern Palace, it is highly unlikely that the walls remained bare. While reconstructing decoration is not possible, it is plausible to suggest that the colors found on the throne room and gatehouses continued elsewhere in the palace.

Palace Walk Through

To understand the palace reconstruction, a walk through each area is necessary. This section will reconstruct the palace based on the sequence of Koldewey's excavation reports. While Koldewey found many artifacts during excavations, few proved diagnostic enough to properly determine the function of many interior spaces. To overcome this, Koldewey attempted to assign meaning to the major rooms based on

impression (Kuhrt 2001: 80). While his interpretations must be regarded with caution, they should not be entirely dismissed. His long term occupation of the site surely gave him a unique perspective not available to outside scholars.

Upon passing through the Ishtar Gate, the outer palace defensive wall ran parallel to the Processional Street for 200 m (Van De Mieroop 2003: 269). The wall contained cavalier towers, placed next to each other in distances approximately equal to their width. This alternating design continued around the palace perimeter and into the Western Outworks. Based off of Koldewey's excavation maps, the palace walls were approximately 4 m thick (1931: Pl. 5, 9, 11, 14-15, 22-23). To remain defensively proportional with the northern city walls, this reconstruction has given the outer palace wall a height of 10 m. Since the city walls did not receive an additional raising during the Ishtar Gate's 3rd phase, this theoretical height made the palace defenses slightly taller and maintained the idea of an increasing defensive hierarchy.

Main Palace Gate

From the Processional Street, a small road branched off and approached the front gate (Fig. 70). In this area, the sequence of the cavalier towers changed. The gate laid slightly back from the road and contained twin towers straddling the entrance. In appearance, the portal looked very similar to the Ishtar Gate. However rather than a single box structure, the gatehouse was built into the continuous palace wall. As mentioned, Koldewey found fragments of glazed bricks reliefs near each of the palace gatehouses (1914: 88-89). These reliefs consisted of lions similar to those found on the Processional Street and the main throne room. Based on the fragment quantity, it is likely the towers of each gatehouse contained the main decoration (Koldewey 1931: 34). Behind the towers, the decoration must have continued in a lesser form onto the main structure. The previous examples displayed that the lion decoration formed part of a larger scheme that did not stand alone.

Upon entering the gatehouse, it is evident that the architect intended the first

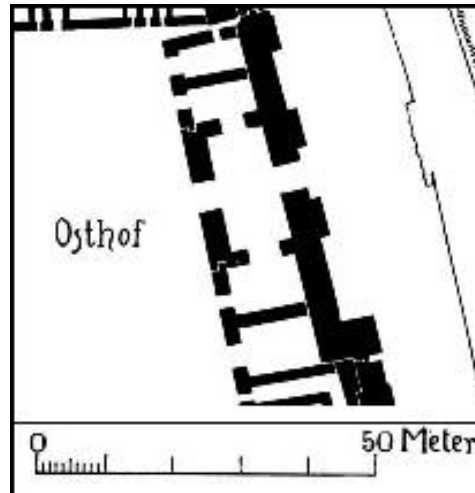


Fig. 70: Main palace gate. Cropped from Koldewey (1931: Pl. 2).

room to be stronger than the side rooms. These side rooms likely made up compartments used by the palace guard (Koldewey 1914: 72; 1931: 10). Examining the foundations, it is difficult to determine the actual length of the gatehouse. The structure either formed a single high room with shorter side structures or a combined elongated structure with a reinforced main entrance. Koldewey believed that the thicker walls of this room might have indicated a vaulted ceiling (1931: 10). It is more plausible that the increased wall thickness intended to reinforce the main entrance while supporting the twin tower facade. The side chambers supported this room and in their construction, likely formed one unified gatehouse that extended the length of the Eastern Courtyard (Fig. 71).

Like the Ishtar Gate, the main palace gatehouse necessitated a height proportionately tall enough to permit personnel on top of this gatehouse to have an advantage over the surrounding structures. However in contrast to the Ishtar Gate, the palace gatehouse likely maintained the same height as the connecting defensive wall. The placement of towers on both the northern and southern corner of the gatehouse imply that there was uninterrupted communication with the adjoining defensive wall. Equal height ensured quick mobility of defenders from the gatehouse rooftop to any point on the palace perimeter.

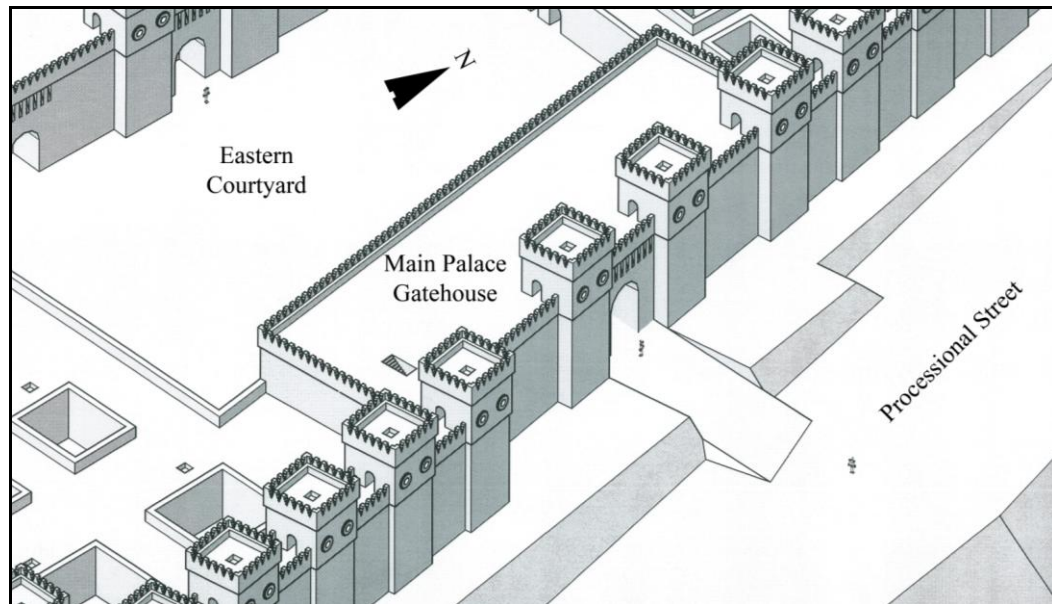


Fig. 71: Reconstruction of the main palace gate.

Eastern Courtyard (Osthof)

After passing the main gate, the viewer entered the Eastern Courtyard (Osthof); a trapezium shape that measured approximately 34 X 60 m (Koldewey 1931: Pl. 3). To the north and south, residential buildings bordered the courtyard. Due to the small size of the building's interior compartments, Koldewey believed lesser officials occupied this court (1931: 27). The southern building contained rooms that opened onto the great courtyard; these likely served as offices (Koldewey 1914: 75). Behind them, residential suites 8-12a lay isolated from the great courtyard, thereby ensuring the privacy of the officials that resided there.

Unfortunately, Koldewey did not excavate the southern wall of this residential building. All that can be determined is that the walls of the southern and eastern rooms disappear above the lower foundation banquette of the palace wall (Fig. 72). The room's placement over the banquette suggests that the palace wall also formed the exterior wall of this residential building. This is a feature that Koldewey noticed in other portions of the palace (1931: 71). Although the outline of the towered palace wall cannot be seen, the foundation banquette indicates the wall's approximate location. Examining the

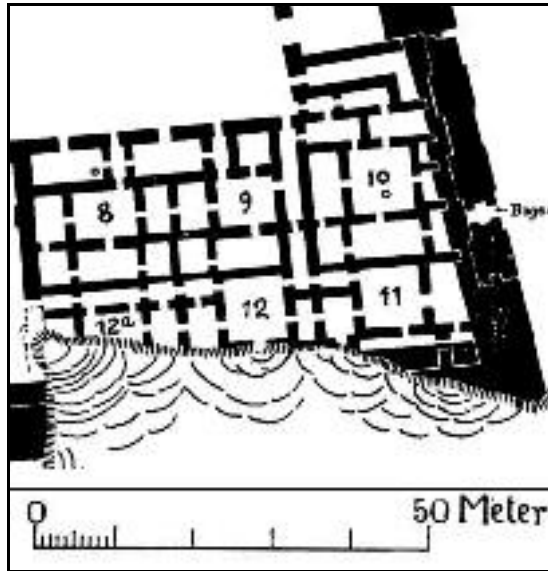


Fig. 72: Courts 8-12a. Cropped from Koldewey (1931: Pl. 2).

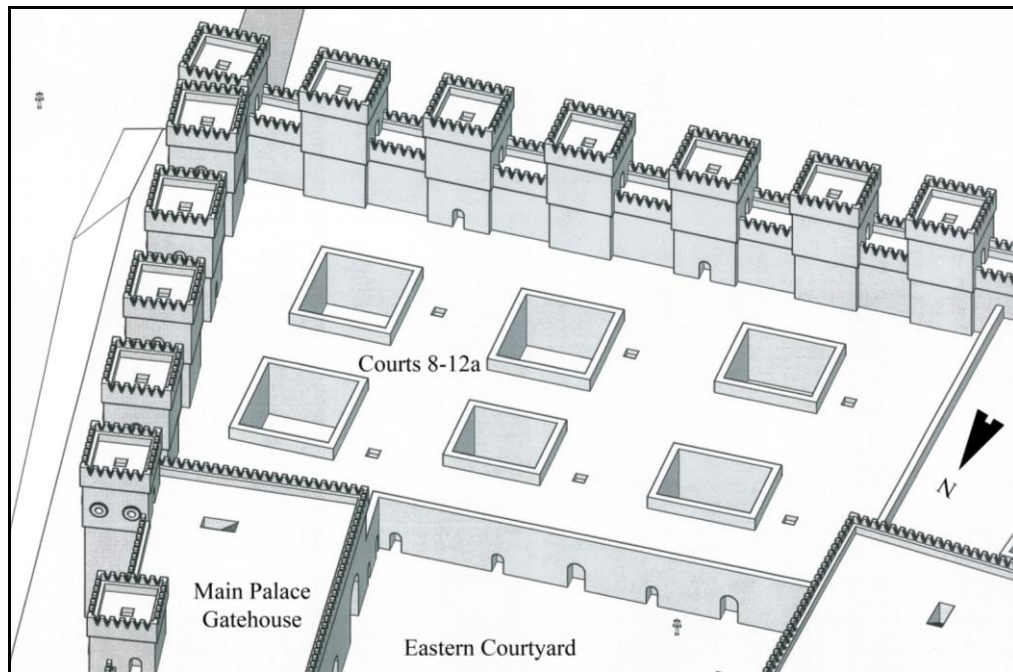


Fig. 73: Reconstruction of Courts 8-12a.

eastern palace wall, excavations revealed the outline of three towers and a exterior doorway. By continuing this surviving outline to the south and west, the missing portions of the palace wall can be determined and the residential building can be reconstructed (Fig. 73).

West of the residential building, a large passageway led south to the palace wall. Koldewey suggested that the passageway might have been vaulted (Koldewey 1931: 67). Although the broad width of this passage appealed to an alley, it contained four large supports that indicated massive arches. These arches in conjunction with the passageway's southern placement lead to the conclusion of a covered hallway.

The building north of the great courtyard contained residential courts 1-7a (Fig. 74). Like the southern residential building, the perimeter of the eastern rooms disappeared above a large foundation banquette; here the outline of the palace wall is well preserved. In a similar fashion, the outer palace wall must have also formed the building's exterior wall. Within this building, three passages divided the residential units. Of these, it appears that only the western one served as an alley. The length of the passage and the lack of dividing arches support the idea that the passage contained no roof (Fig. 75).

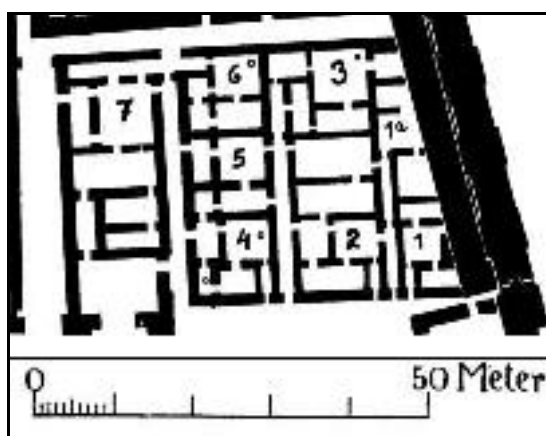


Fig. 74: Courts 1-7a. Cropped from Koldewey (1931: Pl. 2).

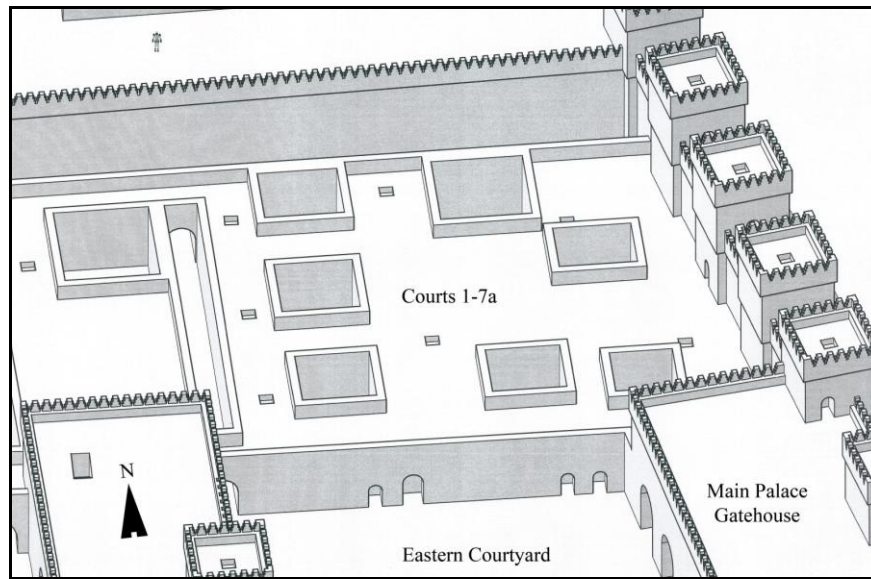


Fig. 75: Reconstruction of Courts 1-7a.



Fig. 76: Column base. From Koldewey (1914: 89, Fig. 58). Structural features are necessary to examine when analysing possible changes within the Southern Palace.

In the Eastern Courtyard above a debris pile, Koldewey found a limestone column base (Fig. 76:) and capital. From this, the notion has been suggested that after the fall of the Chaldean kings, the succeeding Achaemenid rulers might have renovated this courtyard with Persepolis style columns (Kuhrt 2001: 87). Since so little remains of

the palace superstructure, later renovations are difficult to detect; small indicators such as these architectural fragments are essential to this reconstruction. Although severely damaged, the capital contained remnants of projecting Persian bull heads; however, the column base more resembled the design of those found at the Assyrian city of Kalhu (Nimrud)(Koldewey 1914: 89). The column base might have been a piece of war booty obtained by Nabopolassar or Nebuchadnezzar (Koldewey 1931: 36). The capital likely came from the Persian Apadana in the far west portion of the palace. Aside from the Apadana and a few other minor Persian elements, there is no evidence to suggest a major remodeling of the palace during the succeeding Achaemenid Dynasty. The widespread use of columns does not come into Babylon until the later Seleucid period, at which point columns are found in several locations within the city.

West of the great courtyard, a second gatehouse barred further progression into the palace (Fig. 77). The architect built this gatehouse to appear in the same manner as the previous one (Koldewey 1914: 90). In contrast, this gatehouse contained three entrances of which the center one bore the two familiar side towers. While the first gate contained a reinforced main room, this second gate carried that same wall thickness throughout the whole structure. This distributed the gate's weight more evenly. Koldewey again suggested vaulted ceilings (1931: 67) to explain the superior construction. The architecture does not necessarily suggest vaulting or even a more substantial gatehouse, but rather that the design intended to support the three entrances and the dual tower facade. This concludes that the second gatehouse likely contained a height comparable with the first gatehouse (Fig. 78).

Central Court (Mittelhof)

Passing through the second gatehouse, the viewer entered the Central Courtyard; an area that measured roughly 34.5 X 39 m (Koldewey 1931: Pl. 10). Immediately to the south, a large building opened onto the court (Fig. 79). This structure contained the same approximate 3.5 meter wall thickness (Koldewey 1931: Pl. 10) as the first and second gatehouse. This suggests that the structure was of comparable height (Fig. 80).

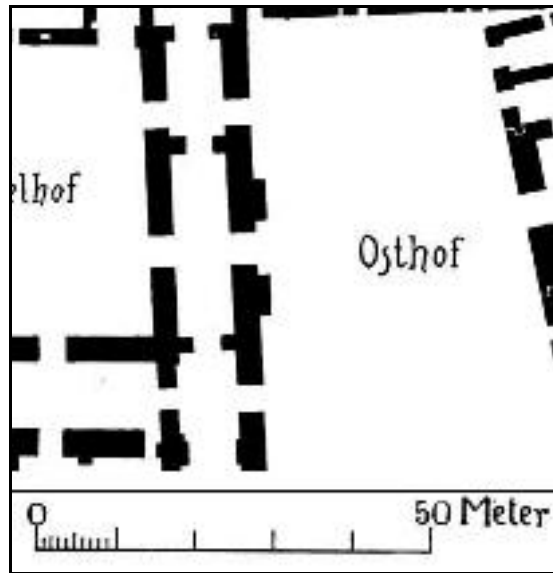


Fig. 77: Second gatehouse. Cropped from Koldewey (1931: Pl. 2).

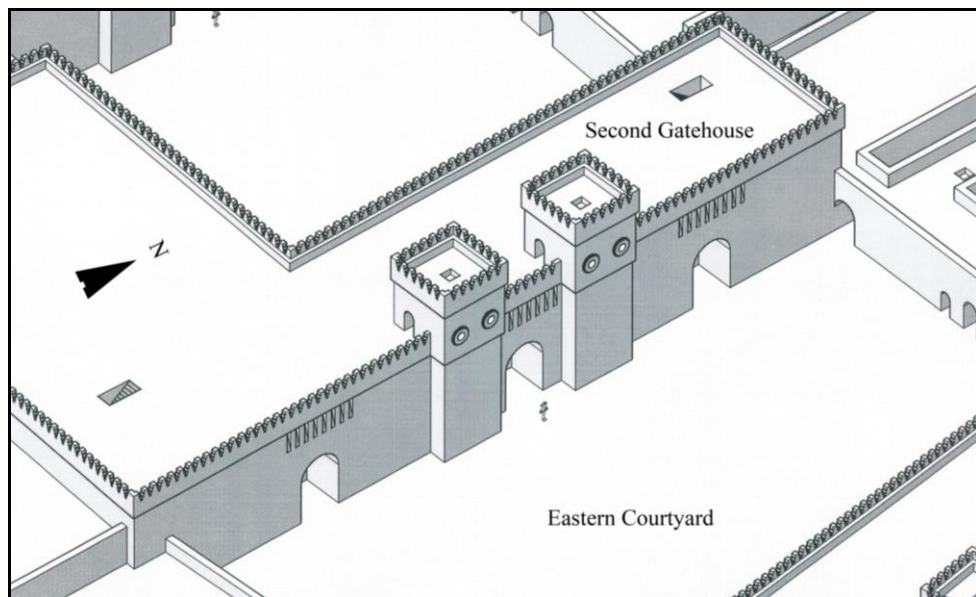


Fig. 78: Reconstruction of second gatehouse.



Fig. 79: Central court's audience hall. Cropped from Koldewey (1931: Pl. 2).

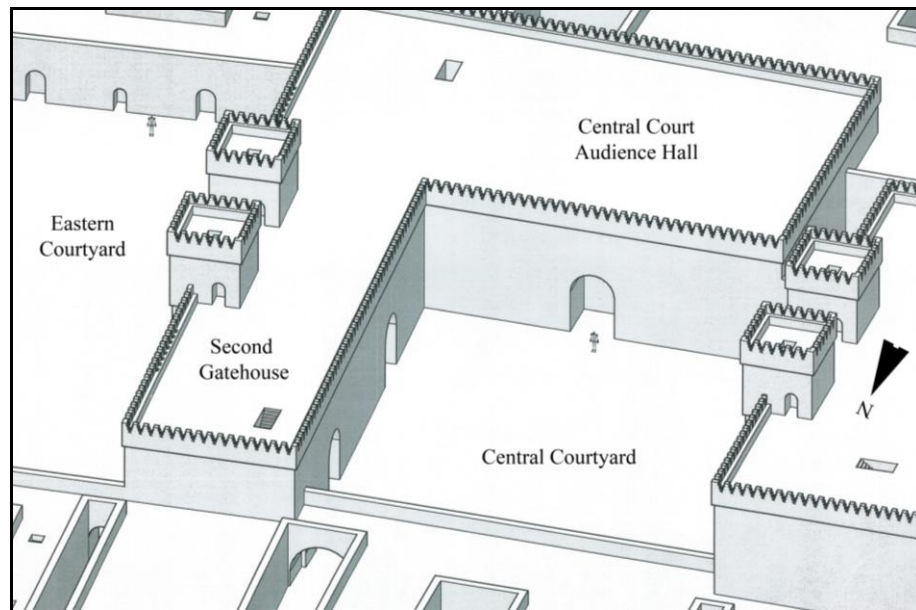


Fig. 80: Reconstruction of the central court's audience hall.

The interior of the building contained a large audience hall with three sizable chambers to the south. As with other halls not yet discussed, this room intended to amaze and humble the viewer. Koldewey assumed this building and the court belonged to the Grand Vizier (1931: 27) and three of the highest state officials (1914: 90); quite possibly the Chancellor, the Minister of War, and the Minister of Interior Affairs (1931: 71).

South of this building, three residential-like units (21-23) filled the area. A passageway divided this area west to east. Based on the numerous arch supports and the passageway's southern placement in the palace, this has been reconstructed as a covered hallway. These three residential units likely formed one building. In contrast to residences from the Eastern Courtyard, the foundations of this building contained more substantial wall thicknesses suggesting that the structure carried slightly higher and/or contained better insulation.

Like in the previous courtyard, Koldewey did not completely excavate the area containing the outer defensive wall. Excavations only uncovered a section of the palace wall in the residential building's southwest corner (Fig. 81). The residential building extended far enough south to determine that the palace wall likely formed the structure's outer edge. However reconstructing the wall is problematic. By continuing the previously reconstructed wall segment out from the Eastern Courtyard, the wall did not join up with the excavated western segment. This suggests that the wall did not form a continuous line. At some undetermined point in the unexcavated area, the wall elbowed into the palace and then resumed its course as a straight line to the west. Koldewey seems to have known about this alteration based on his reconstruction maps (Previously shown on Fig. 12), but never discussed the topic in his excavation reports. Unfortunately, without proper excavation, determining the exact transition point is impossible. For the purposes of this reconstruction, the elbow in this wall has been conjecturally placed at center of the unexcavated area (Fig. 82).

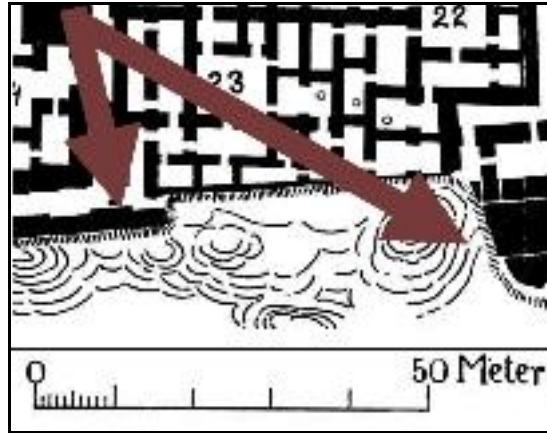


Fig. 81: Courts 21-23 with unexcavated southern wall.
Modified and cropped from Koldewey (1931: Pl. 2).

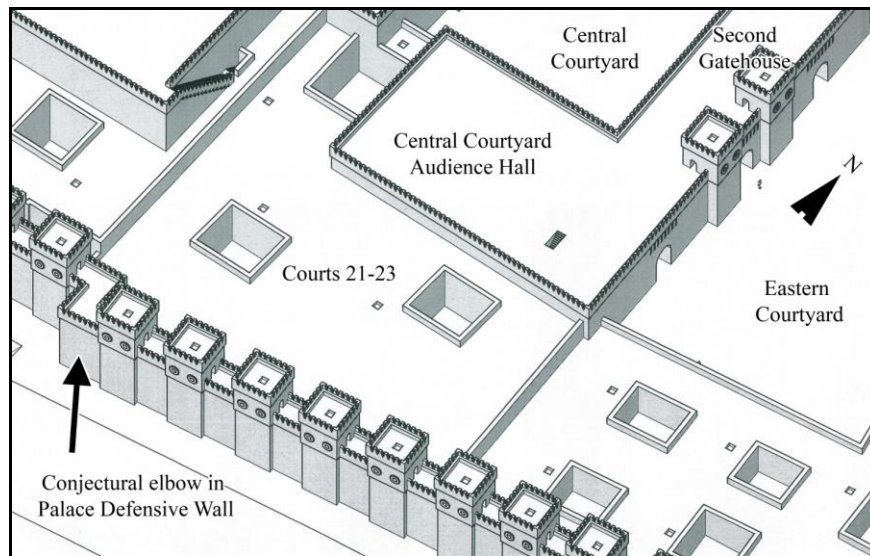


Fig. 82: Reconstruction of Courts 21-23 and unexcavated southern wall.

Vaulted Building

Across the Central Courtyard, a large passageway led north. Limited arch supports and the broad width of the passageway suggested a wide alley with no roof. Traveling further north, a viewer encountered what Koldewey deemed the “Vaulted Building” (Fig. 83). Smaller 2 m wide passageways (Koldewey 1931: 43) absent of supporting arches extended along the structure's western and eastern border before terminating at the palace wall. These smaller passages served as unroofed extensions from the main alley. Placed in the northeast corner of the palace behind a cluster of residences, the Vaulted Building's position seemed hidden, yet the unique foundations suggest that the building stood out amongst other palace structures. Koldewey believed this building occupied a position of significant importance. Although the superstructure of this building did not survive, excavations revealed an entire subterranean level of crypt-like rooms beneath the main palace floor. Remnants of brick barrel vaulting above many of these rooms suggested that this entire level followed that design. While Babylonians commonly used single vaulted crypts, the organized abundance of these vaulted rooms made this building very unique (Fig. 84). Other unique finds consisted of a three shafted well and numerous large limestone fragments (Koldewey 1914: 91-95; 1931: 43, 56).

The building contained two separate parts, an inner core and an outer shell (Damerji 1981). If the ground shifted, these parts moved freely from each other. A separate wall, 2.42 m wide, surrounded the inner core. Inside the core, a central hallway ran north to south dividing fourteen rooms (Koldewey 1914: 91, 95; 1931: 43, 55). A longer hallway wrapped around the core's exterior and provided access to 36-37 various sized rooms all contained within the shell (Damerji 1981). An approximate 2.5 m wide outer wall (Koldewey 1931: Pl. 5), enclosed the shell in the west and south, while the north and east portions merged with the palace defensive wall. Koldewey discovered two entrances leading into the structure from the eastern passage (1914: 99; 1931: 46). In the same location, the Iraqi Directorate Board of Antiquities discovered a third

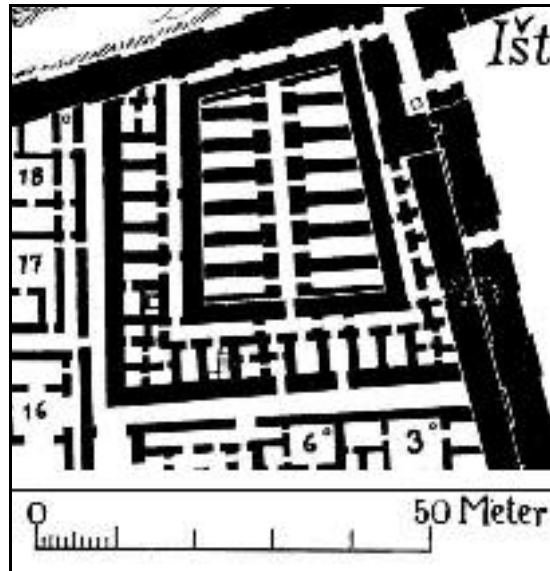


Fig. 83: Vaulted Building. Cropped from Koldewey (1931: Pl. 2).

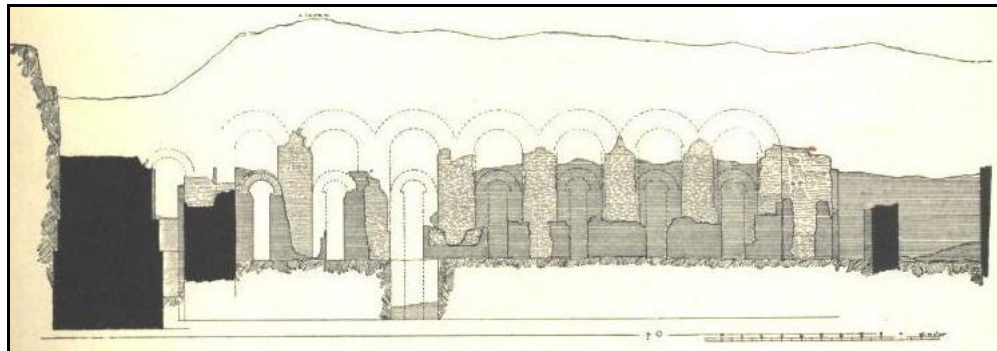


Fig. 84: Profile view of Vaulted Building. Cropped from Koldewey (1914: 95, Fig. 62). This image portrays impressive foundations upon which to build a substantial building for this thesis reconstruction.

entrance in the late 1970's ('Alwan 1979: 136). In the eastern palace wall, two additional entrances (Koldewey 1931: 46) approached from the processional street.

Despite the scant remains, Koldewey believed that the vaulted design continued into several upper floors that no longer exist (1931: 59). This involved vaults stacked upon vaults. Koldewey stated that normally, vaulted crypts received support from the ground in which they were constructed. Since only the basement level received that support, the two strong surrounding walls intended to carry the vaulting out of the ground and into the upper superstructure (1914: 93). Koldewey continued that the separation of these walls suggested that either the stronger center core carried higher than the outer shell or that the center core lay lower but contained a unique weight within (1914: 99).

Due to the rarity of limestone, Koldewey attempted to relate this structure to the descriptions of Nebuchadnezzar's famous Hanging Gardens; a structure that supposedly contained large quantities of stone. Although Koldewey conceded that that structure seemed small compared to ancient descriptions, he argued that the structure's central core possibly once supported a layer of heavy terraced earth. Planted upon this earth, may have lain the famous Gardens. To irrigate the Gardens, the unique well provided a continuous water supply (1914: 91, 95, 98-9). In Koldewey's conjecturally acknowledged reconstruction (1931: 60), the central core with a terraced garden sat as the lowest part of the building (Fig. 85). Surrounding the garden, the outer shell rose above the basement as a two storey ring of vaults built equal in height to the palace wall.

Since no new archaeological evidence presented itself, Koldewey's garden location remained uncontested for many years (Finkel 1988: 54). Perhaps frustrated with the small size of the garden compared to the ancient descriptions, some scholars attempted to expand upon Koldewey's reconstruction. Unfortunately, the small confines of the Vaulted Building only allowed for upward expansion. This led to rather unrealistic reconstructions that towered over the rest of the palace (Fig. 86).

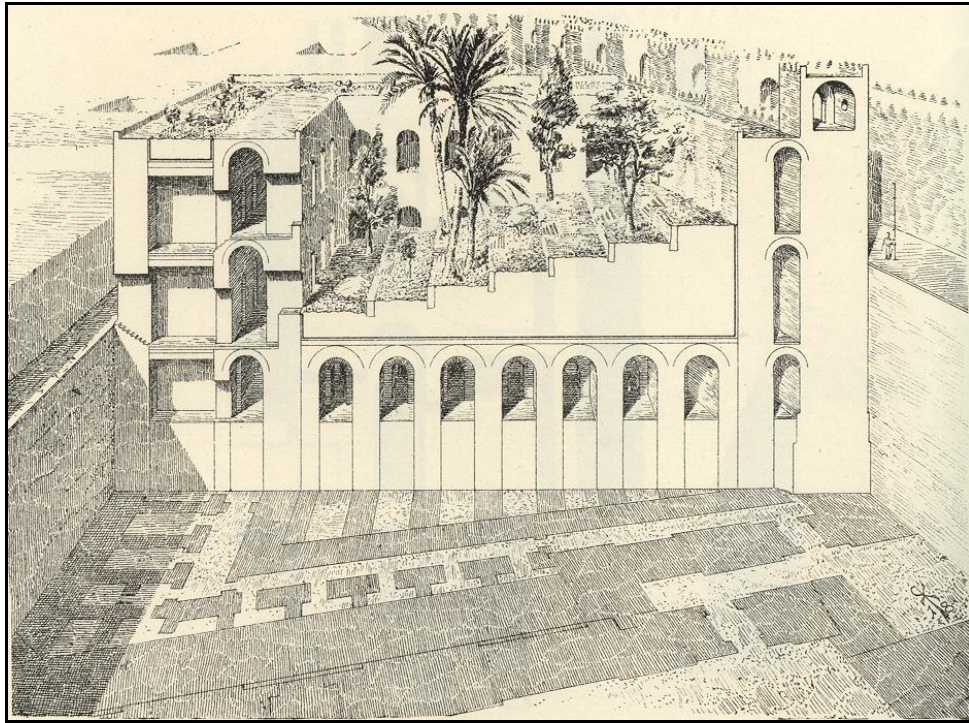


Fig. 85: Koldewey's reconstruction of the Hanging Gardens. Cropped from (1931: Pl. 7). This image, as described in the text, portrays an unrealistic use of this building.

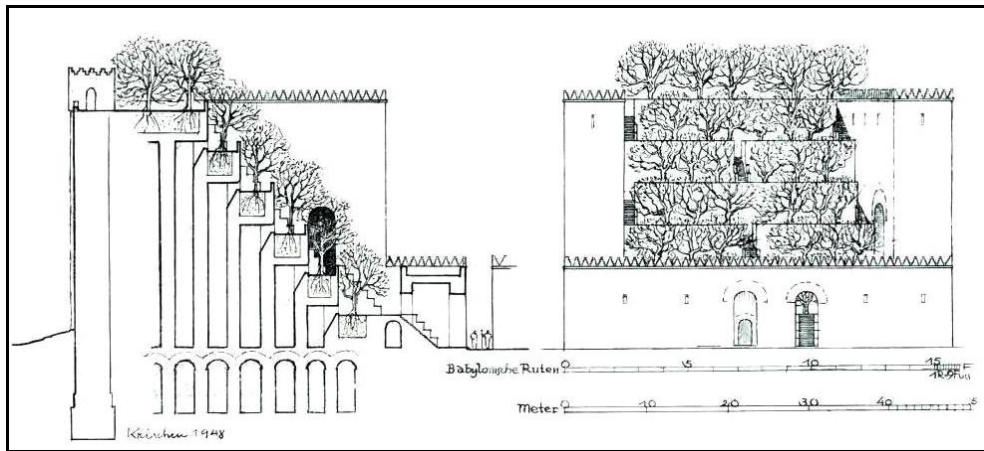


Fig. 86: Reconstruction of the Hanging Gardens by Krischen. From (1956: Pl. 6). This image, as described in the text, portrays unrealistic architectural features that elevate the structure above the surrounding palace.

In time scholars began to question the building's suggested purpose. The location lay far removed from the Euphrates River where ancient Strabo located the Hanging Gardens (Strabo 16.1.5; Finkel 1998: 55). More importantly, the royal family resided in the far west portion of the palace. Royal accessibility seemed inconvenient, especially to the queen (Damerji 1981). The royal family risked sacrificing their privacy by passing through the administrative quarters to reach the Garden's confines (Finkel 1988: 55). Rather than offering beautiful scenery, any view from the structure displayed mostly the city's drab interior (Damerji 1981).

Other theories suggested that rather than supporting a garden, the vaulted foundations partially prevented the Processional Street from sinking under the weight of the nearby Ishtar Gate (Finkel 1988: 55; Reade 2000: 208). Even Koldewey did not limit the structure to the Gardens alone; he also proposed that the vaulted interiors acted as storage magazines (1931: 58). Koldewey described a large number of tablets found in a lower staircase that likely fell from upper stories (1914: 100; 1931: 49). The translation of these tablets detailed the disbursement of provisions from the reign of Nebuchadnezzar. Four of these mention the regular issue of oil to Jehoiachin, the captive king of Judah (Weidner 1939: 23-35; George 2004: 38). A prison is possible (Battini 1997: 40); however the building most likely housed a ration office and possibly the palace stores. Storehouses divided into an inner core and an outer shell have been seen in other locations such as Ur, Mari, Dur-Kurigalzu, and Eridu (Damerji 1981). Koldewey originally suggested a granary in the lower vaults (1914: 100), however later believed the small confines and dampness too impractical for that use (1931: 58). As proposed by George, it is quite possible that an upper storey hosted a grain store; while below, the thick walls and insulated basement created an ideal environment for perishable goods that needed to remain cool. George continued that the limestone fragments once formed a stone floor that sealed the basement (2004: 38-39, 42). Taking this a step further, in ancient Mari, texts describe three subterranean icehouses built of brick with pipes designed to remove excess water. To supply these structures, harvesters collected the ice in the mountains bordering Mesopotamia and transported the

commodity over 200 kilometers to Mari (Böttero 2001: 87-88). Perhaps Babylon had a similar parallel in the Vaulted Building. The subterranean vaults sealed with stone from above might have been built to contain ice. The unique three shafted well served as an ideal means to remove excess water. Despite the arid location of Babylon, the discoveries at Mari prove that transporting ice is not so incredible; in ancient times this was a profession.

Koldewey's assumption that the vaulted plan carried into upper levels is believable due to the immense thickness of the inner core wall and the outer shell wall. A simple two storey building would not have required this immense reinforcement. Meaning each storey must have carried a unique weight. Not dismissing partial use as a prison or as a supporting structure for the Ishtar Gate, it is logical to conclude that the Vaulted Building primarily served as the main palace storehouse. While Koldewey's theoretical garden must be dismissed, his design and height of the outer shell is believable and has been retained for this reconstruction. Regarding the core, the superior architecture suggests that rather than bearing a lower height containing a heavy weight of earth, the structure instead carried higher than the surround shell. To prevent the structure from becoming a visible target in the event of a threat, the core has been reconstructed only as high as the perimeter block houses (Figs. 87 & 88).

Residences North of the Central Court

West of the Vaulted Building, excavations revealed more residential structures. Like the other units, the architect constructed these buildings into the palace wall (Koldewey 1931: 71). A small passageway divided courts 13-16 from 17-20. The presence of multiple arch supports suggested that the passageway served as a covered hallway, concluding that these residential courts formed one unified building.

Further west, a long passageway separated courts 24-27 from courts 13-20. With the exception of the south, the length of this passageway did not contain arch supports leading to the conclusion that it served as an alleyway. Additionally, this means that courts 24-27 formed a single long residential building. Reconstructing the southern part

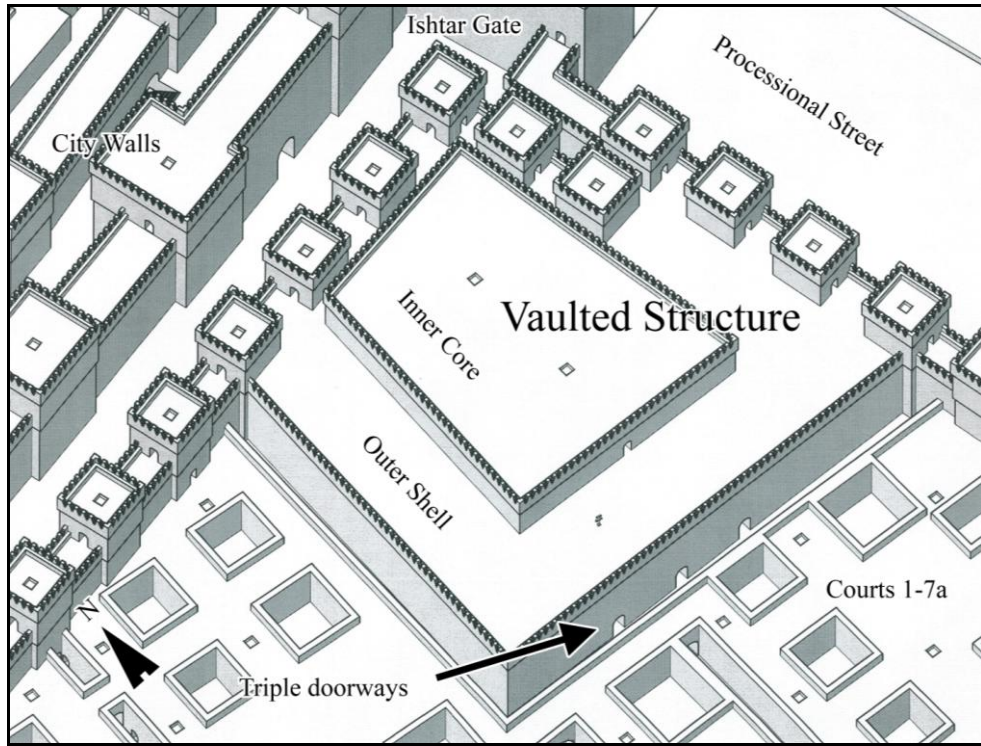


Fig. 87: Reconstructed Vaulted Building I.

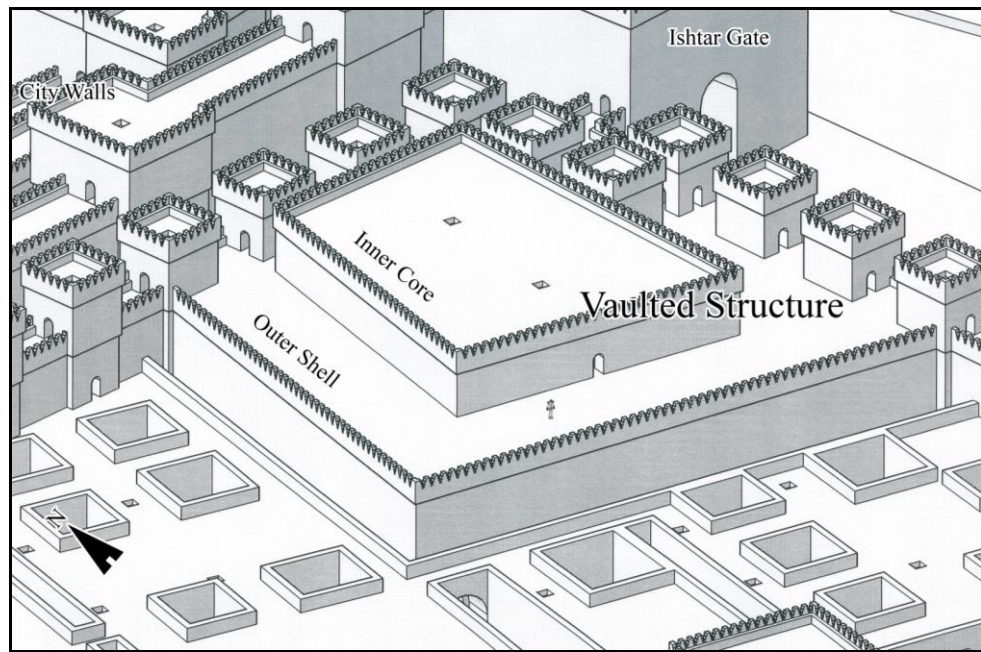


Fig. 88: Reconstructed Vaulted Building II.



Fig. 89: Blocked passageway. Modified and cropped from Koldewey (1931: Pl. 2).

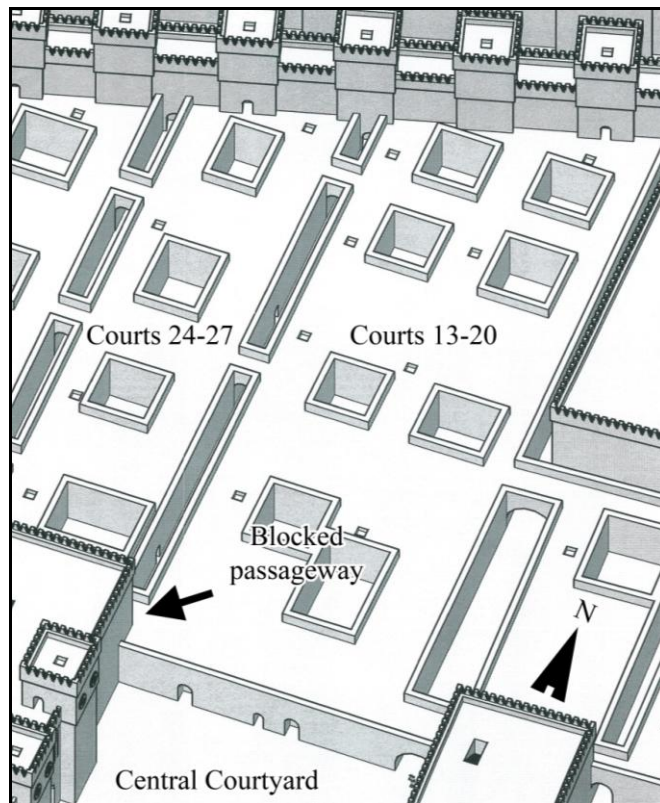


Fig. 90: Reconstruction of Courts 13-20 & 24-27.

of the alleyway is problematic. In this location, Koldewey found the remains of an archway leading south. Strangely, the third gatehouse blocked the passageway (Fig. 89). Koldewey suggested that this blockage only appeared in the lowest foundations and that the passage once reached the Central Courtyard (1931: 69). His suggestion implies that the gatehouse's northeast corner once contained a doorway. How the architect achieved a corner doorway without undermining the building's stability is unclear. Due to a lack of information, the reconstruction of the alleyway terminates at this location (Fig. 90).

Principle Gatehouse

In contrast to the earlier examples, the third gatehouse contained substantially thick walls which signified monumental importance (Fig. 91). Based on Koldewey's excavations maps, the walls averaged over 4 meter thick (1931: Pl. 10). Koldewey suggested that this gatehouse towered above all palace buildings encountered so far. This imposing gate contained only one entrance and represented the last barrier before passage into the Principal Court of the king. Inside the structure's northern room, Koldewey found a stairway that he believed led to either a second storey or the roof (1914: 100, 102; 1931: 71). It is plausible that a second storey existed. In Assyrian

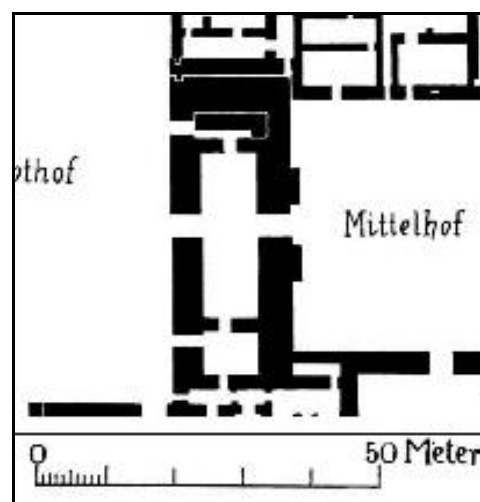


Fig. 91: Principal Gatehouse. Cropped from Koldewey (1931: Pl. 2).

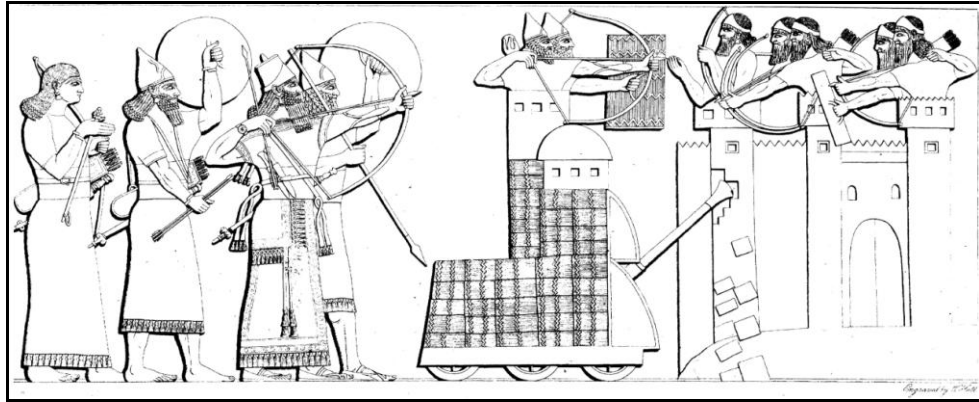


Fig. 92: Second storey shown on a gatehouse. From Layard (1853: Pl. 17).

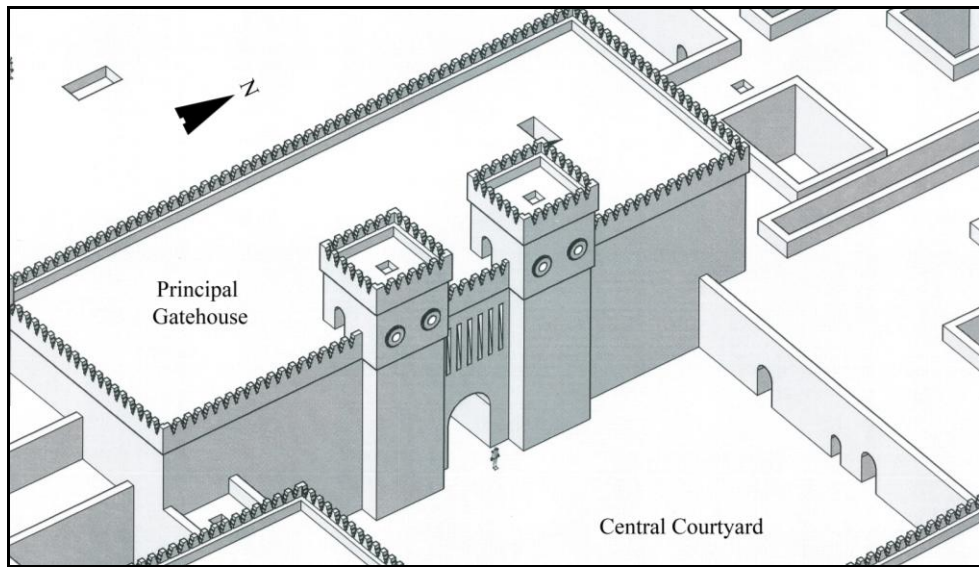


Fig. 93: Reconstruction of the Principal Gatehouse.

iconography, defensive windows can sometimes be seen above gatehouse entrances (Fig. 92). As with most gateways, murder holes placed under battlements allowed defenders to pour burning oil and other debris down upon invaders. An internal storey would have allowed more murder holes to be placed directly over the gatehouse chamber. This possibility enhanced the difficulty of reaching the next court. Unfortunately the stairway alone cannot confirm the possibility of a unique second storey. Just because stairways were not found in other gatehouses does not mean that they did not exist; like the surrounding walls, stairways may simply have been dismantled beyond recognition after the palace's destruction. Without more information, this building has been reconstructed similarly to the other gatehouses. No exterior windows have been added to suggest a second internal storey. To maintain an increasing defensive hierarchy, the building received a conjectural height of 13 m (Fig. 93).

Principle Court (Haupthof)

Passing through the gatehouse, the viewer entered the massive Principal Court; an area that measured 55 X 60 m. Immediately to the south, a massive audience hall dominated the court. The façade of this building contained a decoration of a glazed brick reliefs formed by lions and palm columns accented by intricate floral designs set against a dark blue background (Koldewey 1914: 102, 104-7). Koldewey recovered this decoration after discovering a square meter segment that collapsed into the court following the palace's destruction (1931: 84). Although small compared to the size of the overall building, this segment helped Koldewey reconstruct the greater façade.

Three doorways permitted access to the building's interior. Of these doorways, the larger central doorway contained a broad width of 5.83 m (Koldewey 1931: 82). Based on Assyrian iconography, monumental doorways arches rose considerably higher than their width (Koldewey 1918: 46). Koldewey used that idea to reconstruct both the portal of the Ishtar Gate and the doorways leading into this structure. Examining Koldewey's reconstruction drawing of the audience hall (Fig. 94), he envisioned that the

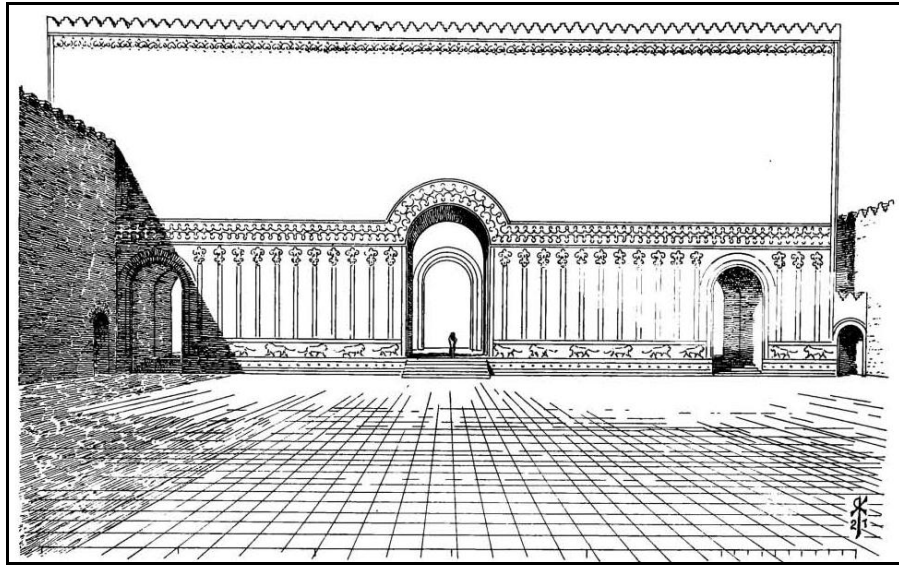


Fig. 94: Koldewey's reconstruction of the main audience hall (1931: 84, Fig. 4). Koldewey's reconstruction has been disputed and requires indepth analysis.



Fig. 95: Monumental arched doorway at Dur-Shurukin. From Fontan (1994: 142, Fig. 7). Comparing Koldewey's theoretical throneroom height to this intact doorway, Koldewey's theory is believable.

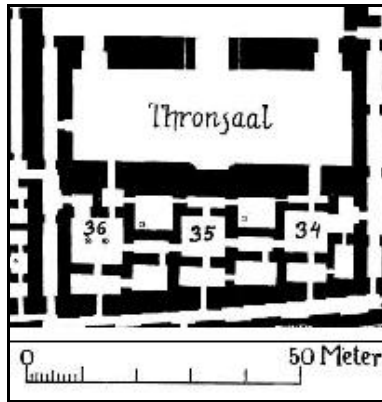


Fig. 96: Throne room. Cropped from Koldewey (1931: Pl. 2).

central doorway rose between 8-10 m tall. Comparing his theoretical height to an intact monumental doorway discovered at Dur-Shurukin (Fig. 95), Koldewey's illustration is believable.

Inside the structure, a single open chamber measured 17.52 X 51.85 m (Fig. 96). Koldewey believed that this room once served as Nebuchadnezzar's audience hall and that a niche in the southern wall once contained the king's throne. This replicated on a larger scale the same arrangement seen in Babylonian temples. Like the cult statues, the king faced the outer court (Koldewey 1914: 102-104; 1931: 82-83). Koldewey's suggested use of this structure has been accepted by many scholars (Heinrich & Seidl 1968; Polony & Winkler 1968; Hrouda 1986; Andrae 1990; Kuhrt 2001). Koldewey imagined that this room served as the location for Belshazzar's biblical feast (1914: 103), the same scene in which the hand of god wrote Babylon's fate upon the wall. This room also seemed a possible candidate as the dying place for Alexander the Great (Goodnick-Westenholz 1996: 213); an idea now challenged and more confidently placed at the Summer Palace in northern Babylon (Reade 2000: 215).

Koldewey described that the longer southern and northern walls of this building were 6 m wide, while the shorter side walls were only 2.78 m thick (Koldewey 1914: 104; 1931: 40, 82). Koldewey continued that the immense thickness of the longer walls served to not only give great height, but also to support a barrel vault across the inner

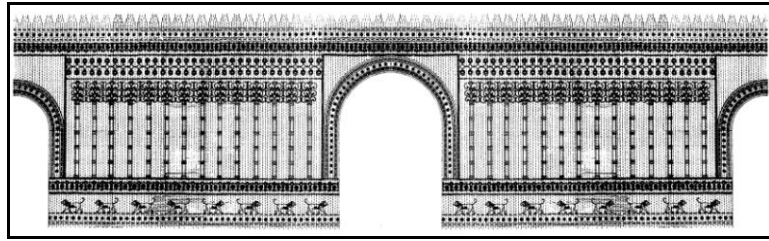


Fig. 97: Heinrich & Seidl's throne room reconstruction. Modified from (Heinrich & Seidl 1968: 5 ff.). This reconstruction does not account for the immensely thick walls of the throne room.

chamber. In Koldewey's reconstructions, he restored the outer façade to accommodate a height he believed necessary for interior vaulting. The lower section contained the recovered glazed brick as a wide band stretching across the building. Above this decorative band, a high unornamented section of wall rose over the doorways (Previously shown as Fig. 94).

In later decades, scholars questioned Koldewey's explanation behind the varied wall thicknesses within this building. Heinrich and Seidl's (1968) discussion of the throne room and other similar audience halls concluded that the barrel vault did not come into use until the Sassanid period. A static analysis completed by Polony and Winkler proved these walls inadequate to support a vault (1968: 58). Like the great vault at Ctesiphon, Koldewey's proposal required massive weight loads behind the main walls to support the vault's pressure. Without them, the vault would have pushed the longer walls apart leading to the structure's collapse. Heinrich's alternative reconstruction portrayed a much shorter facade which only accommodated the lower glazed section (Fig. 97).

Unfortunately, Heinrich still did not convincingly account for the massive construction of the longer walls. While the longer walls helped insulate the structure against the harsh Mesopotamian heat, that purpose alone does not satisfy the impressive construction. Only the northern facade required the thicker construction due to placement along the Principal Court. The surrounding rooms shielded most of the structure negating the need for two insulating walls.

It is agreeable that this structure did not contain a vault, however Koldewey's

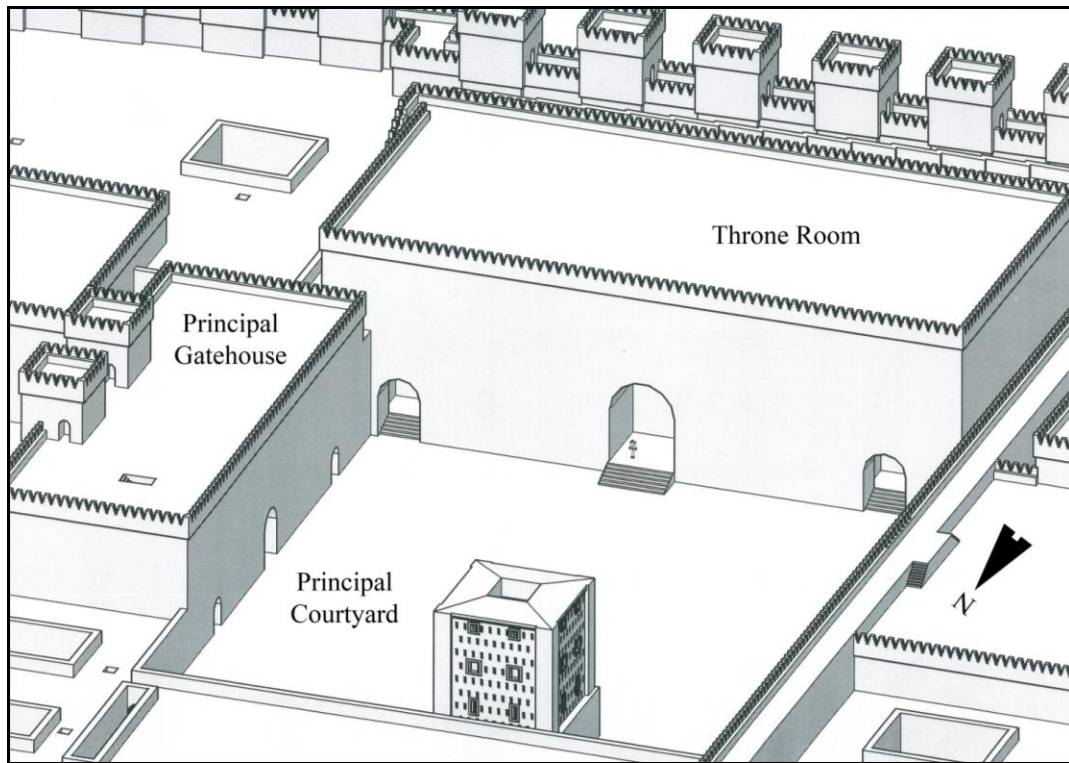


Fig. 98: Reconstruction of throne room with higher roof.

suggestion of great height should be maintained; a height that his illustration restored between 18-20 m tall. The thicker long walls served to bear the main weight of a tall structure. The side walls closed off the chamber and provided reinforcement to the longer walls. If correct in assuming great height, the structure's high ceiling must have amazed all visitors upon entry. The doorways through the thick walls created narrow hallways; walking through the doorways, the viewer first saw the throne of the king. Upon completed entry, the high expansive room opened up around the visitor enhancing their insignificance to the king at the back of the chamber (Fig. 98).

South of the throne room lay three residential units (courts 34-36). Koldewey suggested that these units served as temporary quarters for courtiers and servants supporting activities in the throne room (1931: 92). Although not giving much detail, Koldewey maintained that these units contained a sturdier construction than most

residential units and therefore carried taller (1914: 107). Unlike the rest of the residential suites encountered so far, the palace wall did not form the boundary of this structure. Instead, a stepped or "saw tooth" patterned wall completed the building along the south. During the Neo-Babylonian period, architects commonly utilized this architectural form in buildings that contained an outer wall that ran in an oblique angle to the rooms within. This design accommodated the standard Neo-Babylonian brick and could be seen throughout most structures within the common residential areas of the city (Koldewey 1914: 109; 1931: 93).

Within court 36, Koldewey discovered the remains of two columns that he dated to the Persian period (Fig 99). This suggested to Koldewey, that the new palace rulers intentionally placed a roof over this private court (1914: 108; 1931: 93). Unless the Persian architect removed the retaining wall above the courtyard, this newer roof addition sat higher than the surrounding roofline. To prevent the complete darkness of the interior rooms, it is likely that the architect left a small skylight above the former court to ensure visibility (Fig. 100).

Returning to the Principal Court, a large residential building comprised of courtyards 28-32 formed the area's northern perimeter. Like other residential buildings in the palace's eastern portions, this structure utilized the palace wall as an exterior boundary. Along the building's western edge, a wide alleyway remained open (Koldewey 1931: 81).

At the center of the Principal Court lay a rectangular water basin (Fig. 101). Since the basin cut through layers of Babylonian tiles, Koldewey dated the basin no earlier than the Persian period (Koldewey 1914: 103).

North of this basin, a tower-like structure lay near the wall of the residential building. Unlike other towers in Babylon, the plan implied a free standing structure. The poorly preserved foundations reached 11.50 m wide and contained walls 3.25 m thick. A southern door permitted access to the interior remains of a pedestal or altar. Traditionally, Babylonian courts remained free of other internal structures. This unusual placement led Koldewey to believe that that the structure served as a later Persian



Fig. 99: Persian style column bases in court 36. From Koldewey (1914: 109, Fig. 66). This image was used to create the column bases in the digital reconstruction of the modified courtyard.

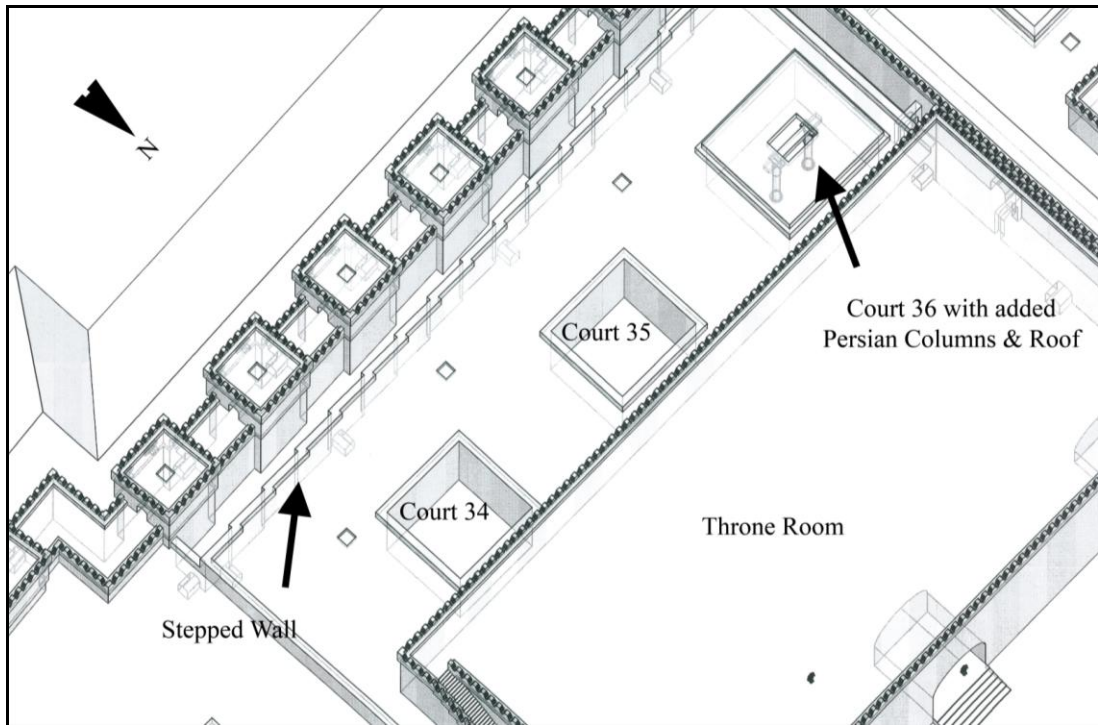


Fig. 100: Reconstruction of stepped wall and courtyard converted to columned hall.

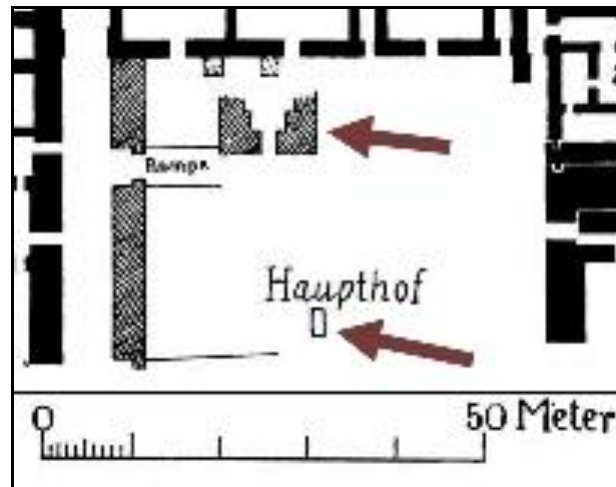


Fig. 101: Principal Court with upper tower and central water basin.
Cropped from Koldewey (1931: Pl. 2).

sanctuary (1931: 77).

Schmidt agreed that the structure represented a Persian sanctuary, and in his map of eastern Babylon, labeled the structure as a potential Zoroastrian fire temple (1941: 789-790, Fig. 1, 802). That possibility made this structure perhaps one of the most unique buildings in Babylon. Unfortunately, there are no confirmed Achaemenid era fire temples upon which to make comparisons. Proposed examples found at Persepolis and Pasargadae (Fergusson 1981: 206-7), have been largely contested by modern scholars. Alternative theories suggest these structures served as tombs or containers for royal standards (Goldman 1965: 305-8; Boyce 1975: 457-8). Additionally, except for minute details (Stronach 1967: 282-3), those structures almost mirrored each other in design (Figs. 102 & 103). Although similar, the structure at Babylon did not contain a similar exterior staircase.

Regardless of the structure's purpose, the Persians deemed the building important enough to be placed at the heart of the palace. Based on the foundations, the structure can be confidently restored to suggest an impressive height. Other details can be drawn from the other towers, however the assurance of accuracy must be left out until the availability of a better comparative example (Figs. 104 & 105).



Fig. 102: Frontal view of the Zendan. From Stronach (1967: Pl. 24). This image helps explain how the Persian tower in the Principal Court might have appeared.



Fig. 103: Frontal view of the Ka'bah. From Stronach (1967: Pl. 24). Like Fig. 104, this image also helps explain how the Persian tower in the Principal Court might have appeared.

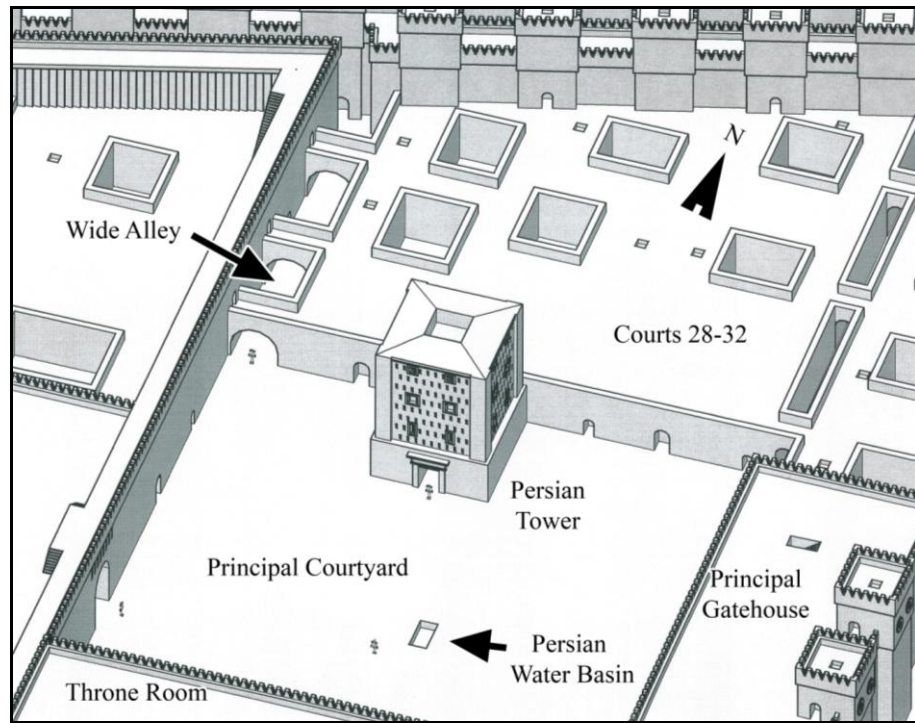


Fig. 104: Reconstruction of tower in the Principal Court I.

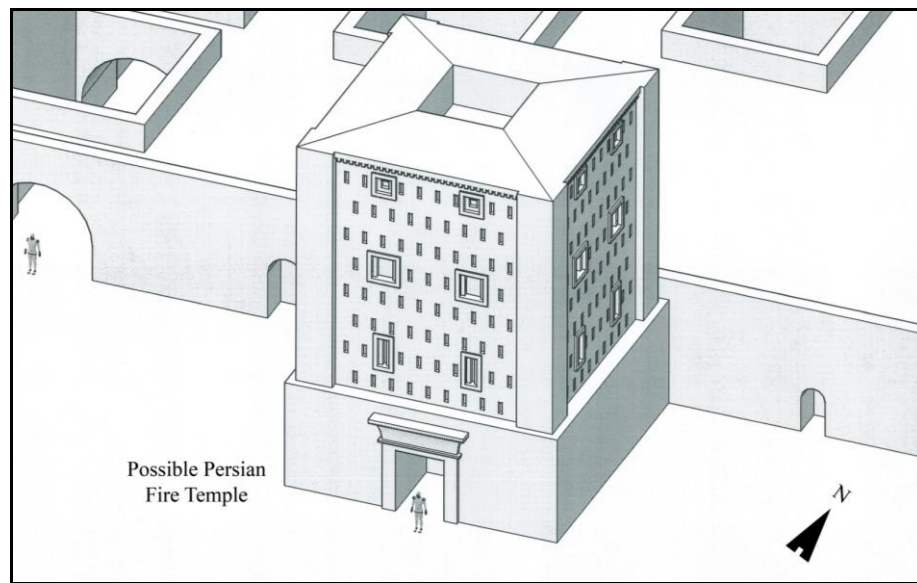


Fig. 105: Reconstructed tower in the Principal Court II.

Palace of Nabopolassar

West of the Principal Court lay the defensive perimeter wall of Nabopolassar's former palace. In the south (Fig. 106), Nebuchadnezzar's tower-lined defensive wall contained separate foundations from the former palace resulting in a small alleyway between the structures (Koldewey 1914: 122)(Fig. 107). In the north, the poor remains revealed only the defensive wall's foundation banquette (Fig. 108). Following the existing defensive wall from the east, Koldewey stated that the newer foundation banquette lay so close to the older palace that the structures may have formed a combined wall (1914: 123). However, it is more likely that these structures remained separate. The foundation banquette projected slightly to the north implying that upon reaching Nabopolassar's palace, the defensive wall also projected to the north. Reconstructing the missing northern wall over the foundation banquette, a small alleyway separated the structures similarly to the defenses in the south (Fig. 109).

The separation of Nabopolassar's palace from Nebuchadnezzar's new defensive walls suggested that the former palace maintained a certain physical autonomy from the rest of the expanded palace complex. This created a double line of defense. If Nebuchadnezzar's towered wall became compromised, then the former palace contained its own separate defenses. This required that the inner palace perimeter wall maintained a height either taller or equal to the outer palace defensive wall. The extra defenses makes sense, since upon completion of the expanded palace complex, Nabopolassar's former palace became the primary royal residence.

Only near the north-west corner of the palace did this plan change. In this area, the foundation banquette stopped and was instead continued by the palace perimeter wall (Fig. 110). This change can be explained by the later addition of Nebuchadnezzar's Western Extension (Anbauhof); an architectural afterthought that extended past the original foundations of Nabopolassar's palace. Rather than altering Nabopolassar's original plan, Nebuchadnezzar slightly pushed the palace addition north so that the new perimeter wall lined up with the outer defensive wall (Fig. 111).

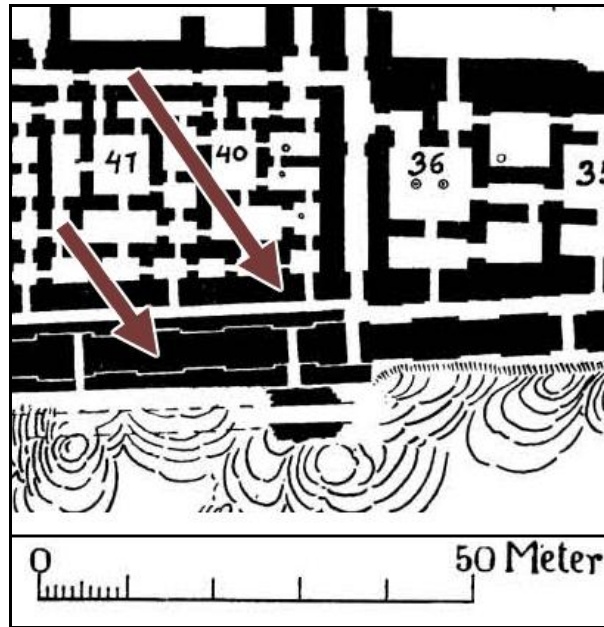


Fig. 106: Separate foundations of southern outer palace wall and inner Nabopolassar palace. Cropped from Koldewey (1931: Pl. 2).

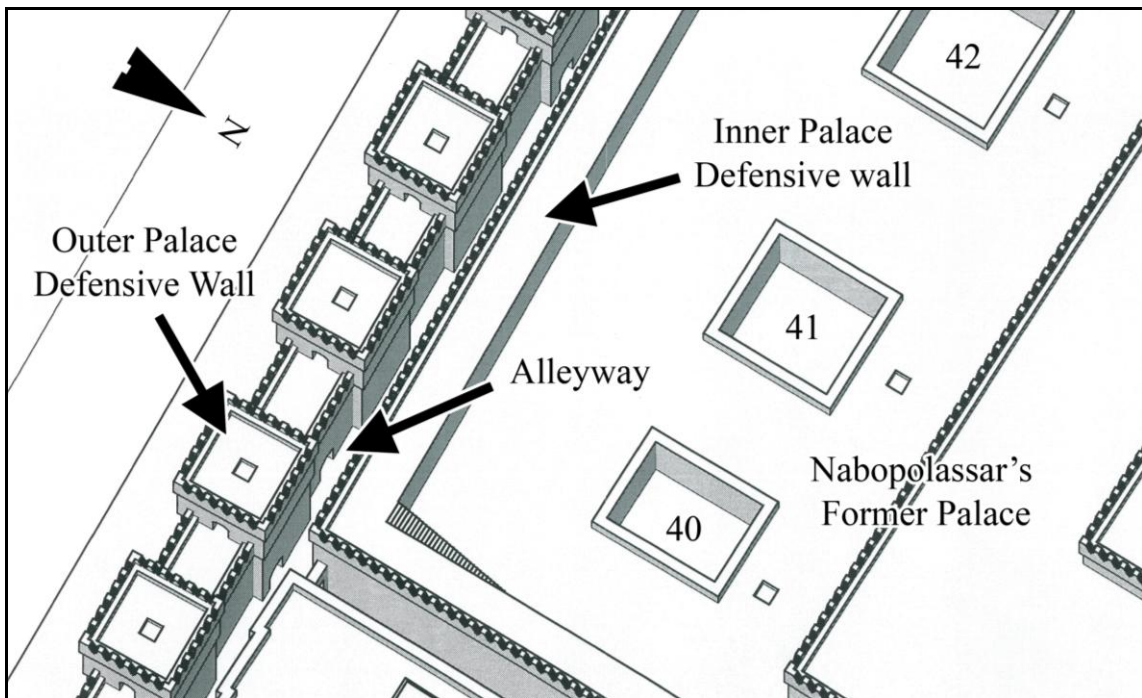


Fig. 107: Reconstruction of southern wall.

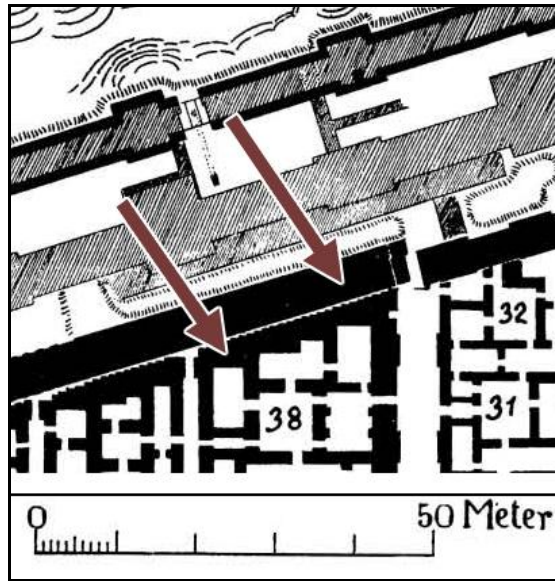


Fig. 108: Separate foundations of northern outer palace wall and inner Nabopolassar palace. Cropped from Koldewey (1931: Pl. 2).

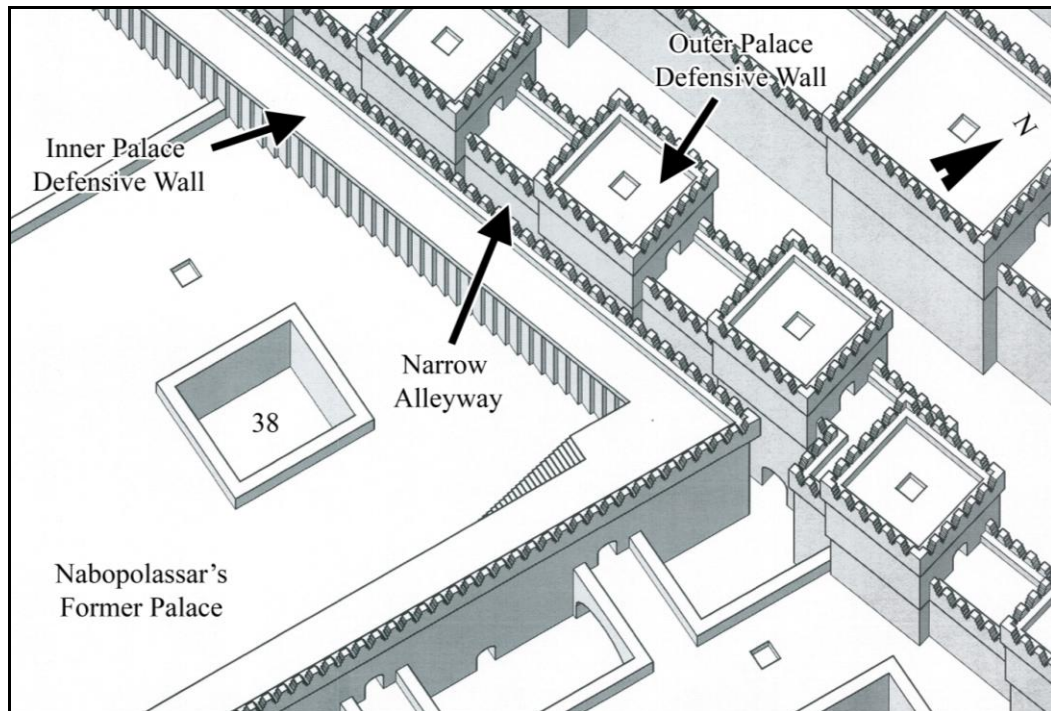


Fig. 109: Reconstruction of northern wall.

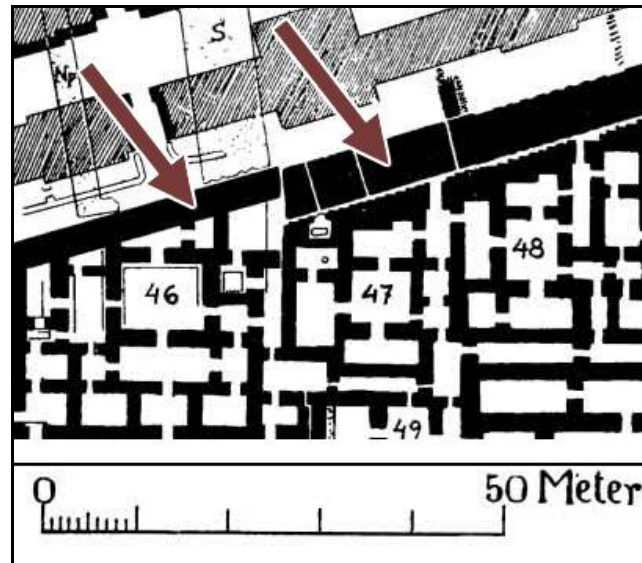


Fig. 110: Change in perimeter defensive plan. Cropped from Koldewey (1931: Pl. 2).

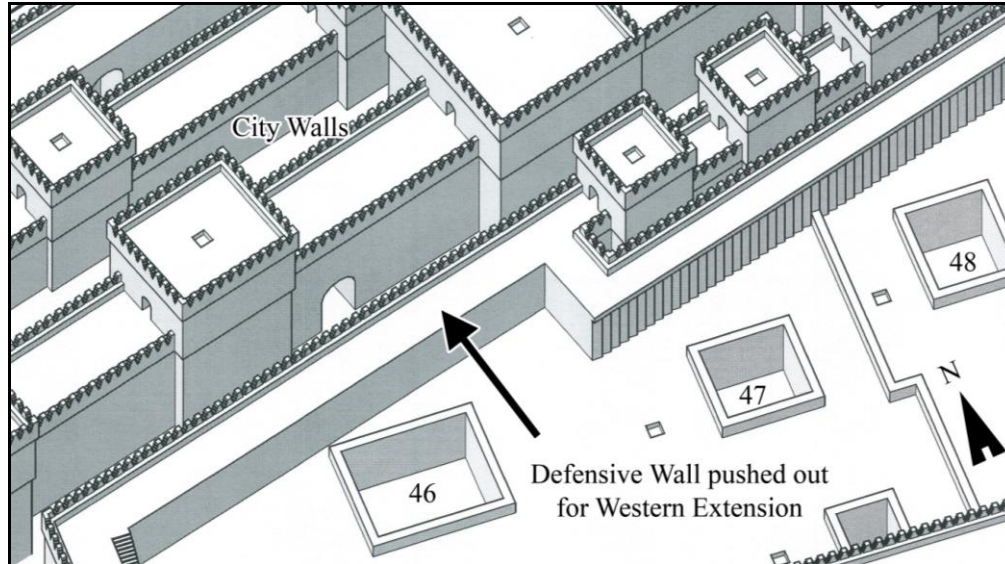


Fig. 111: Reconstruction of change in perimeter defensive plan.

West Court (Westhof)

Before moving into the older palace, a gatehouse barred passage (Fig. 112). Unlike previous examples, this gate did not contain the familiar twin towered arrangement on the outer facade (Koldewey 1914: 116; 1931: 96). The foundations suggest that the structure's walls were built lower than those found in the eastern and central courts. Rather than containing monumental architecture, the gate served mainly as a defensive barrier that likely did not rise as high as the outer palace wall (Fig. 113). Passing through this gate, a viewer entered the Western Court (Westhof), an area that measured approximately 31.5 X 33 m (Koldewey 1931: Pl. 16). Koldewey believed that this area served as the king's private court (1931: 107). To the north, residential buildings of the retainers and staff made up the perimeter of the court. These structures contained wider foundations than other residential buildings in the eastern palace (Koldewey 1914: 118; 1931: 98). In this case, the construction did not necessarily suggest greater height. This difference likely represented an attempt to insulate the more important occupants against the Mesopotamian heat.

Facing south, a great audience hall with a large single entrance dominated the court. Before Nebuchadnezzar built the eastern palace addition, this hall served as the original throne room (Fig. 114). The outer façade wall and southern back wall contained respective thicknesses of 4.5 and 3.85 m (Koldewey 1931: 107). In construction, the building likely reached a height similar to the third gatehouse.

Several large rooms connected around the western, southern, and eastern perimeter of the audience hall. The approximate 3-3.5 meter wall thicknesses (Koldewey 1931: Pl. 21) suggest that these rooms rose considerably higher than the surrounding residential buildings; a height either equal to the eastern palace gatehouses or possibly higher due to their relationship with the audience hall (Fig. 115).

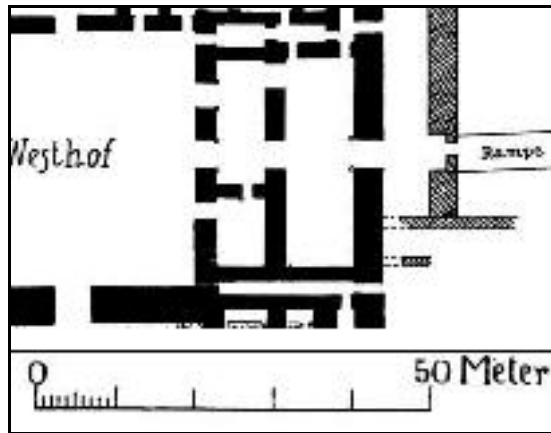


Fig. 112: Western Court and gatehouse. Cropped from Koldewey (1931: Pl. 2).

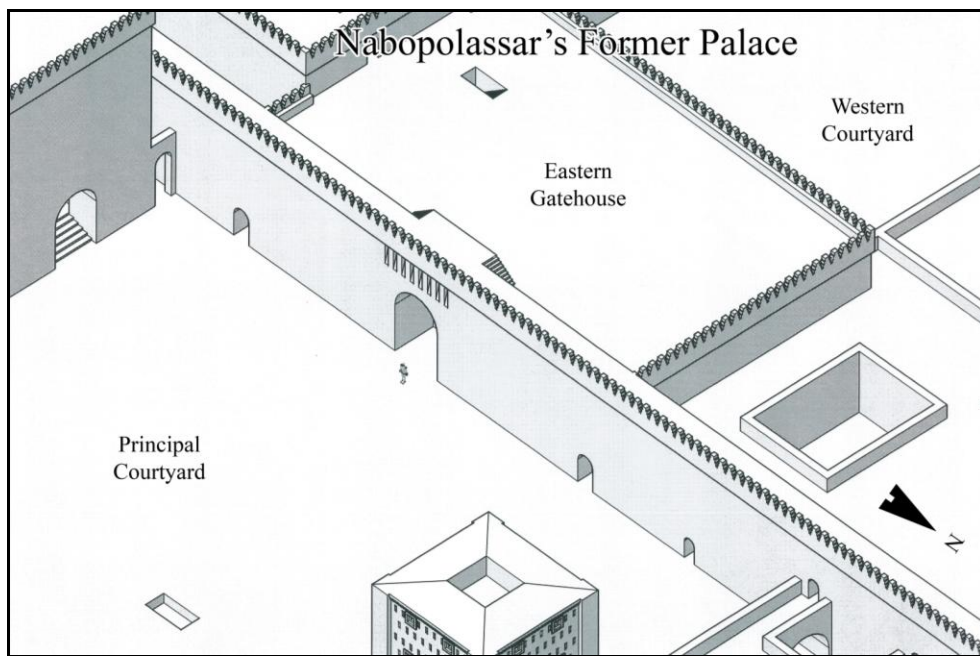


Fig. 113: Reconstruction of eastern gatehouse from Nabopolassar's former palace.

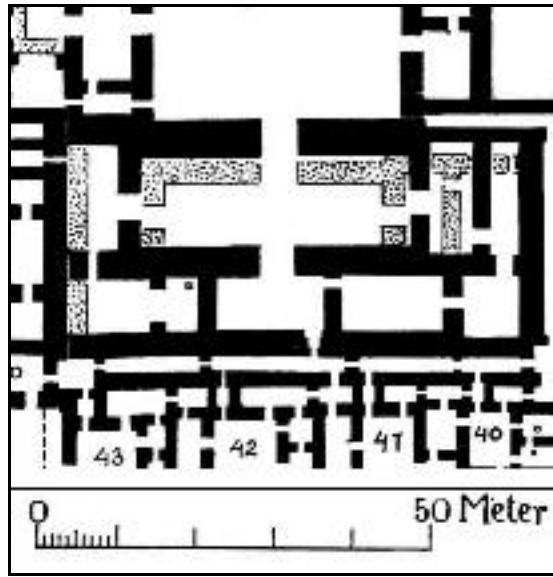


Fig. 114: Audience hall and surrounding chambers in the Western Court.
Cropped from Koldewey (1931: Pl. 2).

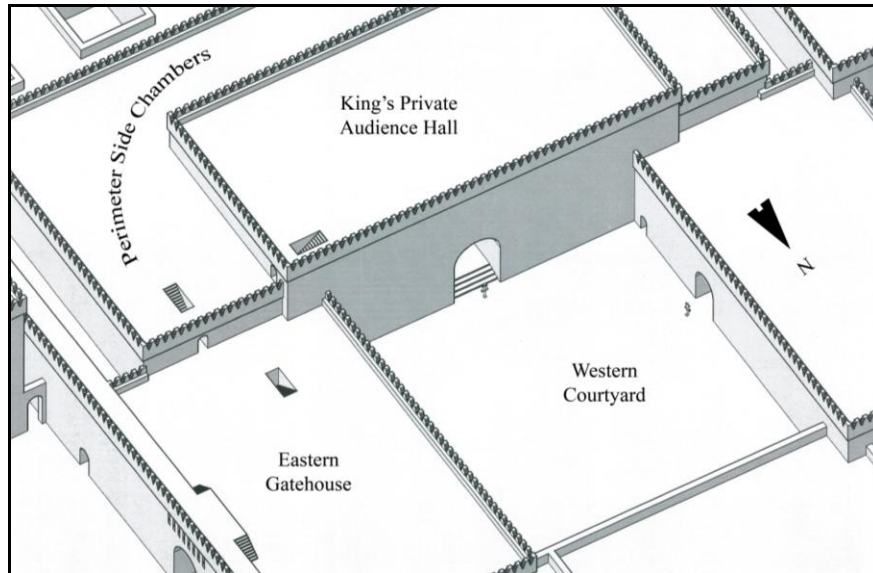


Fig. 115: Reconstruction of audience hall in Western Court.

Western Extension (Anbauhof)

Moving to the west, the final gatehouse contained a similar construction to the one from the previous court. Upon passing through the structure, a viewer entered the court of the Western Extension (Anbauhof). This court represented Nebuchadnezzar's final construction in the Southern Palace (Koldewey 1914: 125). Koldewey deemed this area the residence of the queen and harem (1931: 107). The northern residential building from the previous court (courts 37-39, 46-49) extended around the central gatehouse and also formed the northern perimeter of this court. To the south (Fig. 116), a dual chambered audience hall contained an impressive 10.7 m wide entrance with recessed decorative brickwork. Koldewey again suggested vaulting (1931: 40, 116-117), an idea not plausible due to the weak walls that supported the overall structure. These walls contained varying thicknesses between 2.25-3.5 m (Koldewey 1931: Pl. 24). The thicker entrance wall served to reinforce the gap in the brickwork created by the massive entrance. Based on these wall thicknesses, the structure likely contained a height comparable or slightly taller than the eastern palace gatehouses (Fig. 117).

South of the audience halls, a long residential building (courts 40-45) occupied the remaining space (Fig. 118). Koldewey believed these units marked the suites of the royal family. In his opinion, the king utilized the rooms surrounding court 44, while the queen remained separate in court 45 (Koldewey 1931: 28, 107-113). These suites lay in the most protected portion of the palace. In their reconstructed form, the building appeared much like others encountered so far in height and appearance. The main exception lay in the more ordered arrangement of the courtyard spacing and rooms (Fig. 119).

Western Garden Enclosure

On the westernmost wall of the palace, a small tower acted as a gateway into and out of the Western Extension (Koldewey 1914: 127; 1931: 117). Recessed inner walls gave way to a central door. Passing through the tower, a viewer entered a small area west of the palace (Fig. 120). Koldewey surmised that this area likely once held a

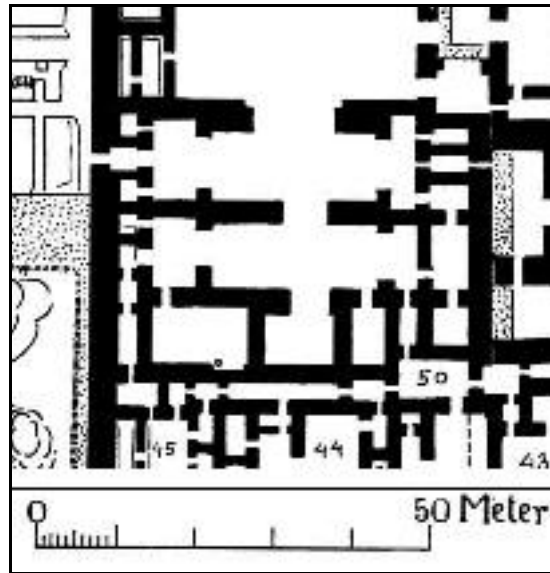


Fig. 116: Audience hall in the Western Extension. Cropped from Koldewey (1931: Pl. 2).

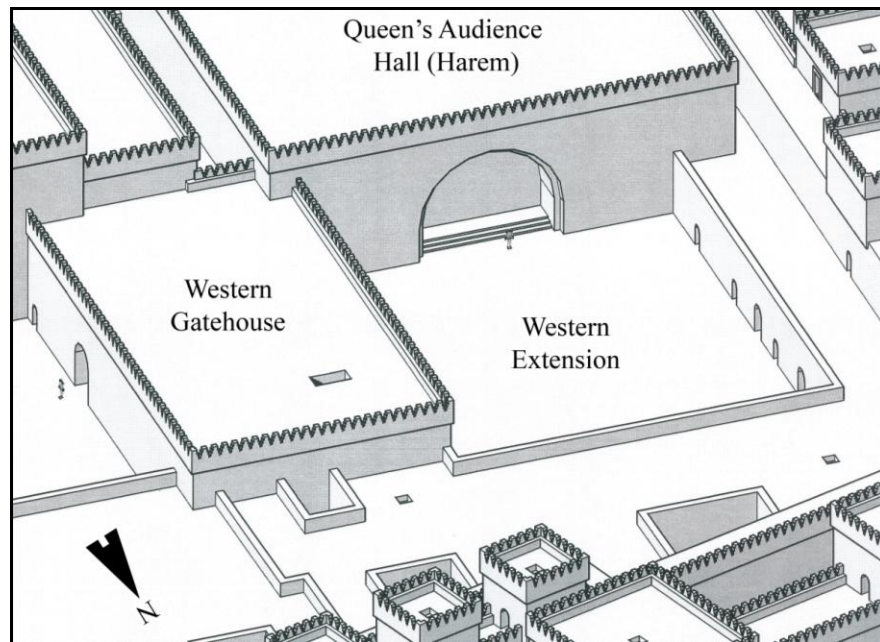


Fig. 117: Reconstruction of Audience Hall in Western Extension.

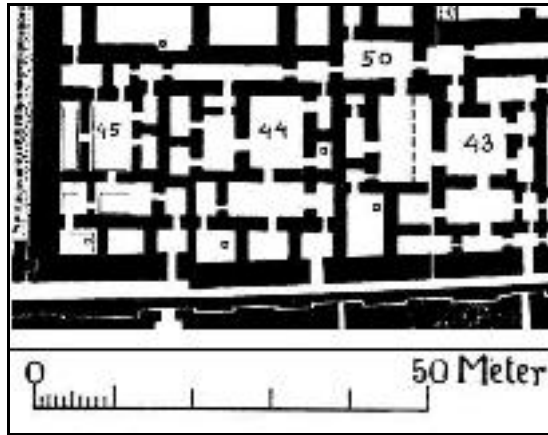


Fig. 118: Royal residences south of the audience halls. Cropped from Koldewey (1931: Pl. 2).

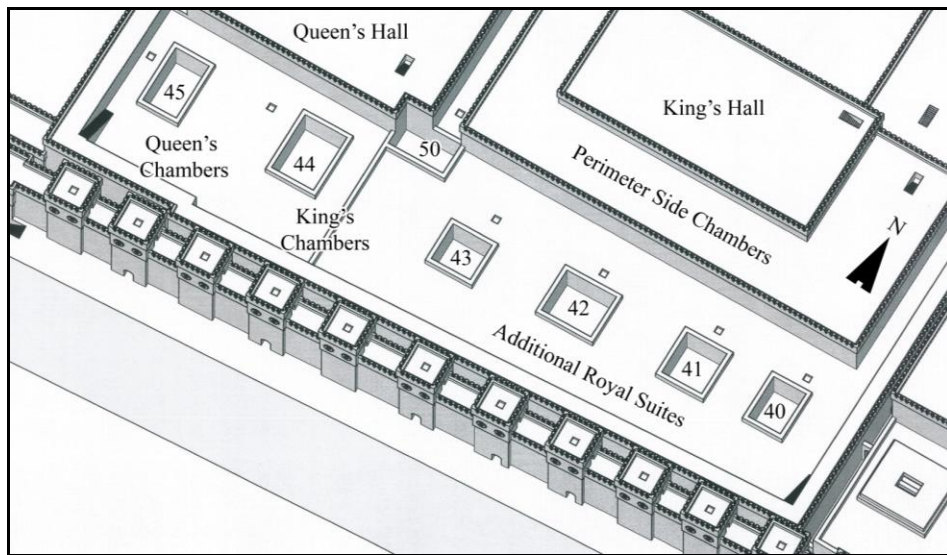


Fig. 119: Reconstruction of royal residences.

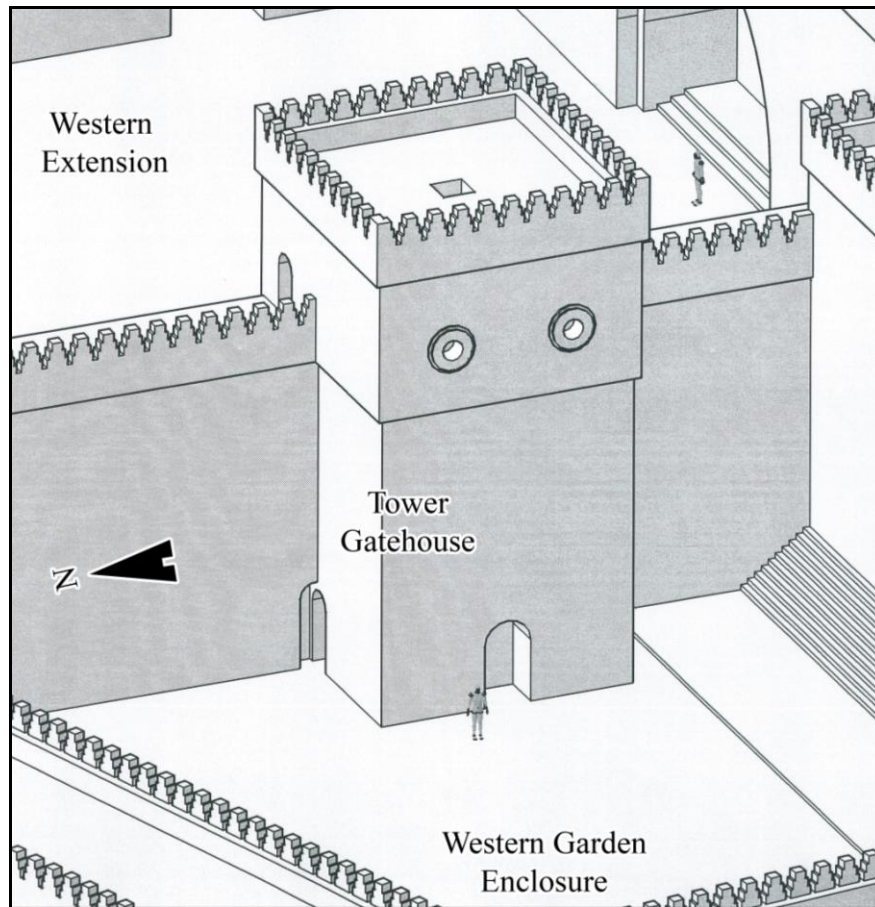


Fig. 120: Reconstruction of tower gatehouse into western garden enclosure.

garden (1931: 19, 28), an idea acknowledged as a potential possibility (Reade 2000: 207, 209) by more recent scholarly discussions.

Reconstructing this area is somewhat like a puzzle. Many alterations took place to both walls and elevations in a short amount of time (Koldewey 1914: 131). Koldewey explained the purpose of certain walls, but not how they connected and interacted with the changing elevations. Without this understanding, Koldewey's non-contoured site map appears flat, giving the impression that all structures belonged to the same level (Fig. 121). As mentioned in the topographical discussion, Nebuchadnezzar's older quay wall continued the same purpose that previous walls maintained. However, once Nebuchadnezzar raised the land area in preparation for his new palace, a more

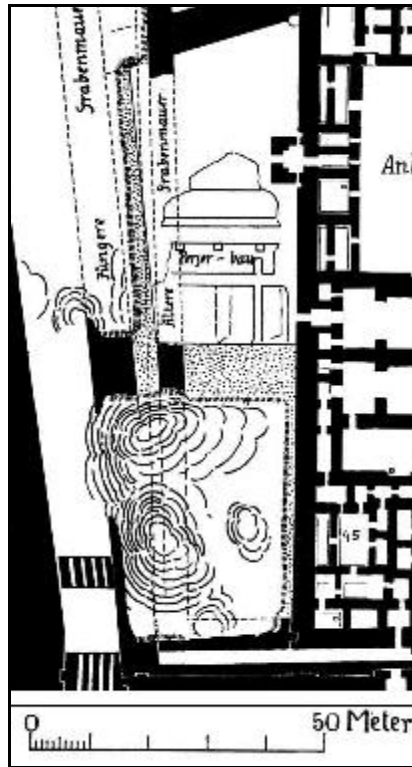


Fig. 121: Area west of the palace with northern and southern intermediate walls.
Cropped from Koldewey (1931: Pl. 2).

substantial wall replaced the older quay wall. The slope and older quay wall disappeared beneath the palace terrace when Nebuchadnezzar leveled the ground. Although the remains no longer exist, this created a manmade cliff that dropped 10.5 m down to the river below (See p. 39-43). This certainly required raising the quay wall to an equal height with the palace terrace; otherwise, the new fill of earth would have collapsed into the river (Fig. 122). Upon completion of his western palace extension, Nebuchadnezzar added two intermediate walls that ran from the north and south corner of the palace west towards the river. Although Koldewey did not complete excavations, these walls likely terminated above the newer quay wall. Rather than keeping the western cliff face open, it is probable that an upper lesser wall joined the intermediate walls. Combined, this created an enclosure west of the palace (Fig. 123).

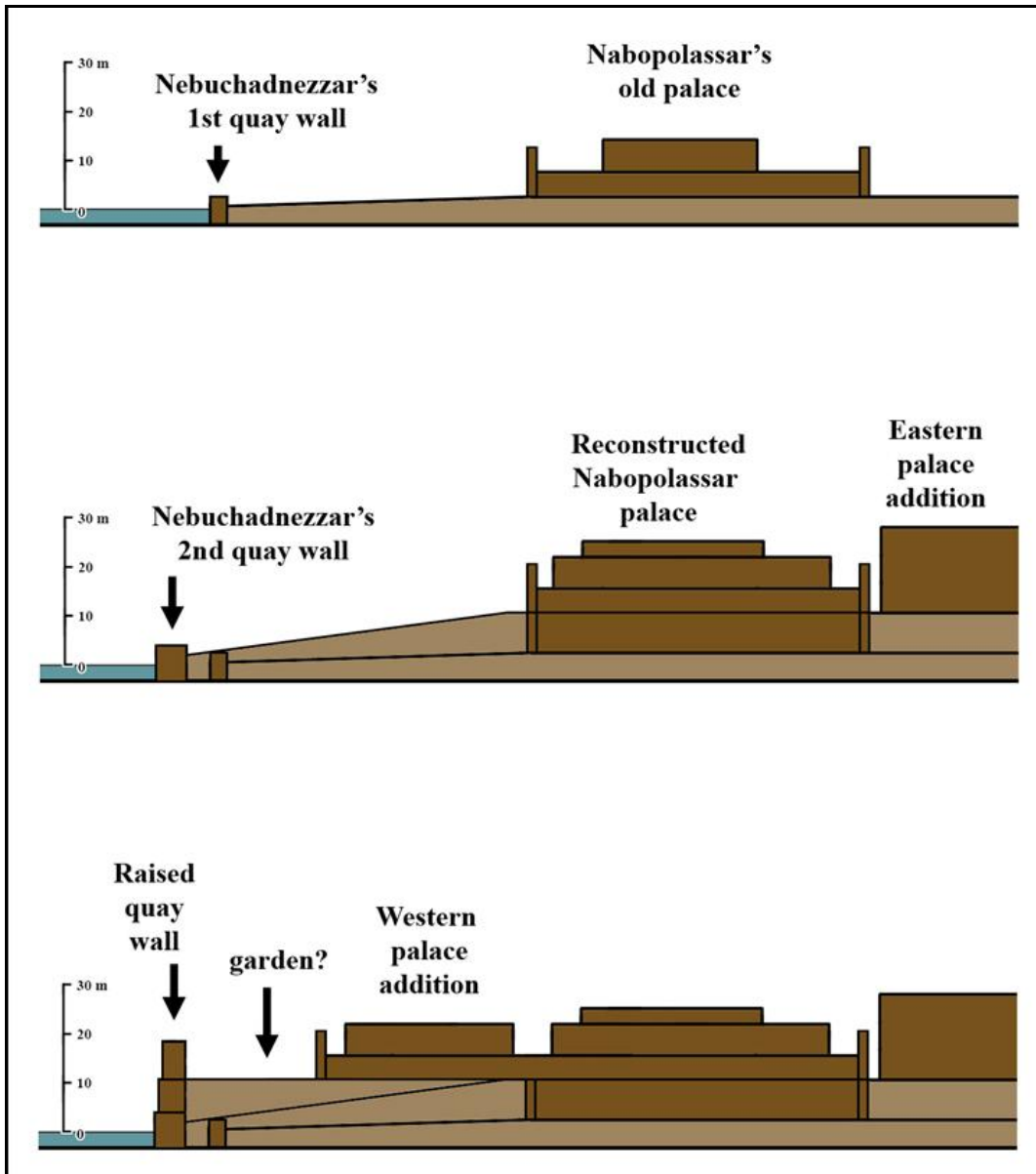


Fig. 122: Facing north: construction sequence in the area west of the palace.

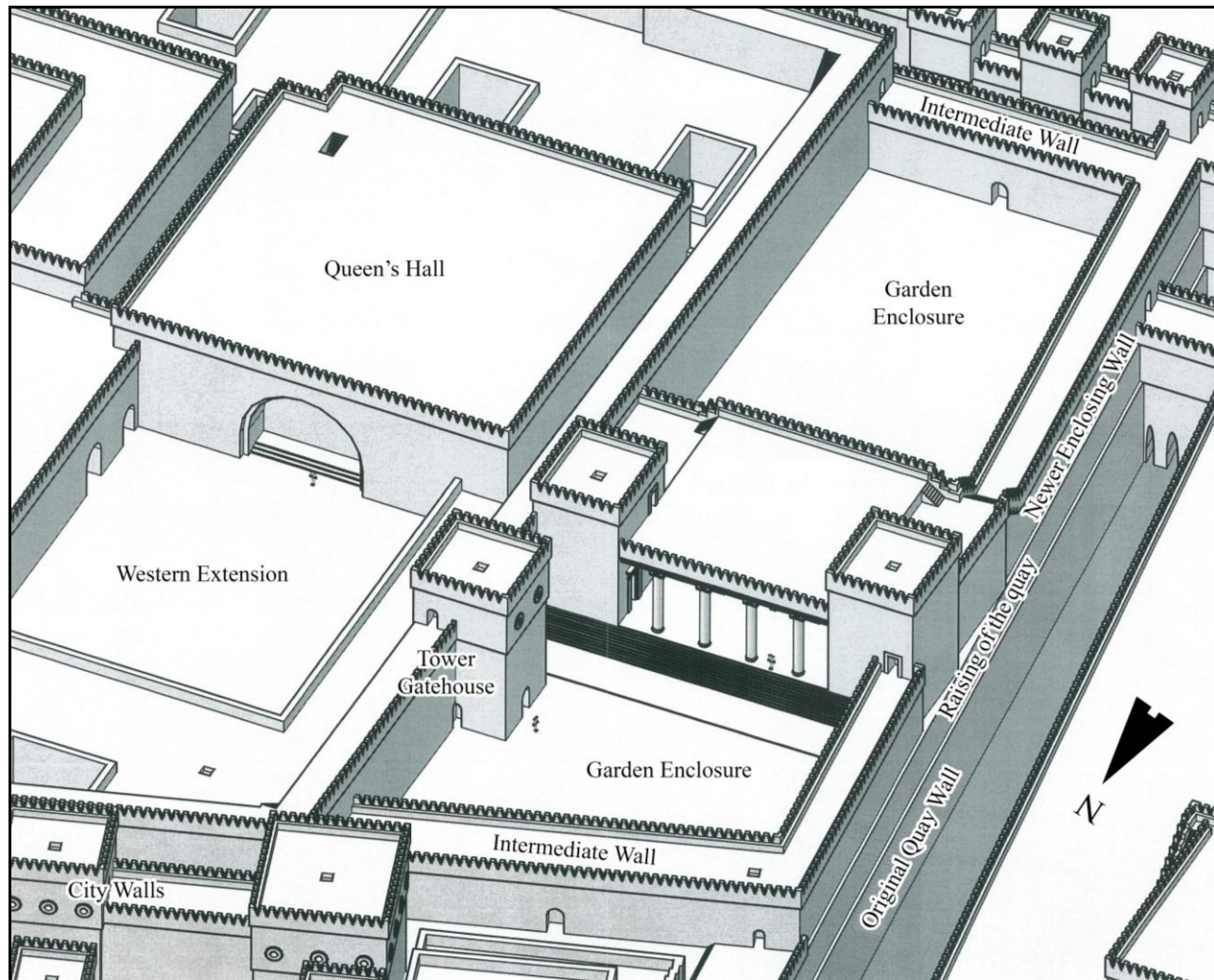


Fig. 123: Reconstruction of the garden enclosure.

The Persian Building

During the Persian period, the new Achaemenid kings constructed the Apadana within in the garden's enclosure (Fig. 124). Traditionally, an apadana consisted of a grand columned inner hall and a smaller open columned fore-hall or porch set between two side towers (Koldewey 1914: 128). The Persian kings constructed numerous such halls on a massive scale at the Persian cities of Persepolis, Pasargadae, and Susa. In Babylon, this hall represented a continuation of that tradition by the new ruling Achaemenid Dynasty.

Like most buildings in Babylon, the structure's remains are in poor condition, consisting of little to no brickwork. Koldewey followed the foundation trenches to map out most of the structure (1914: 128). Due to this difficulty, scholars have published several variations of the floor plan (Figs. 125 & 126); however, Koldewey's original is the most widely accepted. Without much alteration to the garden enclosure, the Persian architects attached this new building onto the west wall of the palace. In this wall, a small doorway permitted communication into the Western Extension's audience hall (Queen's hall). In the east, the building terminated above the quay wall (Koldewey 1931: 116, 121). Due to the limited confines in which this structure was built, the Persian Apadana contained a small plan that measured only 34.80 by 20.50 m (Haerinck 1973: 110). Like the great audience halls in the palace, entry to this unique building lay in the north. After climbing several short steps from within the garden enclosure, the small fore-hall contained four columns. Inside the structure, the main hall consisted of eight columns separated into two rows. West and east of this hall, a small room was built onto each end.

Despite the intricacy of the Persian Apadana, a reconstruction of the superstructure is not difficult to reproduce. At Persepolis, detailed reliefs of these buildings decorated the tombs of the Persian kings (Fig. 127). Koldewey supplied a theoretical reconstruction of this building based off of these reliefs (Fig. 128).

Prior to the Apadana's construction, the area west of the Southern Palace formed a single elongated enclosure. After the Persians constructed the Apadana, the building

divided the garden enclosure into two separate areas. While the main northern entrance to the Apadana was clearly visible from the archaeological remains, Koldewey did not mention any exterior access to the south. Some form of secondary entrance must have permitted communication to the other half of the enclosure. Without more information, this secondary entrance can only be conjecturally placed. To reestablish access to both portions of the enclosure, this reconstruction has opened up one of the Apadana's side chambers with a doorway and staircase leading down into the southern garden (Fig. 129).

Like the audience halls and gatehouses from the Southern Palace, it is highly likely that the Apadana contained defensive crenellations along the rooftop perimeter. While not shown in the tomb iconography, the exposed porch area of the Apadana necessitated such a feature. Without crenellations, the northern approach to the building would have remained vulnerable in the event that invaders gained access to the garden enclosure (Fig. 130).

Examining enameled brick fragments found at the site (1931: Pl. 54), Koldewey proposed that a chariot-led hunt scene decorated the towers (1914: 129-30). A more modern reexamination suggests that like the palace at Susa, the decoration at Babylon depicted the elite 10,000 immortals of the Persian guard (Haerinck 1973: 123, 130). Regardless of final decorative form, this structure represented a significant example of cross-cultural architecture. Upon completion, the structure's addition to the Southern Palace brought Babylon's Acropolis to an architectural epitome.

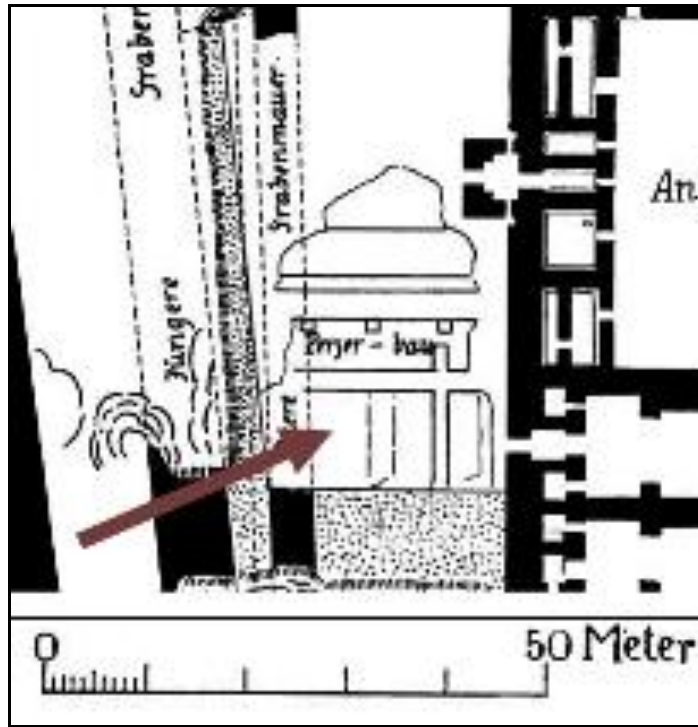


Fig. 124: Remains of the Persian building facing North.
Modified and cropped from Koldewey (1931: Pl. 2).

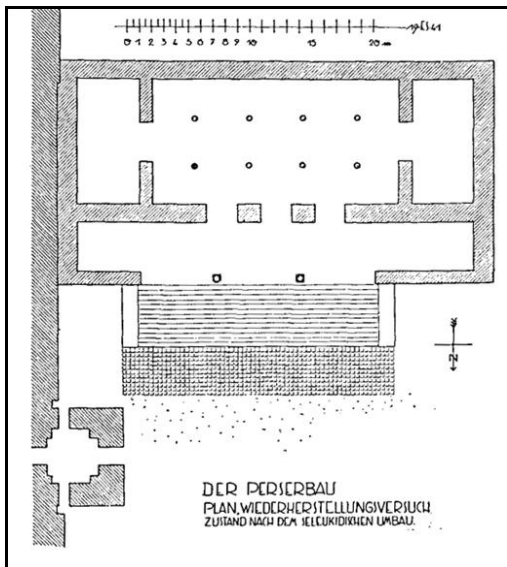


Fig. 125: Apadana plan facing south,
from Schmidt (1941: 805-6, Fig. 9).
Plan cropped and modified.

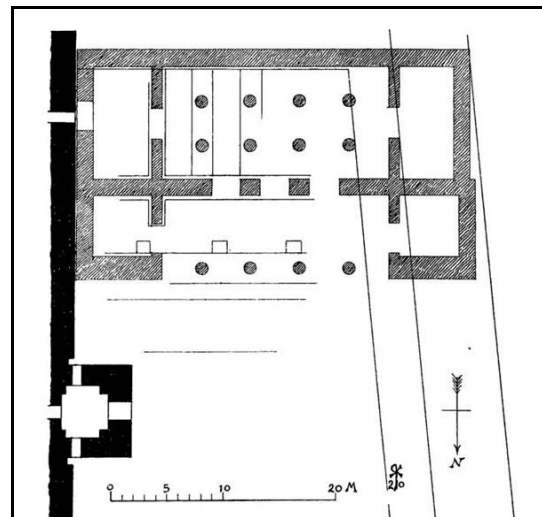


Fig. 126: Apadana plan facing south,
from Koldewey (1931: Pl. 28). Plan used
as basis for digital reconstruction

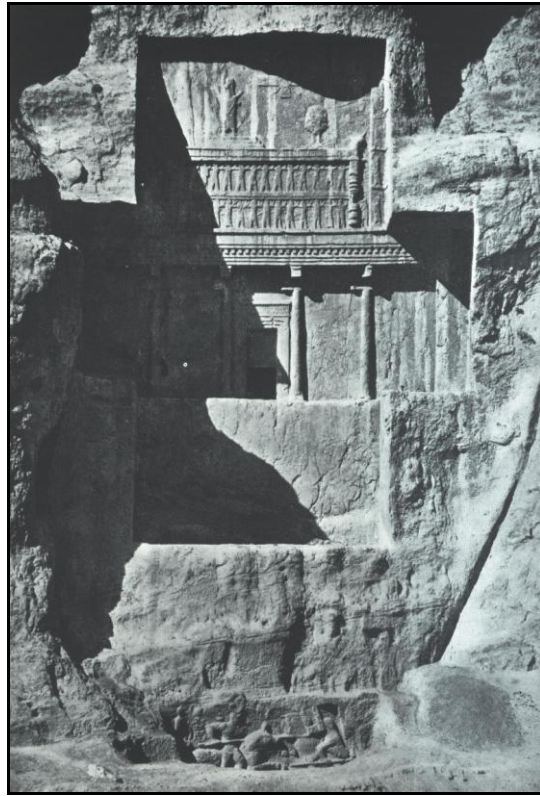


Fig. 127: Tomb reliefs at Persepolis. From Frankfort (1956: Pl. 187). This mural details the wooden superstructure that was utilized in the digital reconstruction.

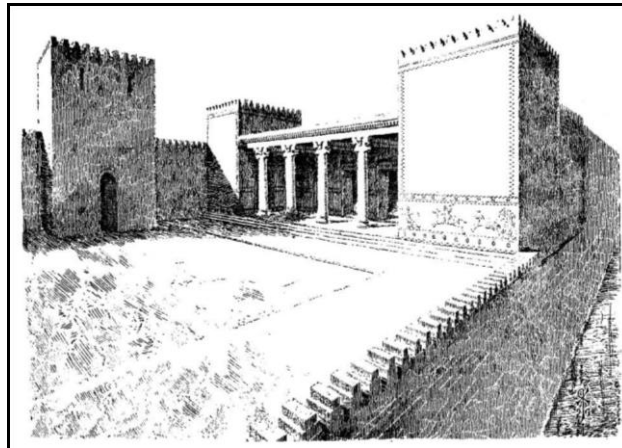


Fig. 128: Reconstruction of the Persian Apadana. From Koldewey (1931: Pl. 28). Koldewey's theory of taller side towers was utilized in the digital reconstruction.

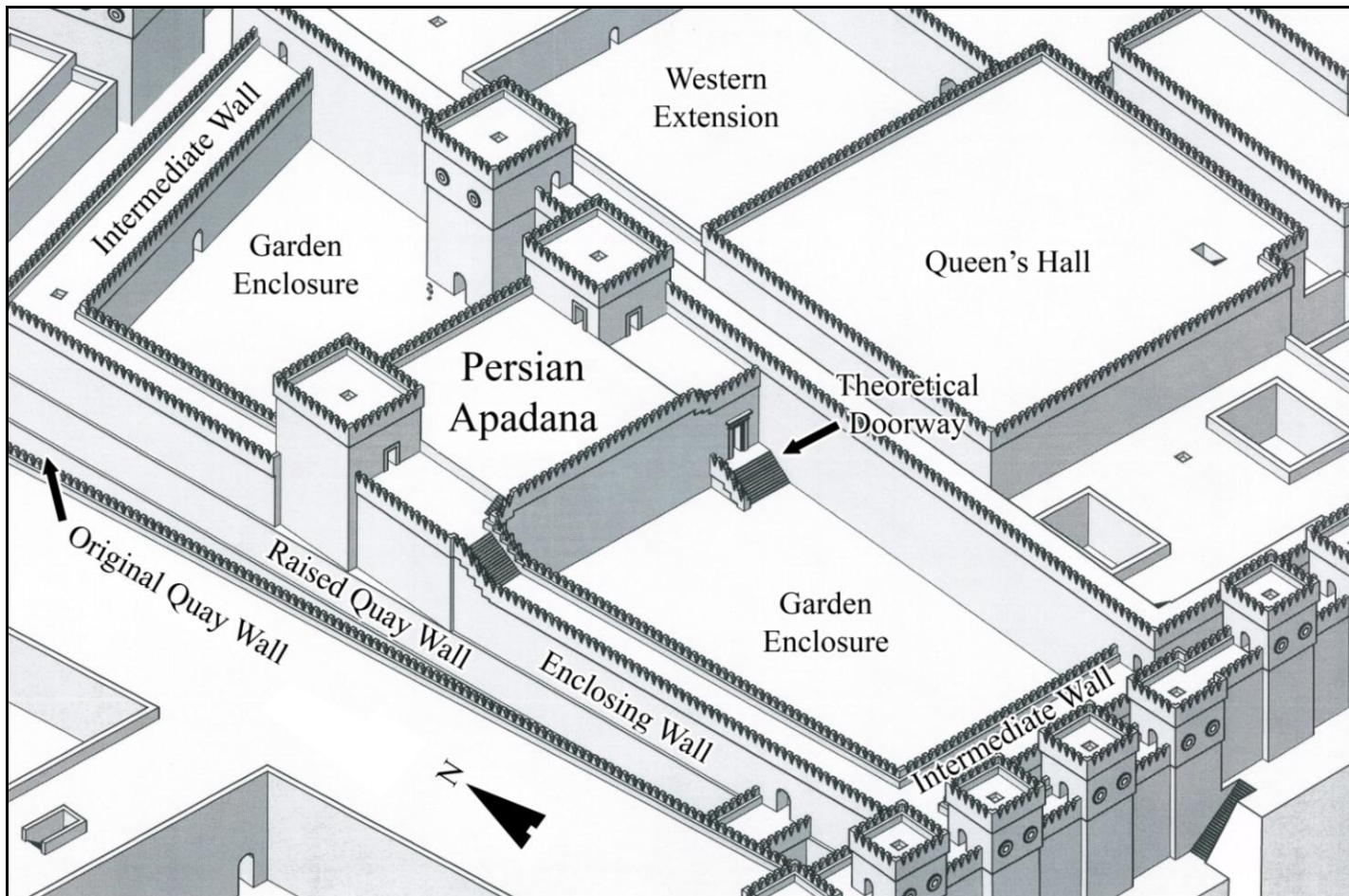


Fig. 129: Reconstruction of Apadana and conjectural stairway leading into southern garden enclosure.

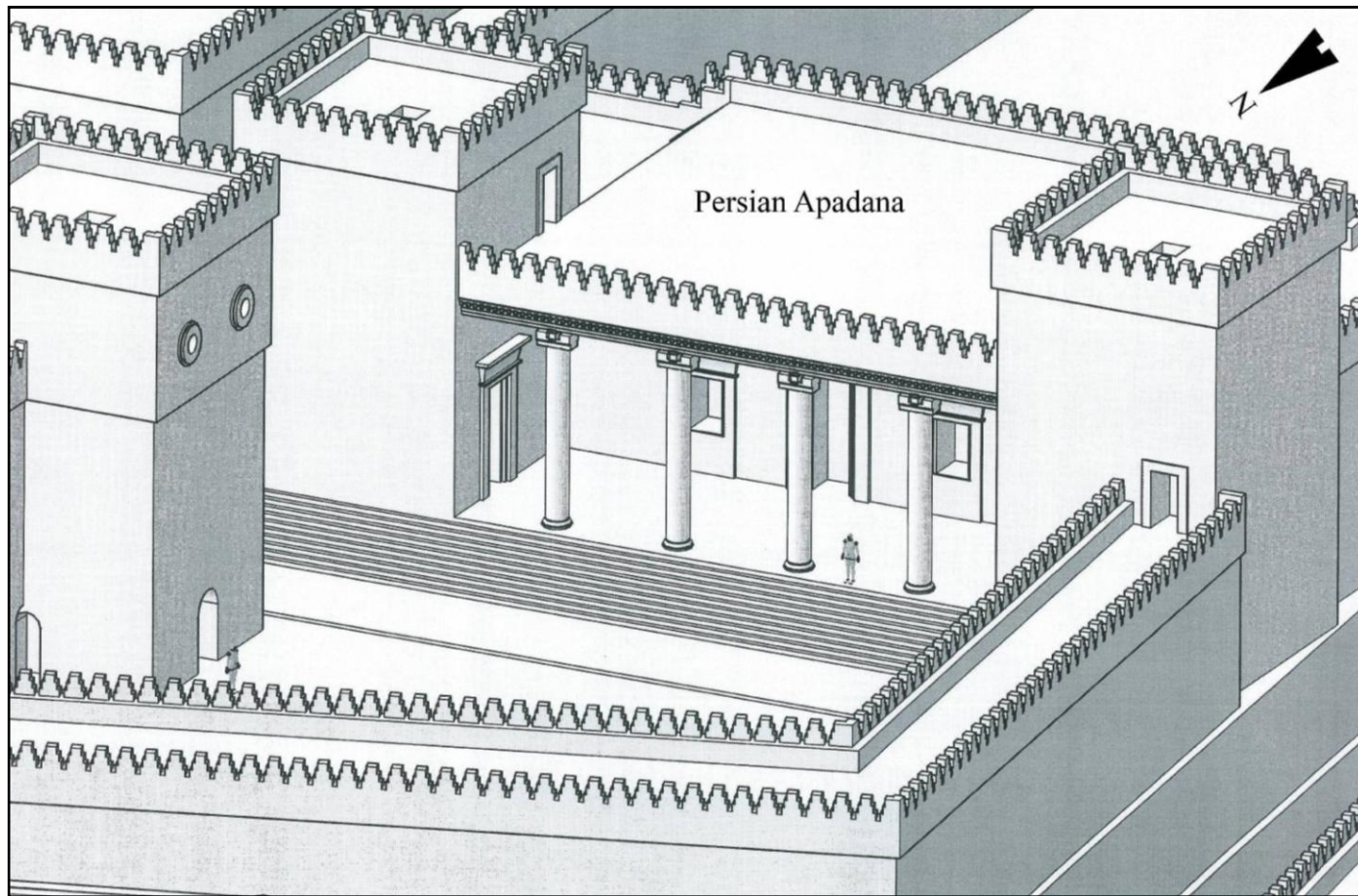


Fig. 130: Reconstruction of the Apadana.

CHAPTER VII

RECONSTRUCTIONS: PART III

Western Outworks

After the completion of the Southern Palace, Nebuchadnezzar initiated his 1st northern advancement project. This work resulted in the construction of the Western Outworks and the Old Wall of the Northern Citadel. Nebuchadnezzar's inscriptions define the project as a fortification built to protect the Esagila temple and Babylon (Koldewey 1914: 145; 1932: 29). Nebuchadnezzar sought this protection for several reasons. First, the Euphrates River remained a continuous threat against the eastern shore. Erosion undermined both the royal residences and the sanctuary of Marduk (Wiseman 1985: 51, 53). Previous kings attempted to mitigate this threat by constructing quay walls progressively to the west. Not satisfied, Nebuchadnezzar built a structure large enough to forcibly move the entire river bed and channel the river away from eastern Babylon. Second, while Assyria no longer posed a threat, Nebuchadnezzar became suspicious of his own ally, the northern Median Empire. The growing power represented the greatest threat to Babylon's security. These suspicions are confirmed by Nebuchadnezzar's Median Wall, a long fortification he constructed at the narrowest point between Tigris and Euphrates Rivers (Oates 1986: 130). Although an impressive land defense, the northern approach to Babylon still remained vulnerable against an invading fleet (Wellard 1972: 155). At the time, the River Wall of Nabonidus did not yet exist. If a fleet sailed down the Euphrates and past the city's defensive walls, this fortress prevented access into Babylon's interior (Battini 1997: 38-39). Third, in the event that invaders captured the palaces, the fortress acted as a defensible last ditch retreat for the king and his family (De Camp 1960: 70). Protected access to the river provided a final route of escape by sailing south out of the city.

Due to incomplete excavations, reconstructing the Western Outworks proved difficult (Figs. 131 & 132). Additionally, like most buildings in Babylon, brick robbers removed the superstructure deep into the foundations. The excavations revealed an approximate 200 meter trapezium section of the building (Fig. 133). The main structure

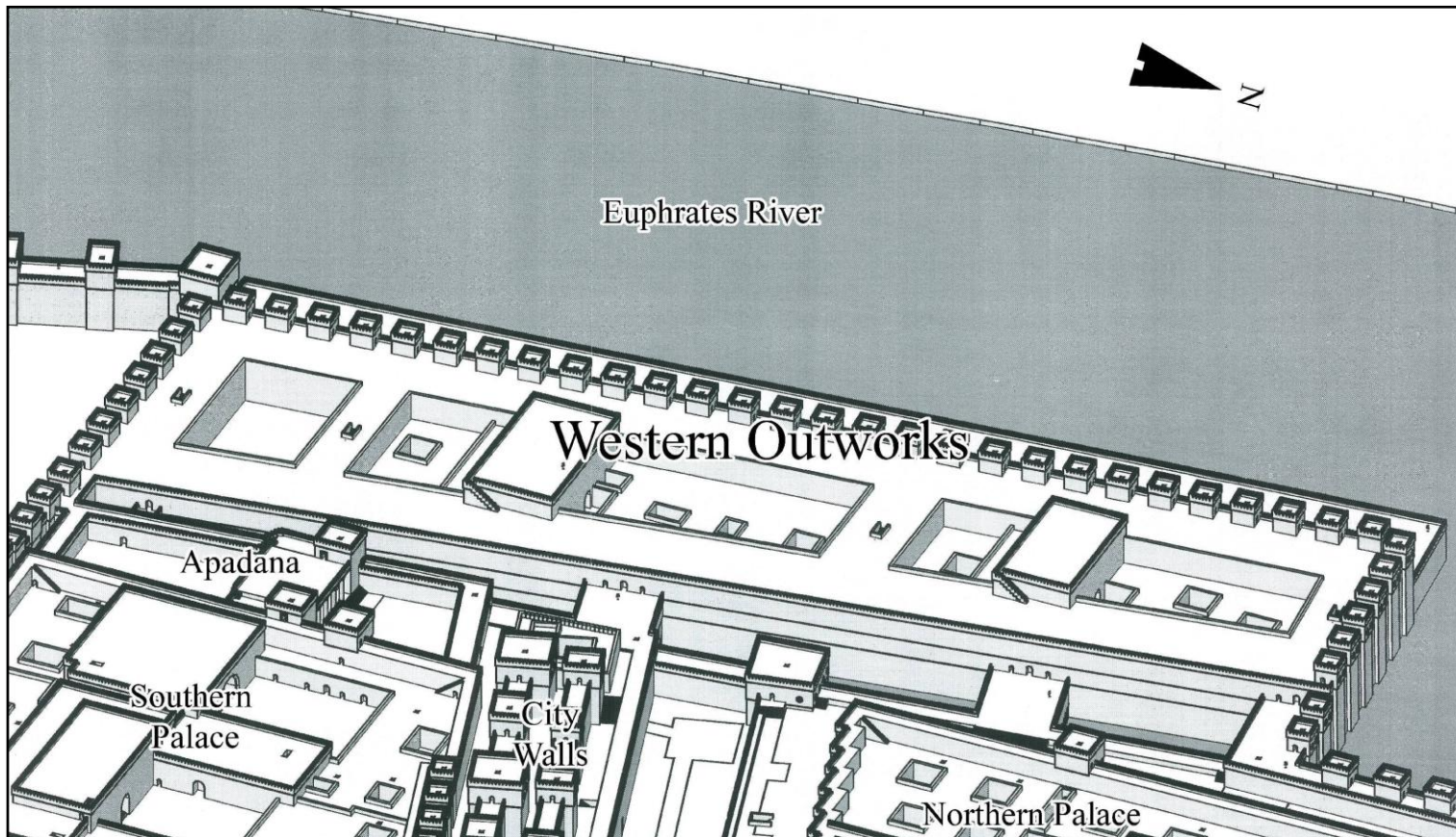


Fig. 131: Reconstruction of Western Outworks I.

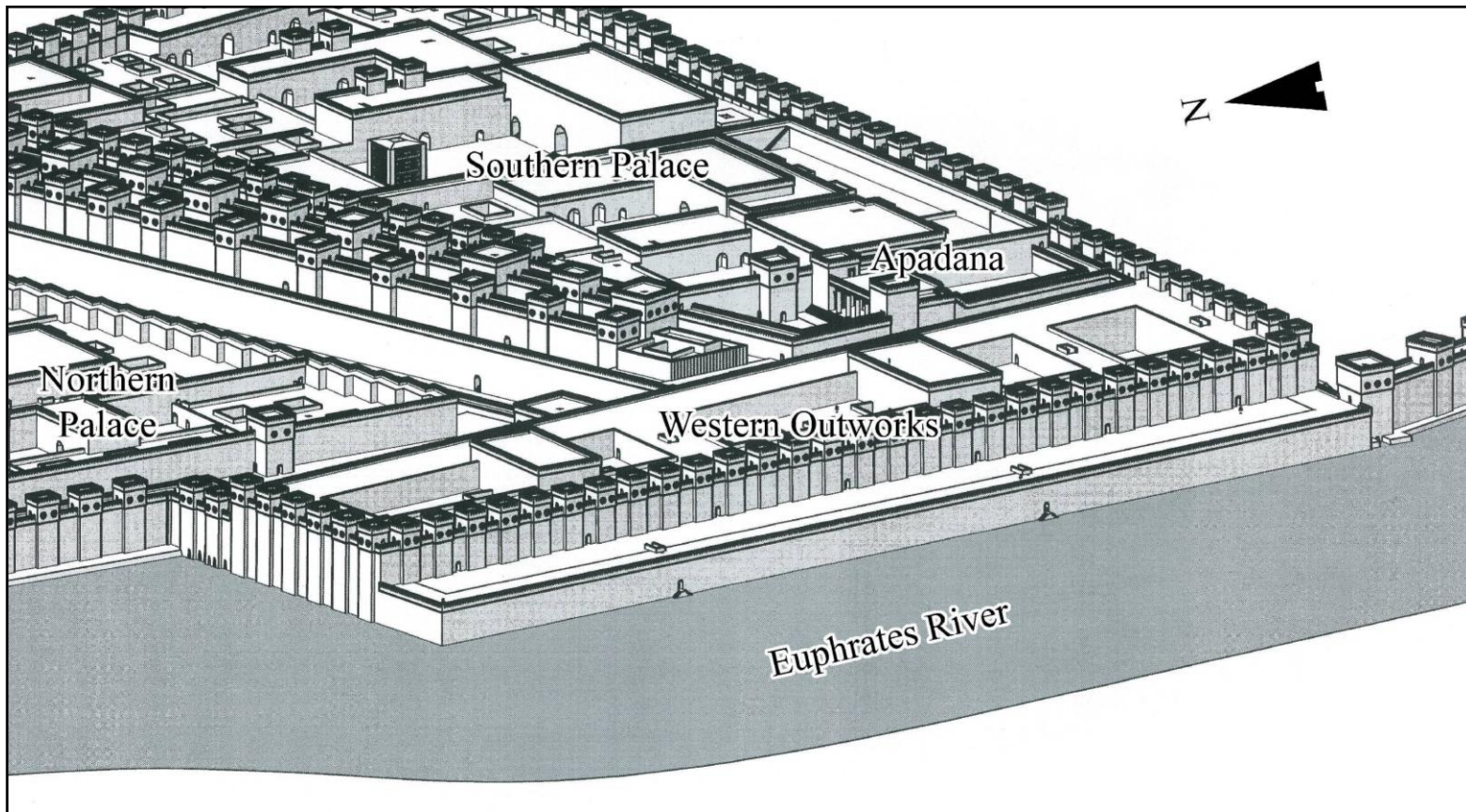


Fig. 132: Reconstruction of Western Outworks II.

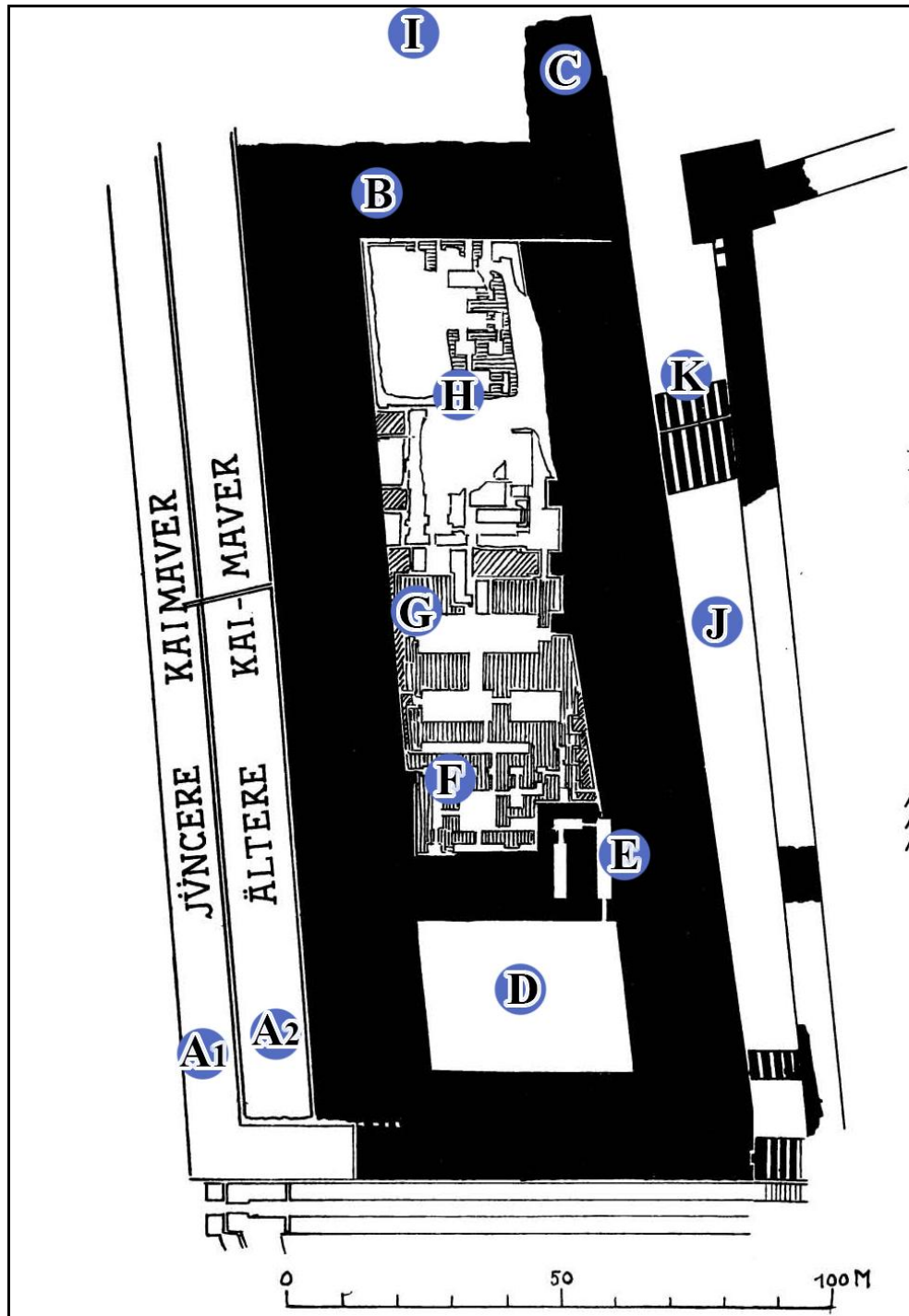


Fig. 133: Western Outworks. Modified after Koldewey (1932: Pl. 13).
The added letters A1-K represent key points of discussion in this chapter.

contained massive exterior and interior cross-walls that varied between impressive thicknesses of 20-25 m. Separate walls (Fig. 133-A1 & A2), consisting of an inner 14 m and outer 9.60 m thickness ran parallel along the river (Koldewey 1914: 144; 1932: 27-8). Combined, the structure measured approximately 80 m wide in the south. The width narrowed to 70 m before excavations halted along a wide northern cross wall (Fig. 133-B). Reconstructions often incorrectly depict this cross wall as the structure's northern limit (Fig. 134). A northern projecting section of the eastern wall proved that considerably more of the structure remained buried (Fig. 133-C). This too is often misrepresented as a quay wall along the Northern Citadel. If the structure terminated at this point, the southeastern sloping angle of the cross wall would have trapped the south flowing currents leading to concentrated erosion. Wiseman acknowledged this issue and

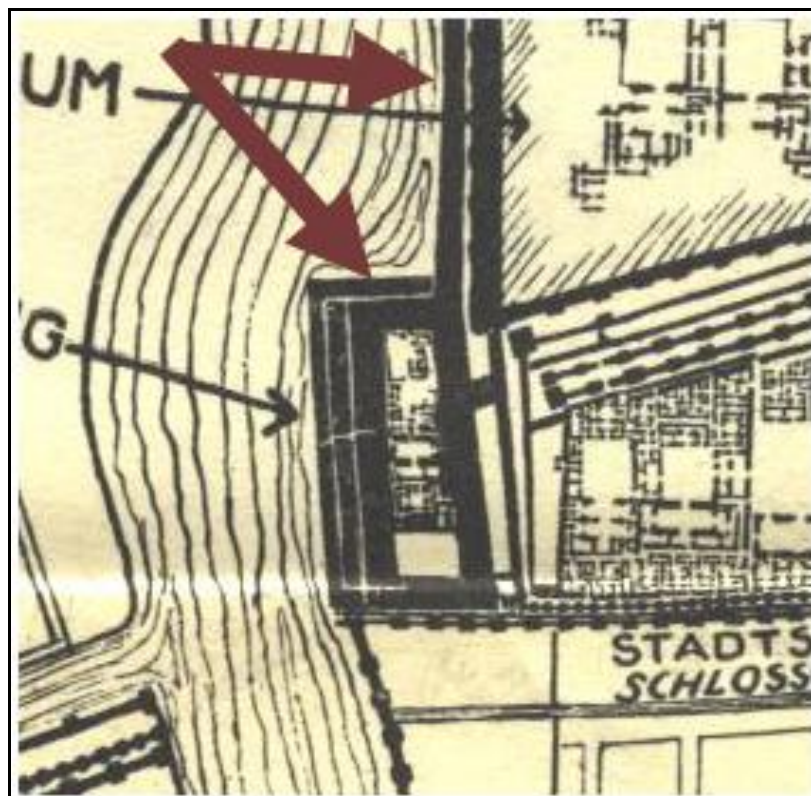


Fig. 134: Incorrect depiction of the Western Outworks' northern limit.
Map cropped and modified from Unger (1931: Pl. 57).

proposed that the outer 9.60 m thick wall continued north, curving with the river, before terminating at the New Wall of the North Citadel (Fig. 135)(1983: 140-141).

Unfortunately, there is no archaeological evidence to suggest such an efficient curve along the quay wall. The river's later movement during Neriglissar's reign (559-556 B.C.) and again in the Persian period proved that the structure was not efficient. More plausibly, Koldewey suggested that the Old Wall of the Northern Citadel completed the Western Outworks (1932: 28). The southwest sloping angle encouraged the westward movement of water (Fig. 136). The Citadel Wall's eastern completion remains questionable due to the later construction of the Northern Palace (Koldewey 1914: 156). Despite this lack of information, the western portion of the wall may have been finished to fulfill the specific function of channeling the river and forming the north wall of the Outworks. To help this redirection, the progressive southern widening of the Outworks pushed the water away from the eastern shore.

Internally, an open space measuring 28.62 x 36.35 m occupied the southern area of the structure (Fig. 133-D). From the north-east corner of that space, an undetermined ramp or staircase wound up and disappeared into the missing superstructure (Fig. 133-E)(Koldewey 1914: 144; 1932: 28). Koldewey's reports did not confirm how high the floor level rested within this space or other portions of the Outworks. His excavation maps display a varying ground height of .10 to 1.26 m above zero within the open space and then a variance of several meters higher throughout the rest of the structure (1932: Pl. 9-11). Due to the close proximity of the river, it is highly unlikely that these measurements represented a floor level even close to the original level of occupation. These sporadic elevations represent only the poorly preserved remains of the structure's lowest foundations. The intended floor level certainly lay considerably higher; how high is questionable.

Based on the remaining soil, Reade proposed that the southern open area once contained planted trees as possibly part of a garden (2000: 210). While the soil at this level must be dismissed as foundation fill, it is agreeable that the isolated access implied a refuge of some sort. The southern open area likely represented a courtyard and the

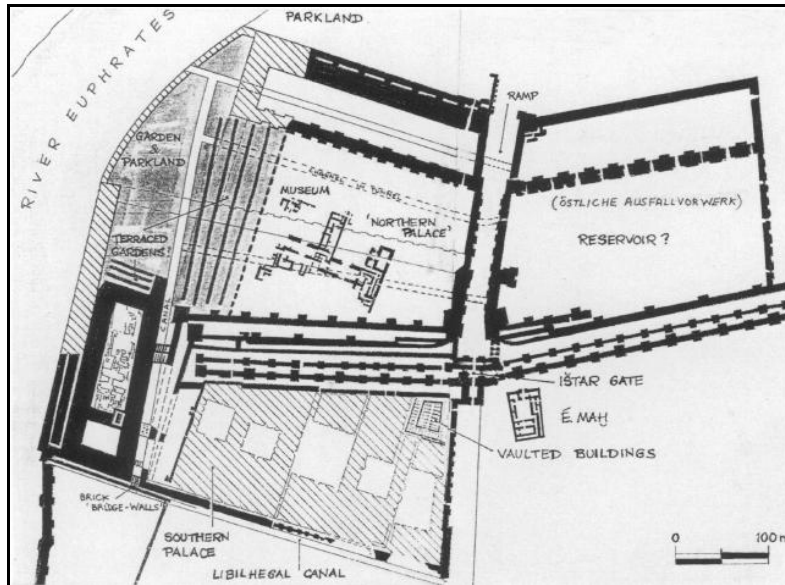


Fig. 135: Western Outworks with curved quay wall. From Wiseman (1983: Pl.33, Fig. B). This image theoretically reconstructed the eastern shore and requires reevaluation to properly understand the limits of the Western Outworks.

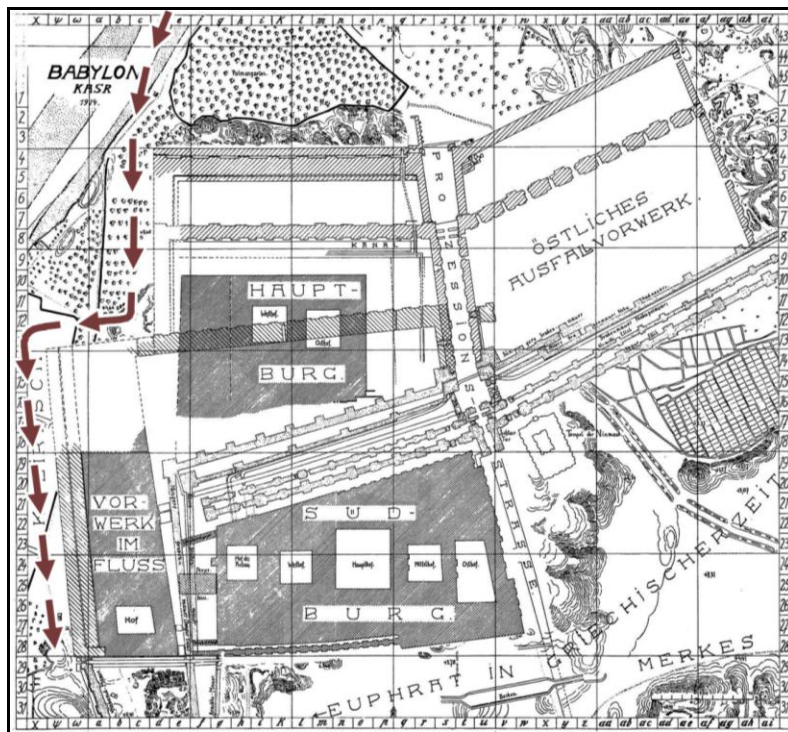


Fig. 136: Longer version of Western Outworks. From Koldewey (1931: Pl. 1). Modified to show the most likely flow of the Euphrates River.

lowest intended level of the Outworks. Directly north, lay a residential-like unit (Fig. 133-F); the largest of its kind discovered within the Outworks. Despite the larger size, the chambers appeared vastly inferior to those found in the Southern Palace. If correct in assuming that this structure served a primary military purpose, then the rooms intended to mainly support the structure's garrison commander and perhaps only in times of emergency, the king and his family. Further north (Fig. 133-G), Reade pointed out that a large rectangular space represented a small audience hall (2000: 210). The hall's placement roughly aligned with audience halls in the palace and the later Persian Apadana. The thick foundations show that this hall rose up into the structure and likely appeared as a higher rooftop (Fig. 137). The remaining space north of this area contained residential-like units that Koldewey could not interpret (Fig. 133-H). Koldewey assigned this difficulty to a repeated change of plan during construction (1914: 144-45; 1932: 28-29). It seems that the intended chambers and courtyards were later replaced by a similar scenario but in different positions. Unfortunately, these

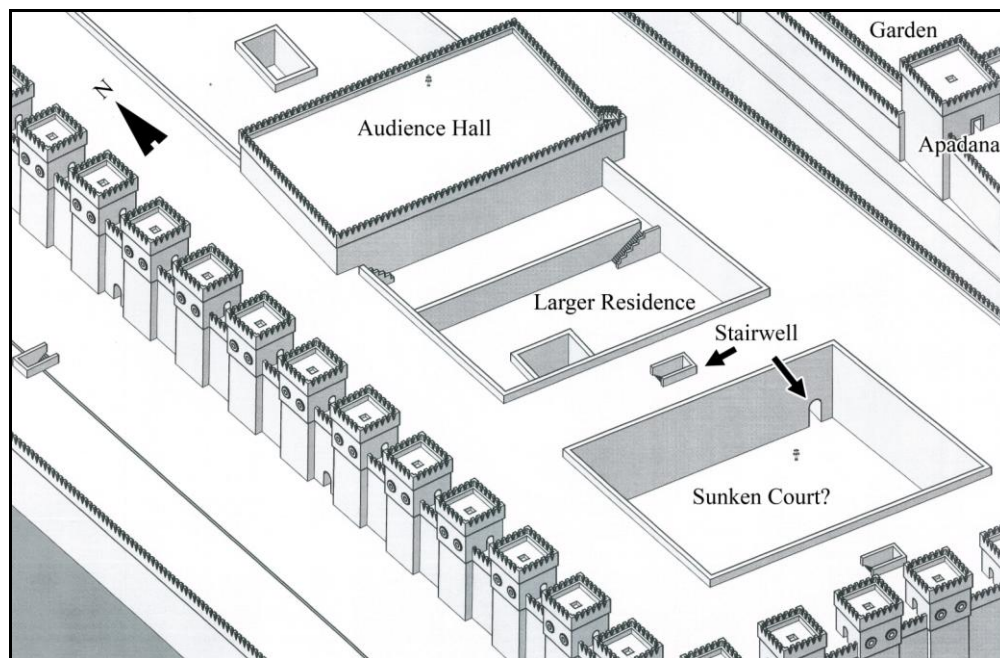


Fig. 137: Reconstruction of southern courtyard, large residence, and audience hall.

changes cannot be separated, nor a final plan determined. For the purposes of this reconstruction, the residences north of the audience hall are mostly conjecturally placed based off of the scant evidence from Koldewey's excavation maps (Fig. 138).

As mentioned, the northern cross wall marked the limit of the excavation data. Based on the position of the Old Wall of the North Citadel, the unexcavated northern area beyond the cross wall contained a smaller area for habitation than in the south (Fig. 133-I). Expanding upon the Outworks' proposed purpose, this area likely contained more residences and barrack space. Unfortunately, like the north-central residences, any placement of these units remains conjectural (Fig. 139).

Koldewey found no entrance into the building's interior. This suggested that these rooms formed the lower level of a higher accessed structure. There are several clues that help restore the height and the upper levels. The Outworks' massive walls are the most noticeable feature. These walls require explanation. As much for defense against water and enemies, these walls intended to raise the structure out of the river. Nebuchadnezzar declared: "its foundations I grounded in the Apsu and its top I made as high as a mountain range" (George 1992: 355). This suggestion of great height can be confirmed in the remains of bridges. Nebuchadnezzar placed the Outwork's foundations slightly west of the former Acropolis quay wall. This created a narrow water channel between the structures (Fig. 133-J)(Koldewey 1914: 144; 1932: 28). Bridges once crossed the channel to achieve communication with the Acropolis (Damerji 1981). Evenly spaced cross walls supported these bridges allowing water to pass beneath them (Fig. 133-K). With no confirmed lower entrances, these bridges likely permitted internal access. Matching the height of the western Acropolis (See p. 39-43, 148), the reconstructed bridges and their connecting secondary level necessitated a height of 10.5 m. This established a unique relationship with the Acropolis. It could be argued that this level represented the Outworks' highest point, to which someone could simply walk from the Acropolis onto the roof of this building; however that negates the idea of a defensible last ditch structure. The Outworks' defenders would be susceptible to the higher defenses of the Southern Palace. To remain defensible, the Outworks' outer walls

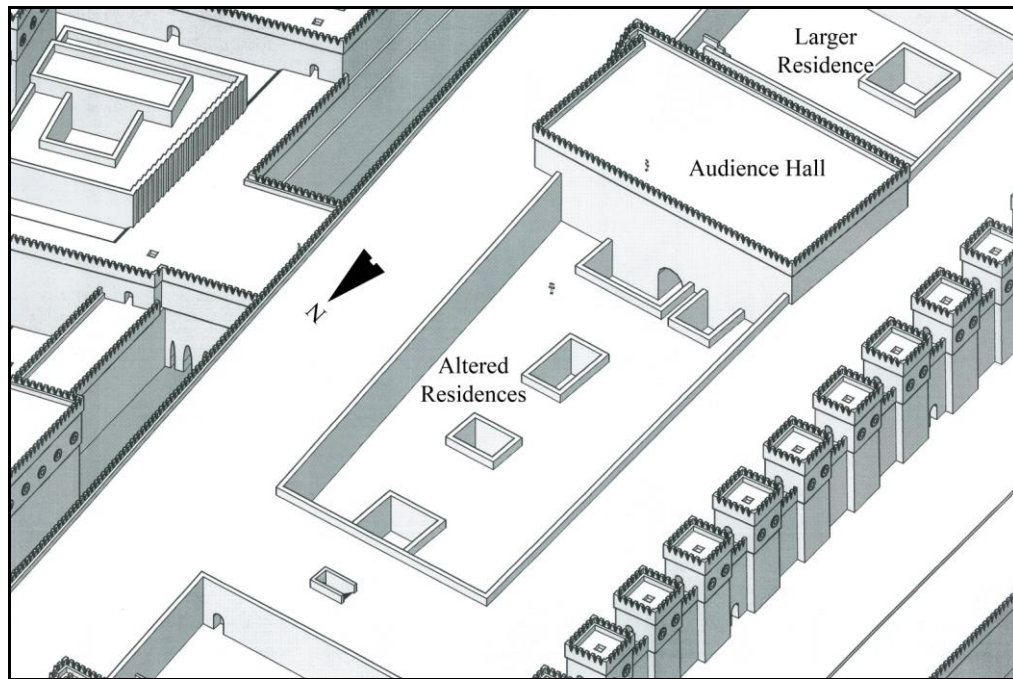


Fig. 138: Reconstruction of north-central residences that altered position during construction.

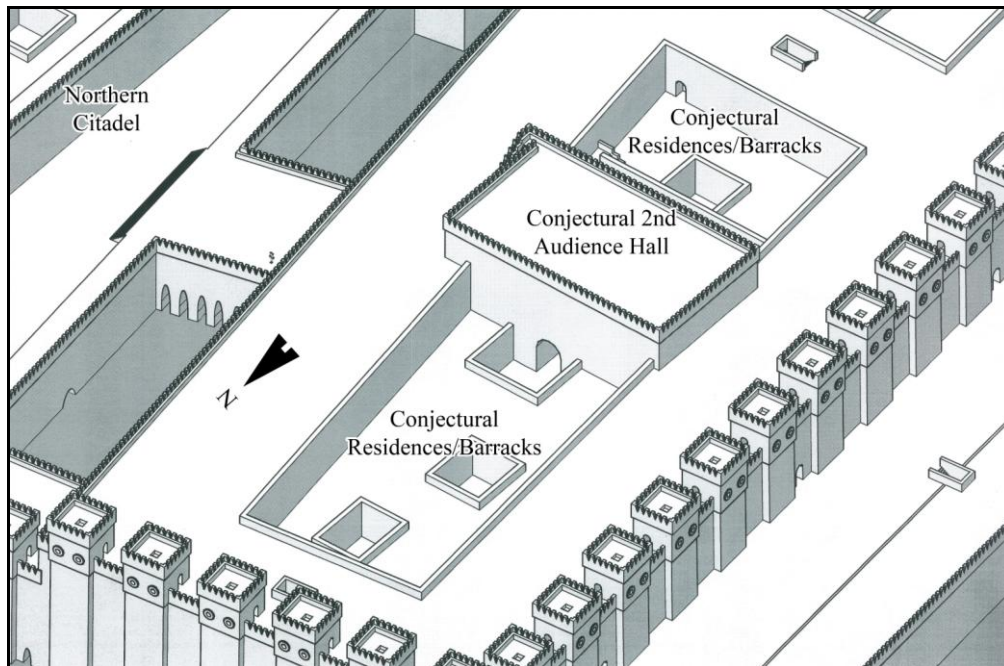


Fig. 139: Reconstruction of conjectural northernmost residences.

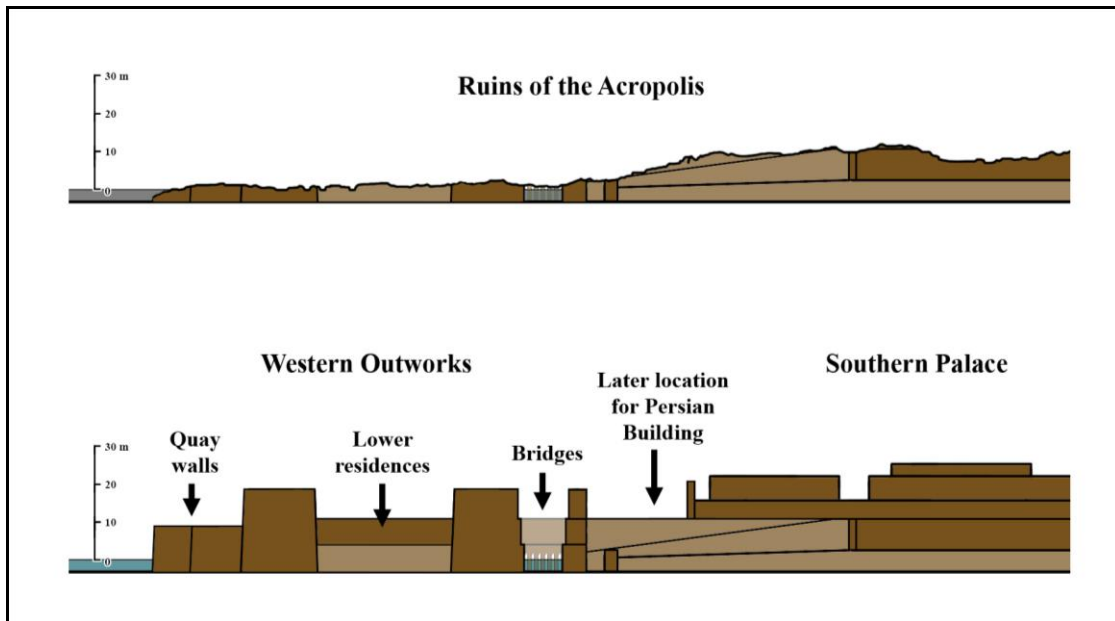


Fig. 140: Facing north - Cutaway of ruins & of the Western Outworks with reconstructed upper levels.

required a height equal if not higher than the defenses that protected the western garden enclosure next to the Southern Palace (Fig. 140). Defenders needed only to block or destroy the bridges to make the Outworks inaccessible (Fig. 141). While also a source of water, the channel intended to serve mainly as an obstacle if the Southern Palace fell to an invading force. Standing on the bridges, this waterway created an intimidating deep canyon between the Outworks and the Southern Palace (Fig. 142). The defensive walls from both structures added to this depth.

Regarding the earlier mentioned ramp or staircase, the location within a strong cross wall indicated purposeful placement for continuation high into the superstructure. This point likely granted access to each major level. Of these, three can be safely assigned. The lowest level served the southern courtyard and the slightly higher northern residences. The middle level contained the bridges, and from them, corridors through the main walls that led onto the residential rooftops. Above the rooftops, the wide defensive walls rose up and surrounded these rooftops as the highest point on the Outworks. With the exception of walking on the lower level residential rooftops, no

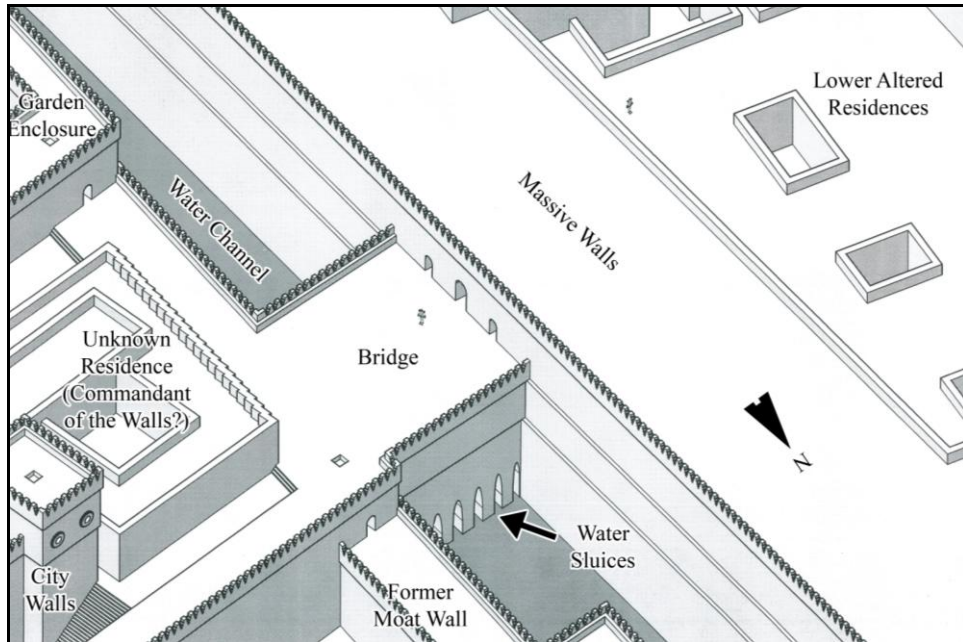


Fig. 141: Reconstruction of bridges leading into the Western Outworks.

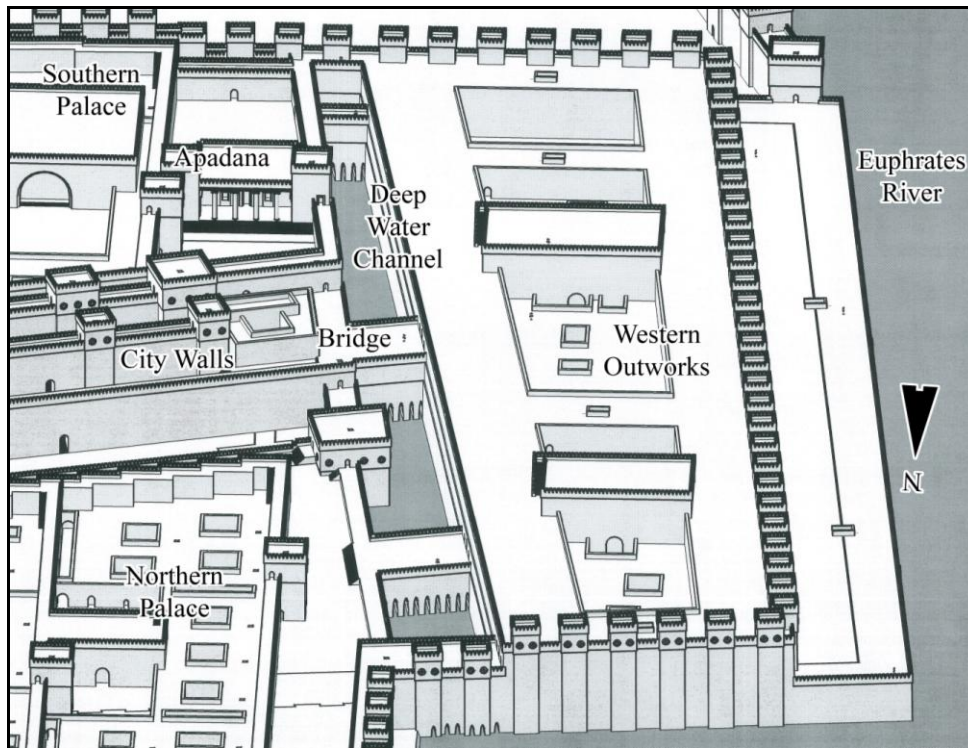


Fig. 142: Reconstruction of deep water channel separating Acropolis from Western Outworks.

upper level lay directly superimposed over another. Solid brickwork supported each level from underneath. This design created a very dense structure that accommodated the limited accessibility of wood.

Although capable of acting as an independent fortress, the Outworks' main defensive function served to enclose and protect the Southern Palace along the river. Nebuchadnezzar achieved this function by continuing the outer Southern Palace defensive wall around the Western Outworks and along the Old Wall of the North Citadel (Figs. 143 & 144). Koldewey's site plan strangely does not portray this circuit

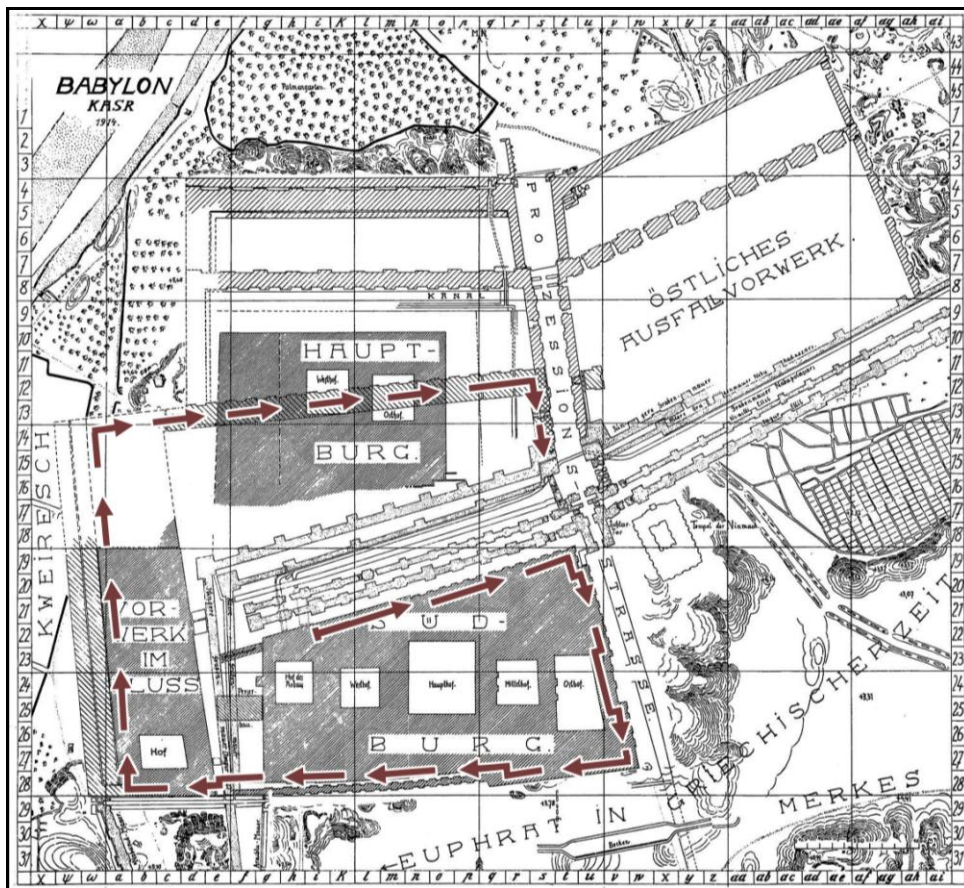


Fig. 143: Towered defensive wall enclosing both Southern Palace and Western Outworks. Modified after Koldewey (1931: Pl. 1) to show enclosing wall.

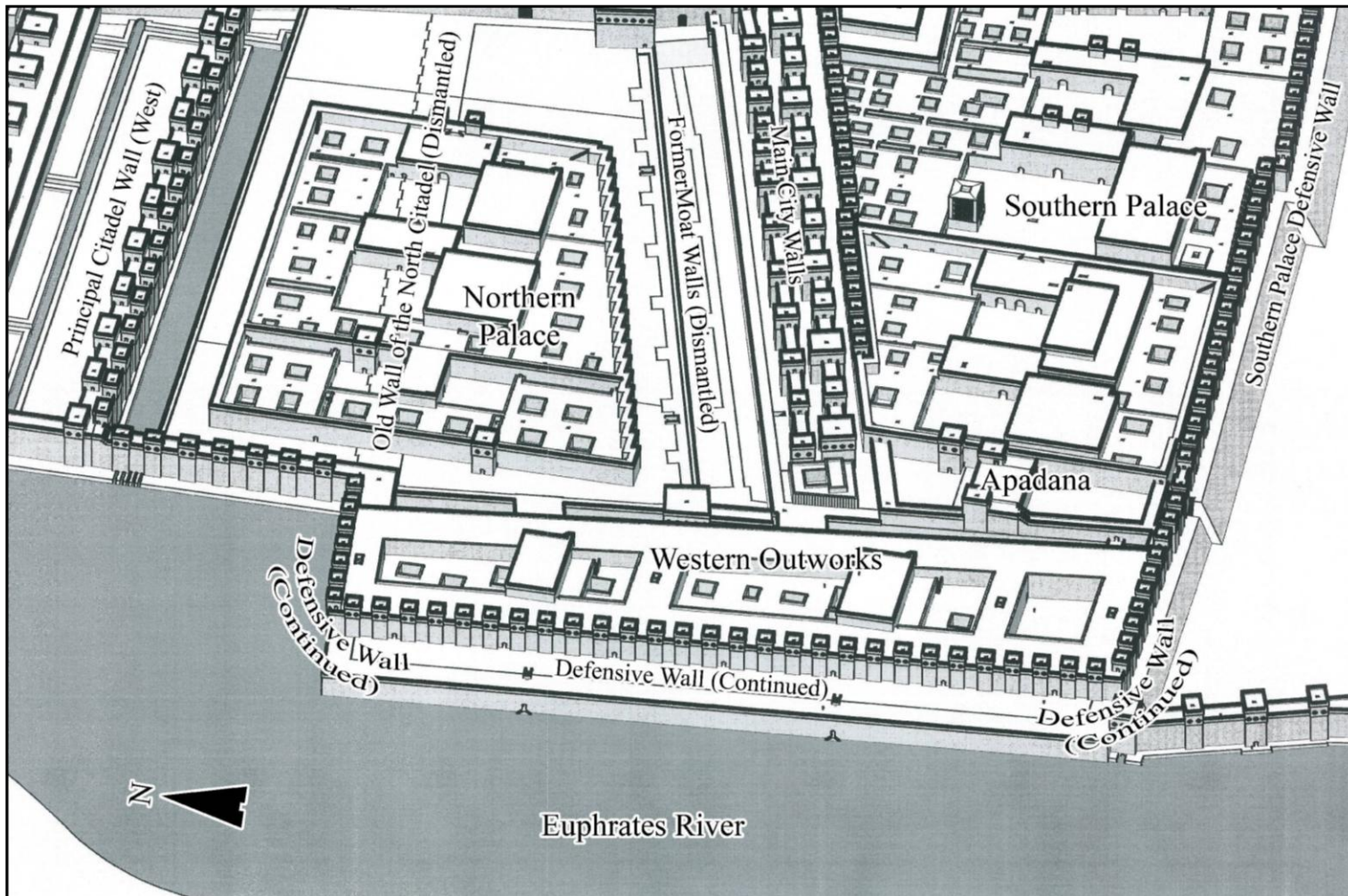


Fig. 144: Reconstruction of towered defensive wall enclosing both the Southern Palace and Western Outworks.

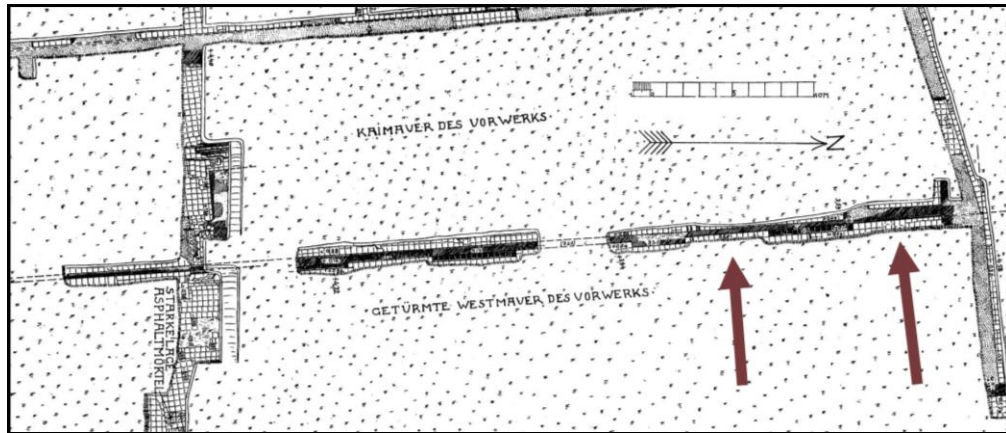


Fig. 145: Towers on excavation map. Cropped and modified after Koldewey (1932: Pl. 10).

(Previously shown as Fig. 133), yet his descriptions (1932: 28) and excavation maps (Fig. 145) confirm the presence of towers along the Outworks' southern and western exterior. To complete the circuit, Koldewey found similar towers on the Old Wall of the Northern Citadel (1932: 26).

West of the main fortress, reconstructing the parallel walls also represented a challenge. Koldewey identified the separate parallel foundations as quay walls; the inner being older and the outer serving as a later replacement. Koldewey stated that to build the newer wall, workmen roughly chopped brickwork out of the older inner wall and the Outworks' southeast corner. Smooth upper brickwork above these areas proved that the outer quay wall replacement happened before completion of the Outworks' superstructure; meaning Nebuchadnezzar changed the plan of the quay walls very early in the construction process (1932: 28-29).

Damerji suggested that the varying thicknesses of the parallel walls and the main structure indicated that the three entities rose to three different heights (1981). His proposed reconstruction consisted of tiers that stepped down towards the river (Fig. 146). While seemingly a logical conclusion, Damerji's idea was deeply rooted in his attempts to incorporate the Hanging Gardens onto the Western Outworks. It is agreeable that varied wall thicknesses indicated varied height, however in this case, the height variance did not apply to each wall. The outer wall served more as an architectural

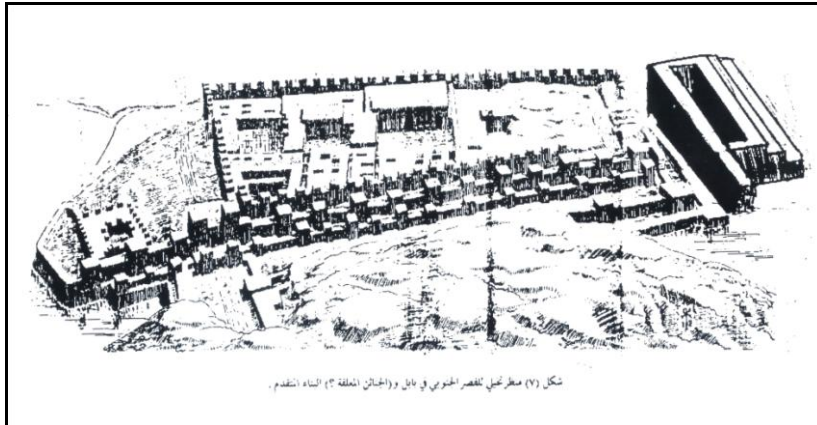


Fig. 146: Reconstruction of Western Outworks. From Damerji (1981: 59, Fig. 7). This image establishes a plausible reconstruction of the Western Outworks, yet requires more analysis to account for Nebuchadnezzar's numerous construction phases.

afterthought which intended to widen the inner quay wall. This makes sense considering that the Outworks' main purpose served to force the river west. Even though the plan altered early in the construction process, the outer wall maintained same purpose as the inner wall. In this case, both quay walls likely appeared as one unified structure upon final completion.

Damerji's idea of a tiered structure should be maintained, but only towards two elevations. While the fortress necessitated a defensive height equivalent to the Southern Palace, the foundations of the unified quay walls implied a lesser structure. This does suggest that the unified walls contained a low height. Reade argued that the outer wall contained a height substantially taller than just a simple quay; high enough that Nabonidus later joined the quay wall with his own defensive river wall (2000: 209). Reade's idea that the outer wall additionally served a defensive purpose is agreeable. It is highly unlikely that Nebuchadnezzar constructed a low lying quay wall so close to the main fortress. Such a wall could be utilized as a landing point for an invading fleet. For that reason, it should be assumed that the outer quay wall contained a height comparable to other defenses along the moat or river. For the purposes of this reconstruction, this defensive quay wall has been conjecturally restored to height of 9 m above zero; a height that matches the previously reconstructed moat wall of Nebuchadnezzar (Fig. 147).

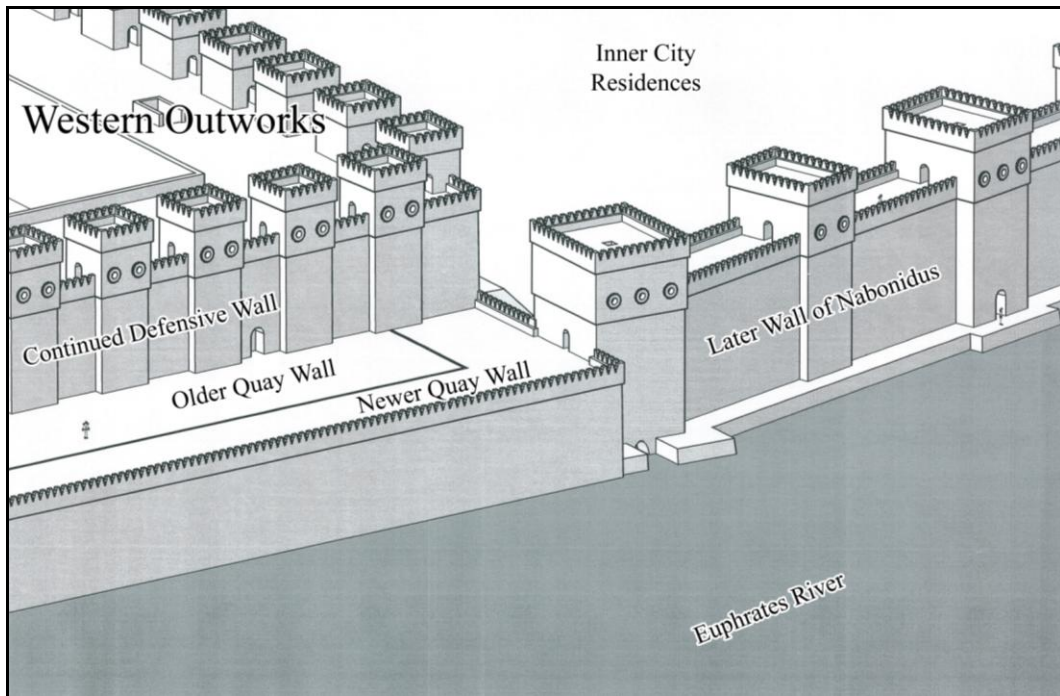


Fig. 147: Reconstruction of unified quay walls with joining Wall of Nabonidus.

The Hanging Gardens

While this completes the Outworks' reconstruction, the repeated suggestion that this location served as Hanging Gardens needs to be briefly addressed. At present, there is no undisputed location for these Gardens; a site of significant importance and listed as one of the Seven Wonders of the Ancient World. First and foremost, this thesis does not attempt a thorough analysis of the Garden's location or existence, as much discussion has been put forth by Damerji (1981), Wiseman (1983; 1985), Finkel (1988), Stevenson (1992), Dalley (1994), and Reade (2000). From the continued discussion, many scholars (Nagel 1979: 242; Damerji 1981; Hrouda 1983: 15; Reade 2000: 208-213) agree that this location should be considered a likely candidate. In completed form, the Western Outworks was a massive structure. Only the ziggurat surpassed the construction in magnitude. Reade stated best, "The Hanging Gardens were unique and impressive; the Outwork too is unique, impressive, and appropriately positioned" (2000: 209).

Based on Babylon's excavated areas, there does not seem to be a location to place the Gardens without interfering with the understood function of an already existing structure. If the Gardens are assigned to one of these buildings, then the location served a dual purpose. In the case of the Outworks, the primary purpose channeled the river and provided defense. Only in a secondary nature could this structure have supported a garden. Based on the ancient tiered descriptions, the Outworks represent the closest candidate that can safely incorporate the Gardens without imaginatively altering the location.

Conveniently compiled by Finkel (1988), five primary accounts described the famous Hanging Gardens; a structure believed to have been near or part of the Acropolis. A Babylonian priest named Berossus, wrote a unique book that included the Gardens in his attempts to explain Babylonian society to the Seleucid kings (Burstein 1978). Diodorus Siculus (2.10) and Strabo (16.1.5) gave detailed measurements about the Gardens adjoining the Acropolis. Quintus Curtius Rufus explained that the city walls contained a height equal to the massive garden structure (5.1.32). Philo of Byzantium used examples of technology to understand how the Gardens maintained irrigation (Finkel 1988: 45-6). According to these accounts, Nebuchadnezzar built a multi-tiered garden structure for his homesick Median wife to remind her of her native mountain scenery. Nebuchadnezzar and Amytis entered into marriage as part of a peace agreement between the Babylonian and Median Empires. The circumstance would be ironic if Nebuchadnezzar's gift to his homesick wife was actually built upon a fortress meant to prevent her own people's incursion.

The reference that the Gardens contained equal height with the city walls may have instead been confused with the palace walls. After the Persian era movement of the Euphrates, the Southern Palace's southern defensive wall bordered the river. Unable to see beyond the palace wall, the defenses appeared like any other in Babylon; multi-towered and tall. As described, the palace wall extended a far distance around the Outworks and into the Northern Citadel. If Nebuchadnezzar constructed the Gardens on top of the Outworks, that would place the Gardens and the palace defenses at an equal

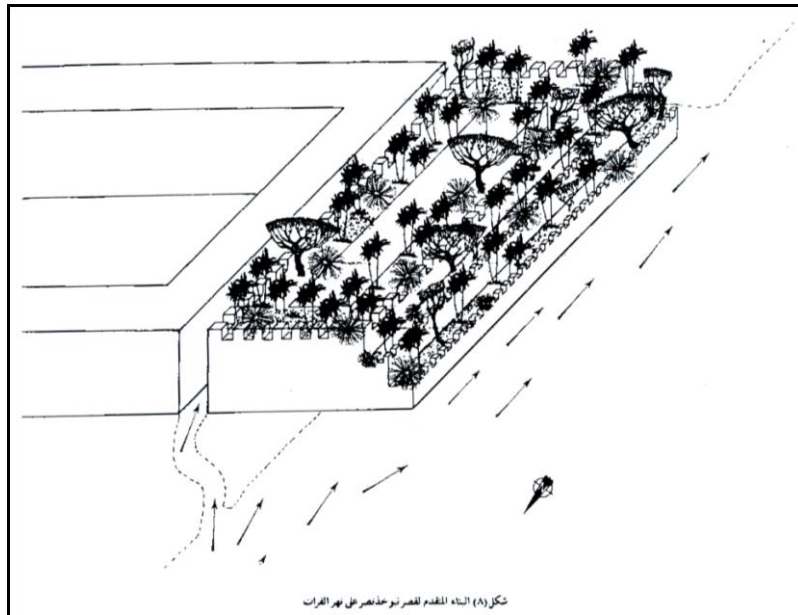


Fig. 148: Reconstruction of Hanging Gardens on Western Outworks. From Damerji (1981: 60, Fig. 8).

elevation. The massive descriptions of the Gardens might not have been wrong in terms of structural scale. Due to the flat terrain seen from either boat or land, the defensive wall around the Acropolis obscured the division of the Southern Palace from the Outworks. The entire area appeared as one building with one defensive wall, giving the impression of a massive garden complex. Additionally, Reade's suggestion that the Euphrates River occasionally switched between river beds, or sometimes used both (2000: 203) might be realistic and explained how the Greeks saw the tiers along the Outworks' western edge; an area supposedly dried up in the Persian and Greek periods.

So far only Damerji's Outworks reconstruction matched the archaeology. The only exception being that the structure likely contained two tiers rather than his proposed three. Other scholarly objections relating to the Gardens focus on the arrangement of Damerji's planted tiers (Fig. 148), an arrangement that lay exposed to the western desert winds (Wiseman 1983: 144; Stevenson 1992: 42; Reade 2000: 208). While the harsh winds might affect smaller more delicate plants, that alone should not discredit Damerji's

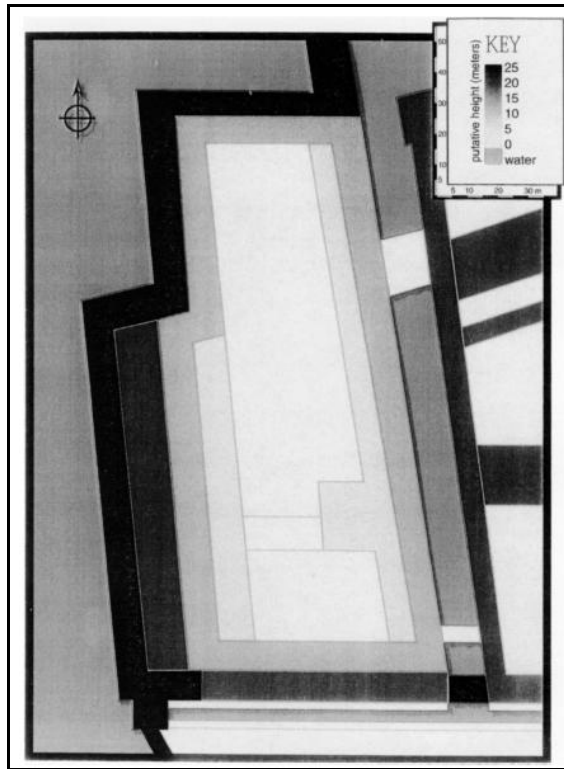


Fig. 149: Reconstruction of Hanging Gardens on Western Outworks. From Reade (2000: 212, Fig. 10). Reade's reconstruction eliminates the defensive qualities of the Outworks and requires more analysis.

idea. Even in modern times, unprotected areas along the Euphrates River are abundant with trees and other local vegetation.

Wiseman's reconstruction (1983; 1985) continued Damerji's idea but extended the Gardens north of the Outworks into the theoretical area created by his curved quay wall (Previous shown as Fig. 135). This plan eliminated the Outworks' defensive qualities on the northwest, north, and northeast sides. With the exception of Wiseman's curved quay wall, very little existed to prevent attack from the Euphrates River into both palaces (Reade 2000: 208).

Reade attempted to correct the issue of the Gardens exposure by enclosing them within the Outworks (Fig. 149). However in doing so, he reversed the height of Damerji's proposed tiers and eliminated the high defensive qualities of the Outworks' main walls. Although Reade mentioned the inner towered wall (2000: 208) that

originated from the Southern Palace, the towers do not appear on his reconstruction. Starting with the western quay wall as the highest point, Reade's walls stepped down into the Outworks, blocking the inner towered wall, and creating a garden amphitheatre fully exposed to the Southern Palace. This contradicted the structure's last ditch defensive purpose.

Scholars consistently try to change existing buildings to fit the Gardens. Perhaps instead, the Gardens should change to fit a known building. While the Greeks possibly saw a magnificent garden, descriptions can easily exaggerate over time. Finkel also theorized that these descriptions all originated from only one or two sources and that most writers never saw the garden location in person (1988: 44). The accounts described a tiered garden near the river. Perhaps the structure was only a tiered building upon which a single garden level was planted. There is easily enough room on the upper level of the Western Outworks to support this idea. As long as the Gardens did not reach the battlements, the structure maintained its defensive capabilities. While the lower Outworks consisted of solid brickwork (Koldewey 1914: 144), the possibility remains that portions of the upper walls contained some form of fill. If Nebuchadnezzar took precautions against water seepage, trees and other vegetation could theoretically have existed inside planted squares. Bitumen and mats lining the walls could have prevented water from damaging the foundations (Damerji 1981). It should be noted that based off of the excavation maps (1932: Pl. 9-11), Koldewey did not excavate above the center of the walls due to their immense thickness. The excavations primarily followed only the exterior of the massive walls. Like the main palaces that obtained water from considerable depths, long bucket chains could have brought water up from the lower channel or passed through undiscovered wells within the center of the Outworks' main walls. In the South Palace, Koldewey found a drainage channel underneath the Principal Court (Koldewey 1931: 94, Pl. 15). A similar channel designed as a reservoir, could have been built into the brickwork around the Outworks' upper perimeter. To disperse the water, smaller conduits could have diverted from the main channel into the planted

squares, while allowing excess water to drain out through scuppers built into the outer wall.

As memories changed or were exaggerated, perhaps the Gardens expanded onto the lower quay wall. If the lower wall contained vegetation, especially tall trees, this would have interfered with the Outworks' upper defenses by inhibiting the view of archers. The only possibility of a lower planted tier was if in times of war, the Outworks' garrison cut the Gardens back or completely down to clear the battle platforms. Curiously, in Herodotus' thorough description of Babylon, he never mentioned the Gardens (Finkel 1988: 51). If one insists that the Gardens carried onto the lower quay wall, it is conceivable that the garrison leveled the vegetation during the defense against Darius or Xerxes. After that period, the succeeding kings replanted the Gardens before Alexander the Great arrived in Babylon. Not used to such marvels, the Macedonian Greeks forever immortalized Babylon by naming the Gardens one of the Seven Wonders of the Ancient World.

CHAPTER VIII

RECONSTRUCTIONS: PART IV

Northern Palace

Of the many reasons Nebuchadnezzar initiated his second northern advancement project, the primary lay in the construction of a new residence (Fig. 150).

Nebuchadnezzar built the Northern Palace (Hauptburg) in the second half of his reign (Langdon 1912: 112-21; Goodnick-Westenholz 1996: 213). Placed within the Northern Citadel enclosure, west of the Processional Street, Nebuchadnezzar built this new palace on top of a terrace platform which lay at 8 m above zero (Figs. 151 & 152). Inside this palace, fragments of blue paste relief decorations, similar to lapis lazuli indicate that this newer residence achieved opulence even grander than its southern predecessor (Koldewey 1914: 156-8; 1932: 1-2). Koldewey described that “In the entrances stood gigantic basalt lions similar to those of Assyrian palaces; of these we have found immense paws and other portions” (1914: 159).

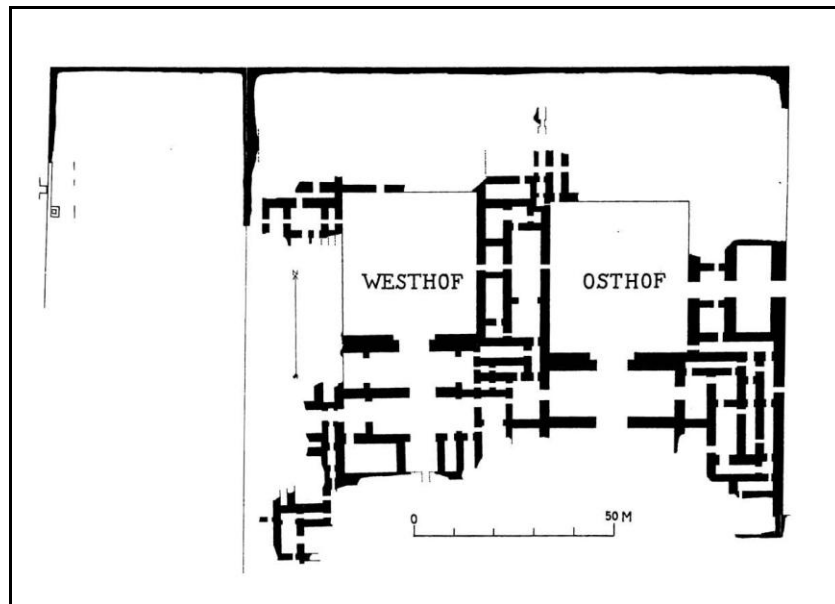


Fig. 150: Plan of the Northern Palace. From Koldewey (1932: Pl. 8). This site plan will be broken down into individual sections within this chapter for analysis.

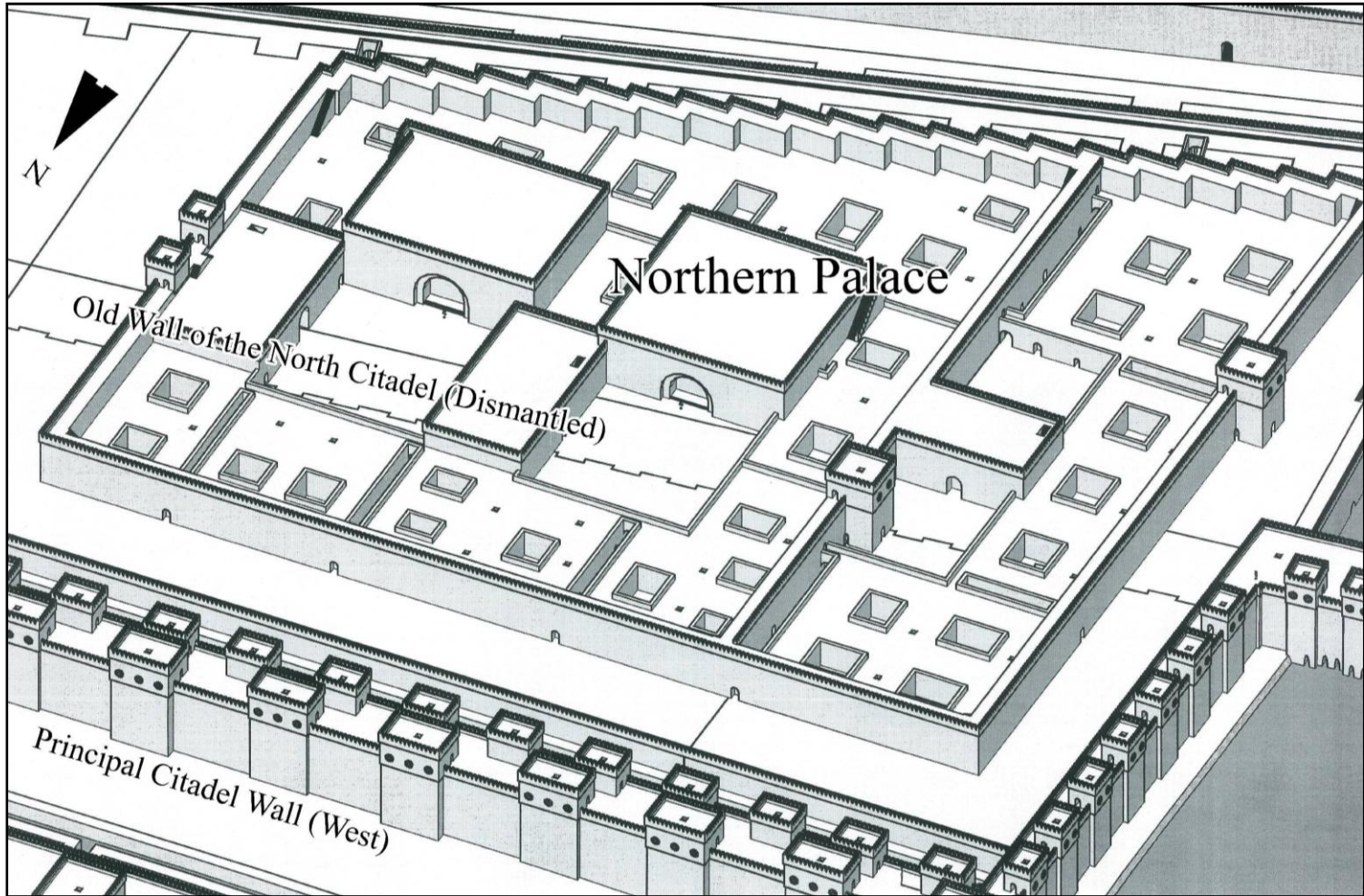


Fig. 151: Reconstruction of the Northern Palace I.

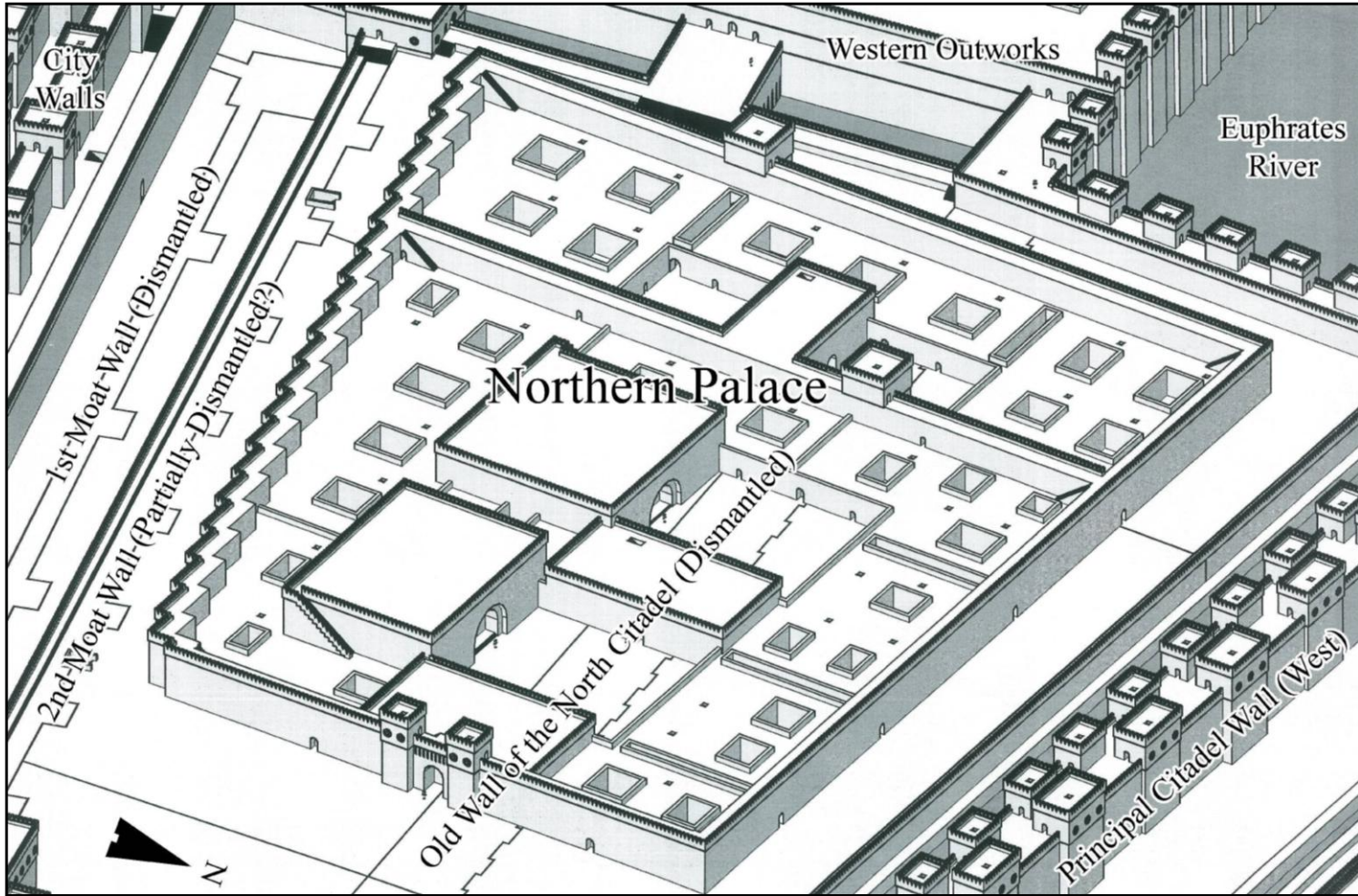


Fig. 152: Reconstruction of the Northern Palace II.

Within the ruins, excavations revealed a large number of artifacts that came from many different lands ranging over hundreds of years (Koldewey 1914: 60-6; 1932: 19-24). These varied from large statues to dedicatory stelae and religious artifacts. Unger proposed that this palace contained both a library and museum for war trophies (1931: 224-8). Yet based on the sporadic levels upon which Koldewey found these objects, more modern scholars have placed Unger's theory into question. It has been suggested that these objects lay buried before Nebuchadnezzar's time or were placed intentionally as fill underneath his new palace during the initial construction (Klengel-Brandt 1990: 41-46; Van De Mieroop 2003: 268; Kuhrt 2001: 82). Despite these suggestions, Koldewey proved that Nebuchadnezzar constructed the Northern Palace over the former river and moat system (1914: 158). The notion that so many unique objects found their way to this location by chance is highly unlikely. While foundational filler is a possibility, it is more plausible that based on the objects' prestige, most of the objects originally lay collected in the palace above. The Kasr mound had been mined and overturned for centuries to acquire Nebuchadnezzar's fine baked bricks (Koldewey 1914: 160). Brick harvesters did not find any value in statues and inscribed tablets. The Abbe Beauchamps, one of the earliest explorers of Babylon's ruins, described that looters threw away such artifacts because they could not be used for building purposes (Budge 2005: 56). This suggests that any objects that remained following the palace's abandonment, simply fell into the foundations and became buried as a result of the site formation processes.

While these details give an idea to the possible use and magnificence of the Northern Palace, they are unfortunately limited in assisting with reconstruction. The onset of the First World War halted investigations (Tanner 2002: 18). Compared to the Southern Palace, reconstructing this area is considerably more difficult due to a lack of information. Koldewey only partially excavated the palace and its supporting platform (1932: 2), leaving the boundaries of both structures in question. Much evaluation and theory must go into reconstructing their features.

The Platform and the River Wall

The Northern Palace platform covered a large area and contained a fill of brick rubble and other debris (Koldewey 1914: 156). Only in the east and the north did Koldewey confidently define the platform's boundaries. Based on those defined areas, the platform extended much further than what the Northern Palace actually required for elevated support. Determining these limits is important in reconstructing not only the platform, but other unexcavated structures along these boundaries.

In the east, the platform extended along the western flanking wall of the Processional Street (Fig. 153-A). In the north, the platform halted at a canal (Fig. 153-B), of which the walls formed a supporting embankment (Koldewey 1914: 167). Despite the incomplete excavations, Koldewey implied that the platform likely adopted the shape of the Northern Citadel enclosure (1932: 2, 5). How far the platform extended south is unclear. It is known that the platform did not reach beyond the former 2nd Moat Wall. Excavations beyond that area revealed a Neo-Babylonian pavement at 2 m above zero and a later Seleucid era pavement at 5.5 m above zero (Koldewey 1914: 146). This supports the idea that a narrow valley separated the Northern Palace platform from the Southern Palace platform (Fig. 153-C). Although Koldewey stated that the Principle Citadel adjoined the moat wall (1914: 169), he did not clarify if he meant the actual enclosure or the palace platform. If the obsolete moat wall survived into this period, then it is plausible that the structure assumed a new purpose as a retaining wall for the palace platform (Fig. 153-D & 154).

Along the river, the platform is more difficult to interpret due to a complete lack of information regarding boundaries. Koldewey believed that this area remained open until the later king Nabonidus built his massive river wall (Koldewey 1914: 169). Yet it is unlikely that Nebuchadnezzar permitted an indefensible waterfront (Reade 2000: 208). As discussed in the previous chapter, Nebuchadnezzar continued the Southern Palace defensive wall around the Western Outworks and along the Old Wall of the North Citadel (See p. 169-171). This proved that Nebuchadnezzar sought to enclose and protect the entire area of the Citadel. When Nebuchadnezzar pushed the advancement

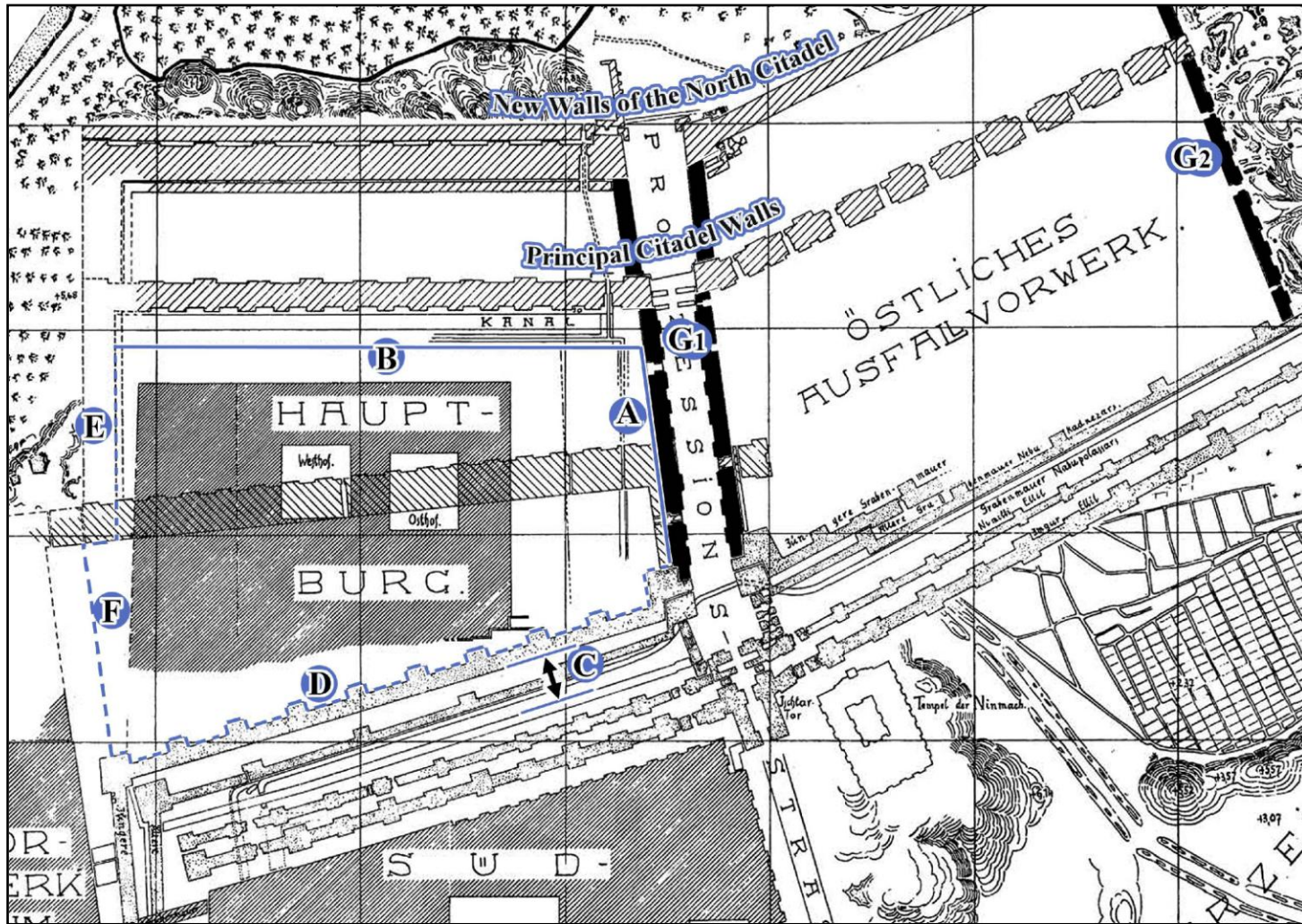


Fig. 153 Northern Palace platform and river wall. Modified from Koldewey (1931: Pl. 1).
The added letters A-G2 represent key points of discussion in this chapter.

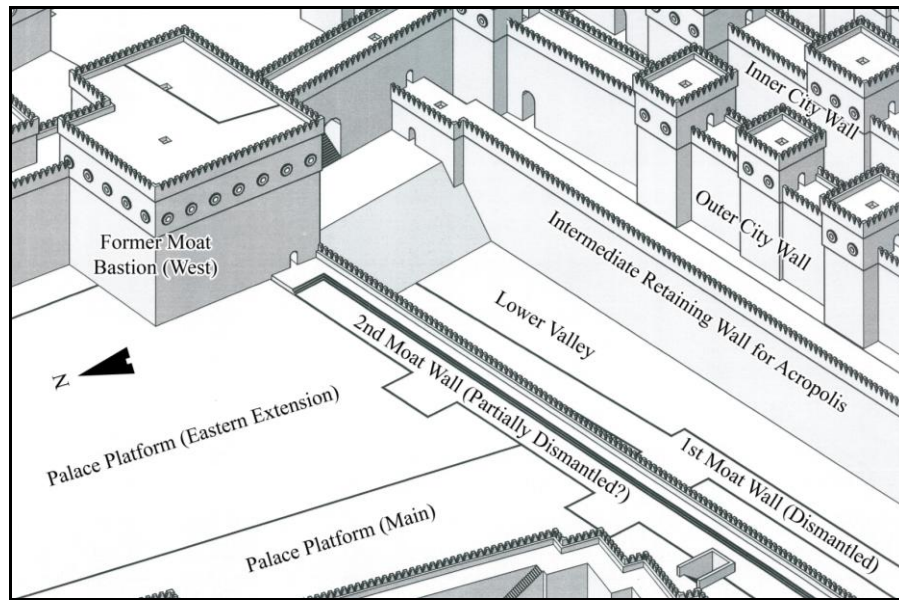


Fig. 154: Reconstruction of former 2nd Moat Wall partially dismantled and reused as retaining wall.

project even further to the north, the newly created space necessitated a connecting river wall and supporting quay to maintain the initial defensive properties that the first project intended. A wall must have run south from the New Wall of the North Citadel and terminated at the northern face of the Western Outworks (Fig. 153-E). This closed off the waterfront and allowed the palace platform to follow the shape of the river wall. In the section south of the river wall, the platform terminated at the water channel and ran parallel along its border (Figs. 153-F & 155).

By enclosing this area, the design of the Northern Citadel mirrored the Eastern Outworks on the other side of the Processional Street. This intended symmetry is clearly evident in the defensive arrangement of the New Wall of the North Citadel and the Principal Citadel Wall. Both walls contained nearly identical western and eastern extensions. To maintain the defensive symmetry, an earlier river wall predating the Wall of Nabonidus, likely contained the same architectural arrangement as the moat wall of the Eastern Outworks (Fig. 156) and the parallel walls bordering the Processional Street (Fig. 153-G1 & G2). Matching the architecture, the southern portion of this theoretical river wall likely bore an approximate 7 m thickness and contained closely set towers

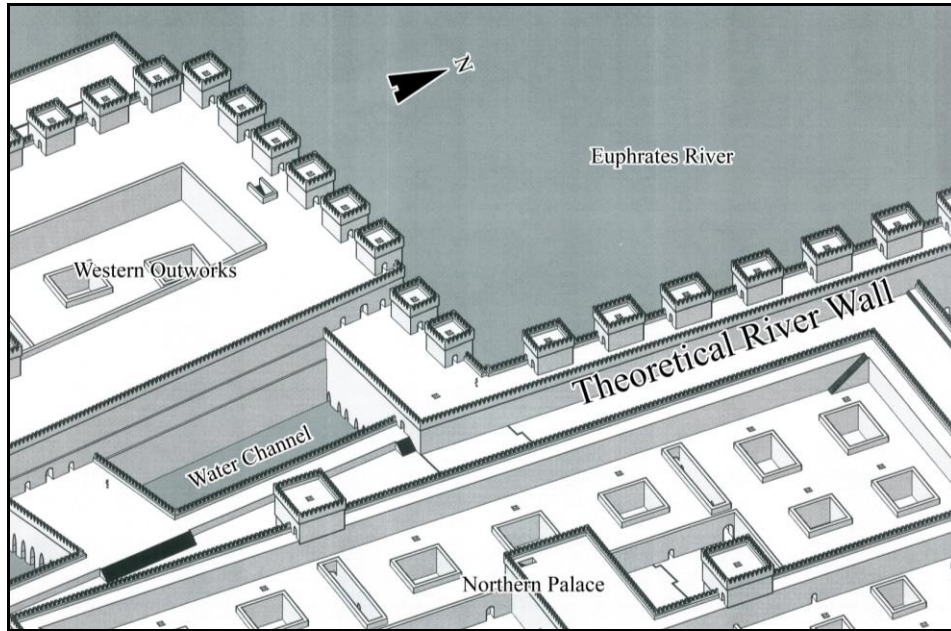


Fig. 155: Reconstruction of theoretical Western River Wall facing northwest.

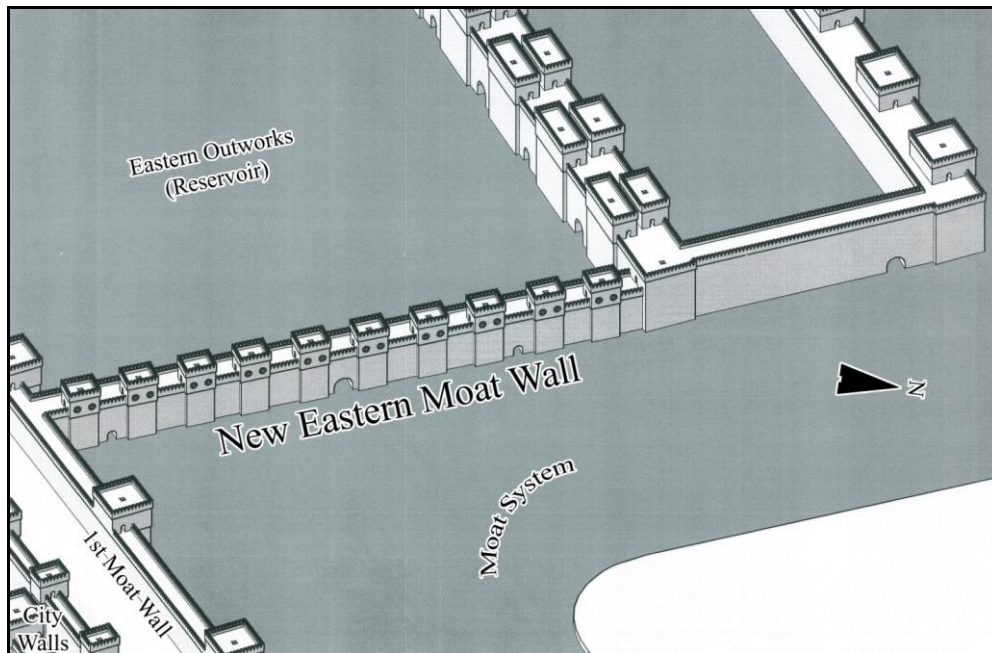


Fig. 156: Reconstruction of Eastern Moat Wall bordering the Eastern Outworks.

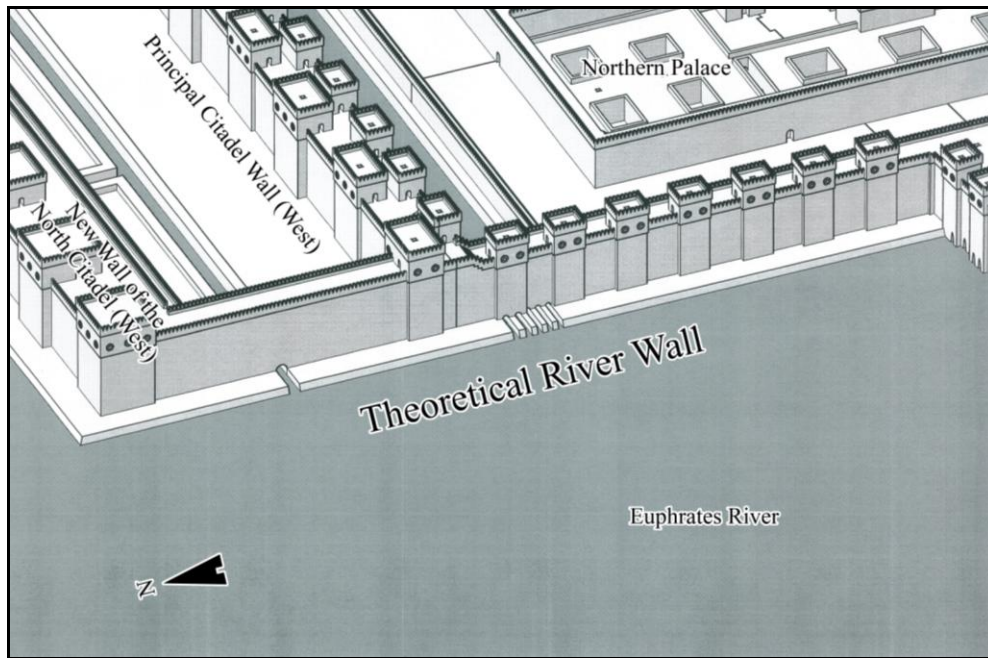


Fig. 157: Reconstruction of theoretical Western River Wall facing Southeast.

with spacing equal to their width. Further north, the river wall section between the Principal Citadel Wall and the New Wall of the North Citadel, can be reconstructed as an approximate 6.5 m wide tower-less extension (Fig. 157).

The Canal

As discussed in the topography chapter (See p. 46, 57), the northern canal was narrowed down from 13 to 1.8 m at an unspecified time (Fig. 158). After the narrowing, a roof covered the canal upon which ran a roadway and later Parthian houses (Koldewey 1914: 167-168; 1932: 30). It is difficult to determine in which form the canal existed at the time this reconstruction takes place. In the later Seleucid and Parthian periods, construction often used recycled broken bricks. Unfortunately, Koldewey did not mention a difference in construction methods to allow for this distinction to be made. The presence of Parthian remains is also non-diagnostic because they are often found within Neo-Babylonian structures that survived into later periods. Meaning the

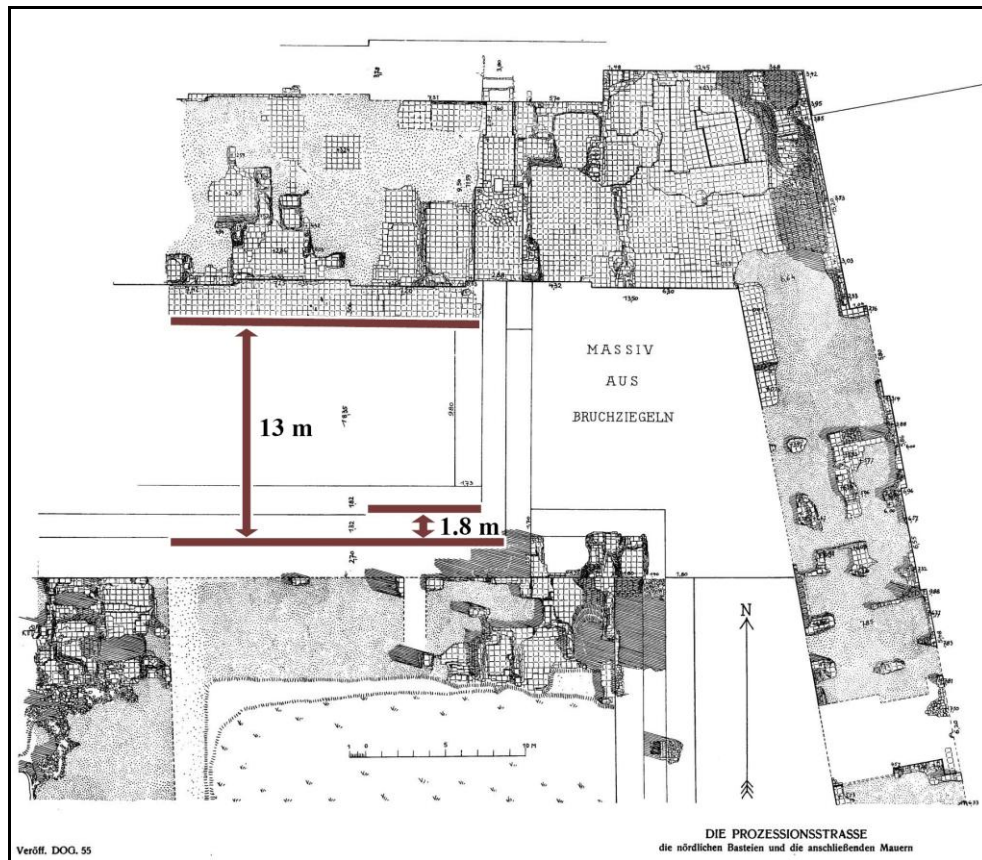


Fig. 158: Northern canal. Koldewey (1932: Pl. 25). Adapted with measurements to explain variation of canal described in discussion.

narrowing of the canal could have happened at any point in between. The largest clue perhaps lies in the later movement of the Euphrates River during the late Persian Period. When the river moved into eastern Babylon, the canal surely became obsolete and filled in. However, the river might have alternated beds or flowed within both at the same time (Reade 2000: 203). If true, then perhaps the newer eastern river bed received more water than the original western river bed. If some flow of water remained within the former western bed, that might have warranted the reconstruction and narrowing of the canal to properly channel the available water. Assuming that the width of the canal was directly related to the placement of the river, it is more probable that the original 13 m wide canal was in existence at the time of this reconstruction (Fig. 159).

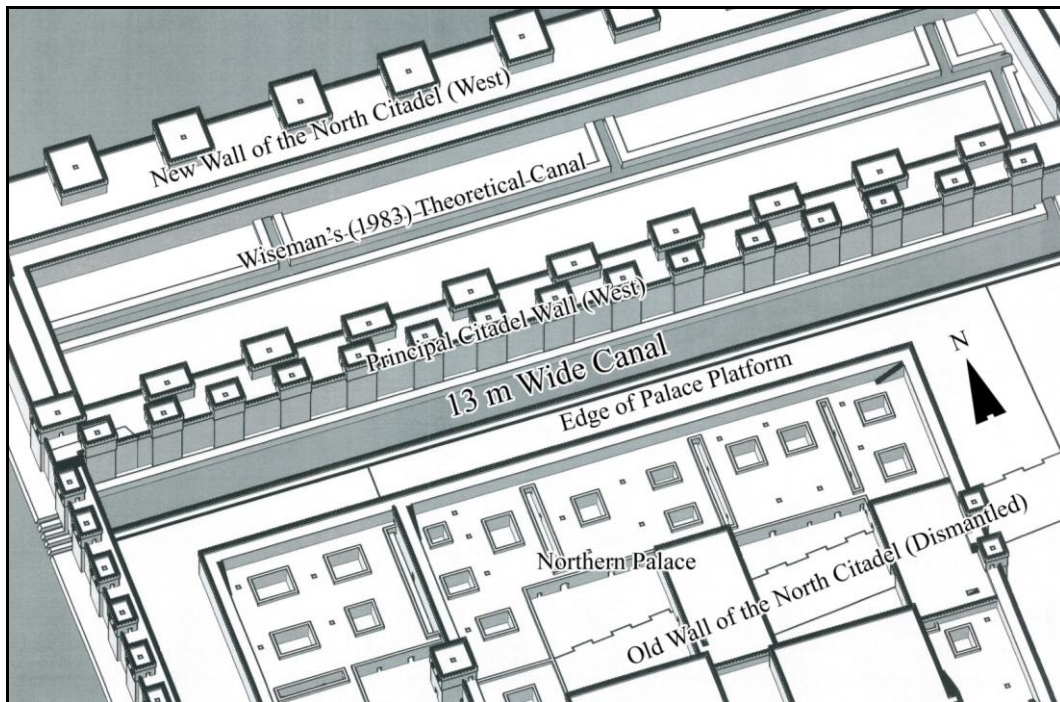


Fig. 159: Reconstruction of 13 m wide canal.

Reconstructing the Northern Palace

The incomplete excavations on the Northern Palace significantly limited the understanding of how the large complex once appeared. From the excavations conducted, Koldewey mapped the plans of the southeastern and central rooms. Koldewey attempted to determine the overall size of the structure by excavating along the outside perimeter of the defensive wall. Of this attempt, Koldewey determined a clear eastern and northern perimeter. Except for small areas in the northwest and southeast, the complete western and southern perimeter remained in question. From this evidence, Koldewey determined that Nebuchadnezzar initially constructed the palace around two large courtyards, each with an audience hall to the south. The arrangement later changed when Nebuchadnezzar extended the foundations further to the west (Koldewey 1932: 2). Unfortunately, the incomplete excavations do not allow for us to determine how this addition appeared, or understand the arrangement of the perimeter rooms surrounding the rest of the palace.

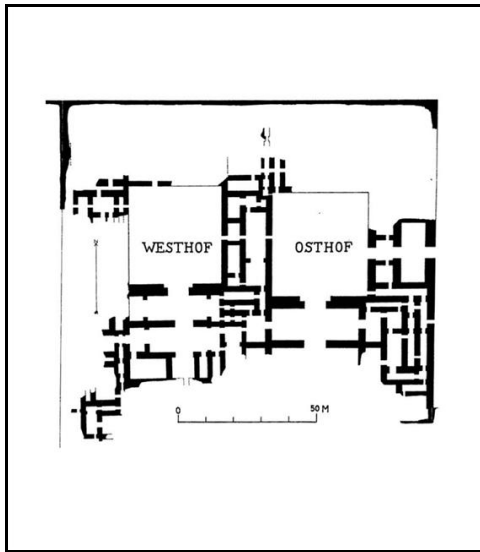


Fig. 160: Northern Palace.
From Koldewey (1932: Pl. 8).
Cropped to portray original plan.

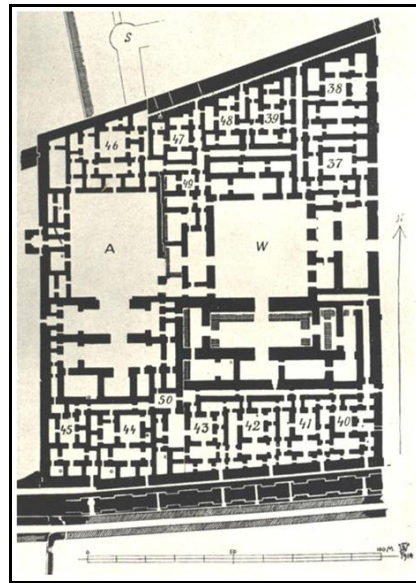


Fig. 161: Nebuchadnezzar's reconstructed
Nabopolassar palace with Western Extension. From
Unger (1931: Fig. 52, Pl. 33), after Koldewey.

The initial twin courtyard arrangement seemed to have many similarities to the former extended Nabopolassar palace, especially in the luxury of the main rooms (Koldewey 1932: 2). While the palace contained a different shape due to its reverse position along the city walls, the architectural arrangement of the major spaces appeared the same (Figs. 160 & 161). Both the audience halls and the gatehouses contained an almost identical plan and scale. Even minor details bore similarities. The audience hall doorways contained the same unique recessed brickwork that Koldewey found in the Southern Palace's Western Extension. This appeared to be a new architectural feature that Nebuchadnezzar adopted late in the Southern Palace construction and transferred to the new palace.

Scholars have often associated the Northern Palace as the royal residence, while implying that the Southern Palace fulfilled a more administrative role (Reade 2000: 206, Van De Mieroop 2003: 268). If that assumption is correct, perhaps the similarities served a deeper purpose than just containing commonalities of Babylonian architecture. It is possible that Nebuchadnezzar copied the expanded Nabopolassar Palace to carry out

functions that he wanted the new Northern Palace to perform. It is already known that Nebuchadnezzar copied plans that he liked. As reiterated by Kuhrt (2001: 82), based on one of Nebuchadnezzar's inscriptions (Langdon 1912), the Summer Palace in the far north of Babylon was said to be a mirror image of the palace within the city (Koldewey 1932: 41, 47); which palace was not clear. Unfortunately, the Summer Palace's poor preservation does not allow the structure to benefit this discussion. In Assyrian palaces, it is known that the rulers divided their complexes into a public section and a royal domestic section (Kuhrt 2001: 80). During Nabopolassar's reign, his small palace assumed the role of both administration and royal residence. After Nabopolassar's death, Nebuchadnezzar built a massive eastern addition to facilitate the offices of the empire. Upon completion, Nebuchadnezzar reconstructed his father's palace, including the original perimeter wall, then expanded the structure to the west. By maintaining the original defensive wall, Nebuchadnezzar clearly separated the new administrative section from the original royal residence. In the second half of his reign, Nebuchadnezzar decided to make that division even more complete by removing his main residence from the Southern Palace. Nebuchadnezzar clearly stated the reason for building the new Northern Palace, "my dwelling-place in Babylon grew insufficient for the dignity of my Majesty....I sought at a distance room for myself." (Koldewey 1914: 168). Yet rather than designing a building equivalent in scale to the Southern Palace, Nebuchadnezzar only required the qualities of a royal residence. Therefore, Nebuchadnezzar copied the general plan of the expanded Nabopolassar Palace minus the eastern addition and then rebuilt the structure outside the city as the new Northern Palace. That explains the similarities and smaller size of the newer complex.

Palace Perimeter Shape

For the purposes of this reconstruction, the similarities that these palaces shared helped determine how many of the missing portions in the Northern Palace likely appeared. With this information, a general reconstruction can be made. As already mentioned, the eastern and northern walls can clearly be defined based on the perimeter

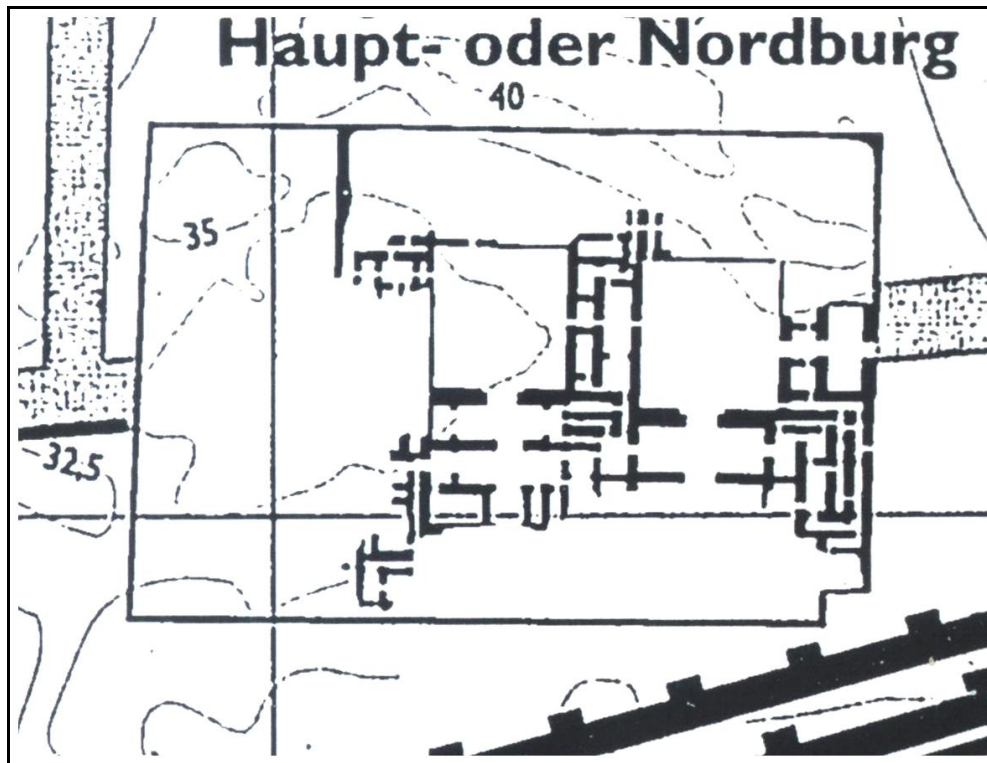


Fig. 162: Northern palace perimeter incorrectly reconstructed as rectangle with notched southeast corner. Cropped from (Finkbeiner & Pongratz-Leisten 1993: B IV 19).

that Koldewey established. Some reconstructions incorrectly restore the palace's shape as a rectangle with a notched southeast corner (Fig. 162). Due to the large audience halls and their southern supporting chambers, this design does not allow space for the royal residential compartments. While the expanded Nabopolassar Palace contained a southern rectangular portion, considerably more space remained for royal residences. Placing the royal residences in the north cannot be an option, as servant quarters traditionally occupied these areas. Like the Southern Palace, more important residences always lay in the south to better insulate them against the harsh Mesopotamian heat. This means that the palace extended further south to facilitate these compartments. Based on Koldewey's main Acropolis site map, he too believed this idea, but did not elaborate due to the incomplete excavations (Previously shown as Fig. 153). Additionally, after completing the massive northern advancement project, it is unlikely

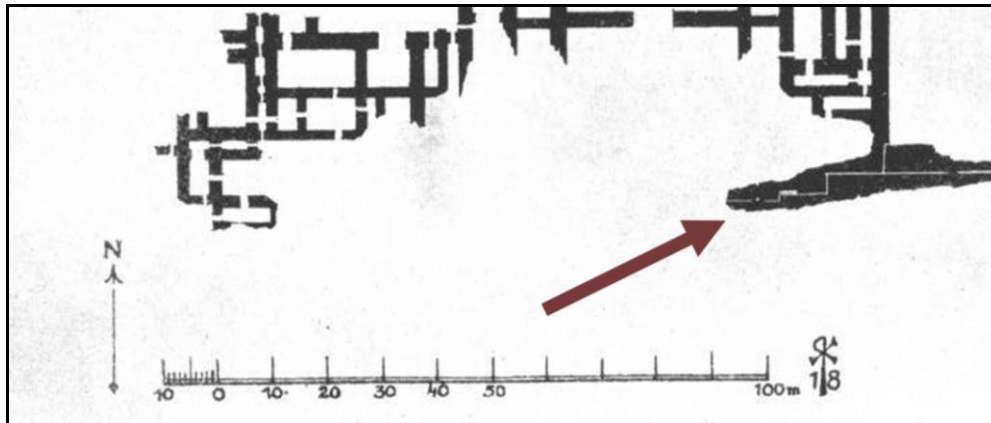


Fig. 163: Stepped wall on Northern Palace. Cropped from Unger (1931: Fig. 55, Pl. 36), after Koldewey.

that the royal architect did not take advantage of the new space created after filling in the moat.

The key to determining the palace's perimeter shape lay in the small notched southeast corner. Koldewey suggested that like smaller residences in the city, this area contained a terraced wall (1932: 7). On his site plans, a distinct stepped or "saw tooth" line can be distinguished between the palace wall and the platform beneath it (Fig. 163). As discussed in the Southern Palace section, this line represented an architectural feature that Babylonians commonly employed in ensuring the correct brick bonding of angled exterior walls. While on a considerably larger scale than private Babylonian residences, this line suggested that the southern wall of the palace ran in an oblique angle to the rooms within. If the obsolete moat wall formed the palace platform's southern extent, then it is reasonable to believe that the palace's southern wall also followed that same angle. Facing north, the former 2nd Moat Wall ran at an approximate 281 degree angle. Based off of Koldewey's site plan, it appears that the notched corner on the palace lay at an average distance of approximately 15 m north of the former 2nd Moat Wall. Following this average distance combined with the 281 degree wall angle, the position of the southern perimeter wall can be predicted (Fig. 164). As shown on Koldewey's site plan, each individual "saw tooth" varied in length; unfortunately these variations cannot

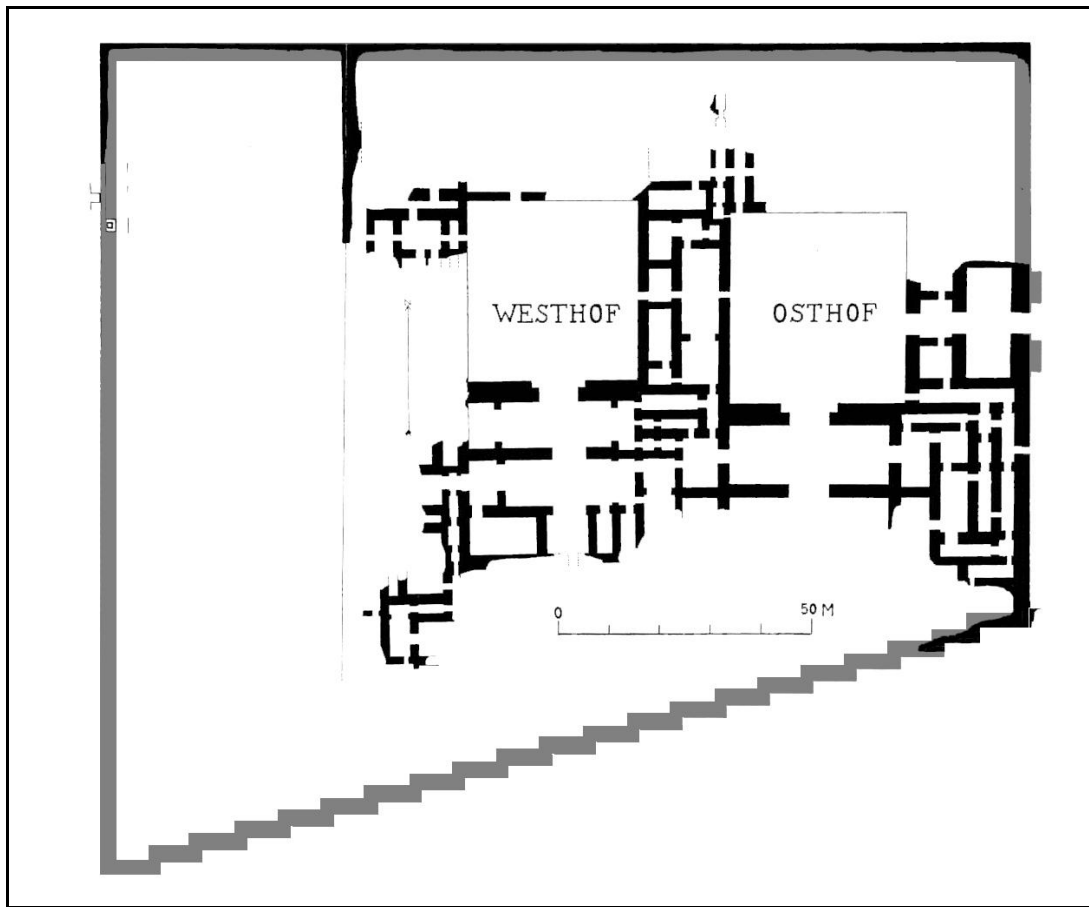


Fig. 164: Restored Northern Palace perimeter. Modified from Koldewey (1932: Pl. 8).

be determined because that would have been based on the arrangement of the rooms behind them and left to the architect's discretion. However for the purposes of this reconstruction, an average tooth size of approximately 10 m can be used to display the intended design. By replicating a succession of average saw teeth in conjunction with the predicted position of the foundation, the remainder of the southern wall can be successfully reconstructed. Returning north, the earlier mentioned northwest wall of the palace can be followed south and connected to the restored southern wall. Combined, these two restored walls place the southwest corner of the palace just north of the former 2nd Moat Wall bastion (Fig. 165).

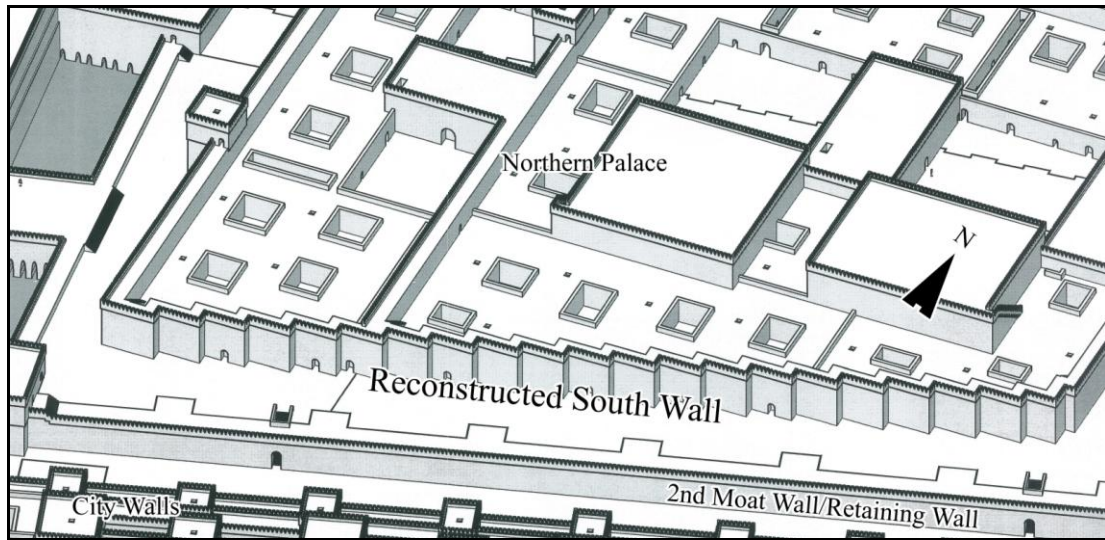


Fig. 165: Reconstruction of Northern Palace's south wall.

Gate Houses

As mentioned, the gatehouses nearly mirrored the construction of those in the expanded Nabopolassar Palace. Rather than appearing as monumental structures that towered over other buildings, these gatehouses served primarily as defensive barriers. Based on the inferior foundations, the structures likely rose in height somewhere between the outer palace wall and the residential structures within. One main difference lay in the Northern Palace's main gate (Fig. 166). Compared to the gatehouse leading into Nabopolassar's former residence, the Northern Palace's main gate contained considerably more reinforcement on its eastern wall. In fact, this wall segment was thicker than the rest of the palace perimeter wall. Although never found, Koldewey suggested this variance indicated either a vaulted ceiling or that the gatehouse façade contained the same twin tower arrangement found in monumental gatehouses (Koldewey 1932: 6)(Fig. 167). Vaulting aside, the suggestion of towers is highly probable considering that this gate served as the main portal into the palace (Fig. 168). Nabopolassar's palace did not require this added defense, since the structure already lay deep within the greater Southern Palace complex.

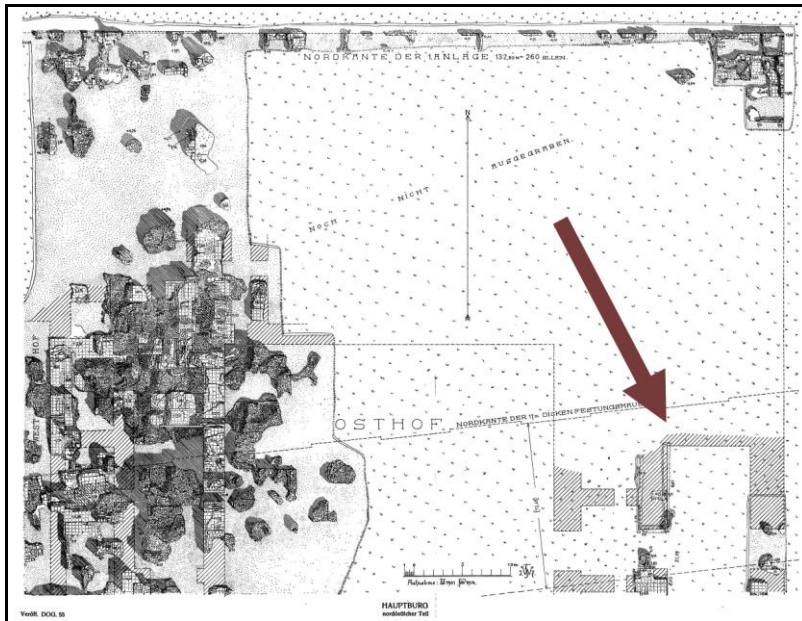


Fig. 166: Main palace gate of Northern Palace. Cropped from Koldewey (1932: Pl. 2). This image distinctly portays that the Northern Palace contained a main gate similiar in design to that in the Southern Palace.



Fig. 167: Main palace gate of Southern Palace. Cropped from Koldewey (1931: Pl. 3).

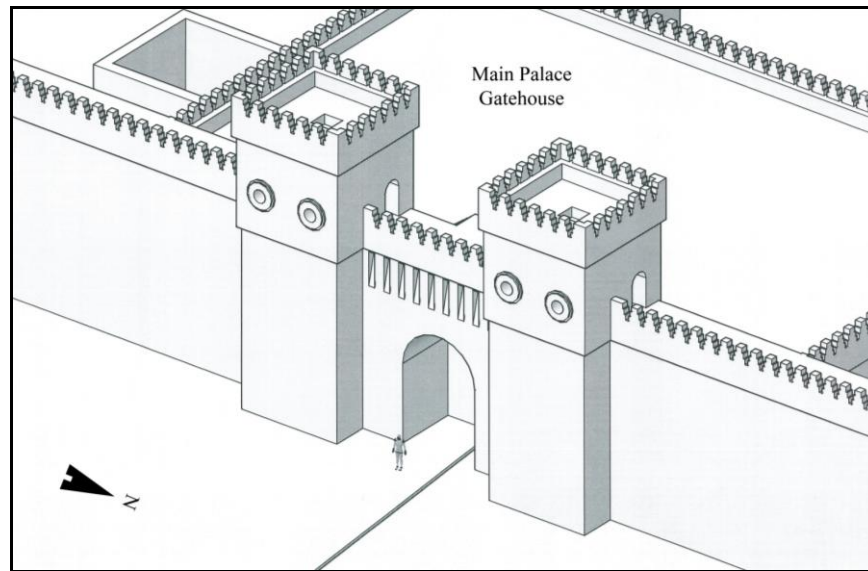


Fig. 168: Reconstruction of the Northern Palace's main gatehouse.

Eastern Audience Hall

Another difference in the Northern Palace, lay in the interior design of the first audience hall north of the great court. The structure contained a dual chambered plan, rather than a single great hall (Fig. 169). Additionally the doorway was considerably wider and contained recessed decorative brickwork. While the changes cannot be fully explained, it is likely that since this audience hall came first in the overall palace plan, this structure served as the throne room for the king, thereby receiving increased decorative form. The main northern entrance contained a wall thickness of 4.16 m. Koldewey believed that the missing southernmost wall likely contained a throne niche similar to the one found in the Southern Palace (Koldewey 1932: 8). If this room contained a similar design to the Southern Palace throne room, then the missing wall likely shared the same thickness as the main entrance. Combined, the two massive walls carried this structure to a height comparable to Nabopolassar's former throne room and the Principal Gate from the Southern Palace; a height this reconstruction conjecturally restored to 13 m (Fig. 170).

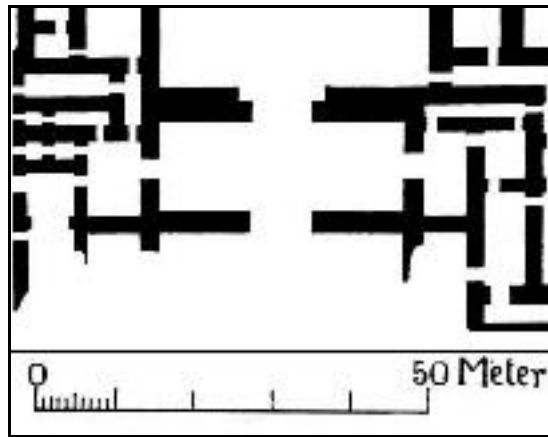


Fig. 169: Eastern Audience Hall. Cropped from Koldewey (1932: Pl. 8).

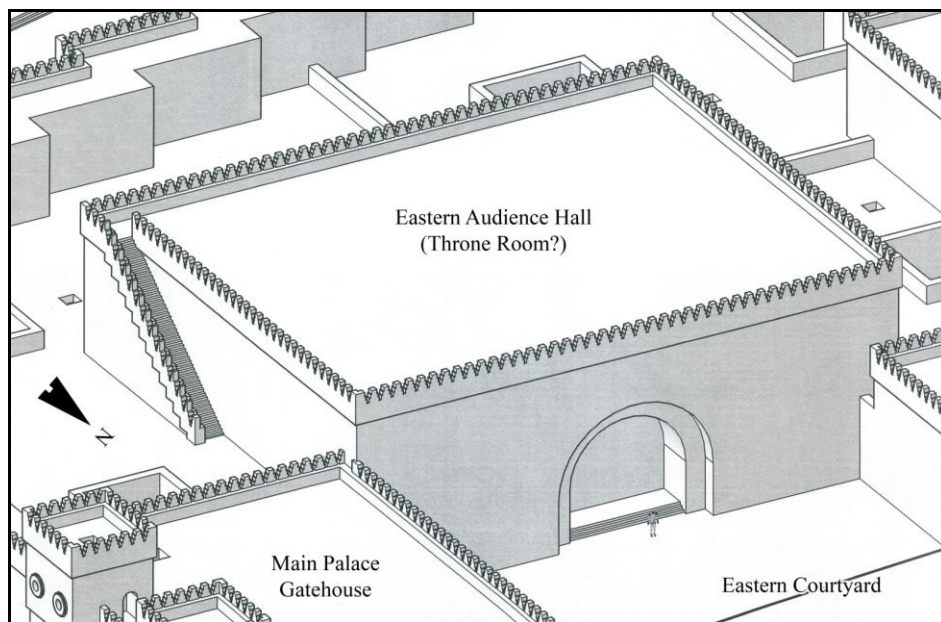


Fig. 170: Reconstruction of the Eastern Audience Hall.

Western Audience Hall

The second audience hall lay more secluded in the western court (Fig. 171). Of the two audience halls within the palace, this structure more closely mirrored its counterpart found in the expanded Nabopolassar Palace. Koldewey acknowledged these similarities and implied that the structure fulfilled a similar purpose by accommodating the privacy of the royal family (1932: 13). Like the audience hall in the Southern Palace's Western Extension, the thicker entrance wall served to reinforce the gap in the brickwork created by the massive entrance. Based on the wall thicknesses, the structure likely contained a height comparable or slightly taller than the eastern gatehouses in the Southern Palace. This reconstruction restored that height to a conjectural 11.5 m (Fig. 172).

Western Wall

Beyond the Western Court, lay the Northern Palace's Western Extension. When or why Nebuchadnezzar initiated this addition is not clear. A small clue may lay in Koldewey's discovery of a small private courtyard placed just outside of the Western Court (Fig. 173). This discovery is significant since the courtyard suggested that no gatehouse lay beyond this point. In the Southern Palace, gatehouses divided each major courtyard including the later Western Extension on Nabopolassar's former palace. The lack of a gatehouse implied that the original plan of the Northern Palace reached some form of completion, before Nebuchadnezzar decided to add the Western Extension. To facilitate that idea, this reconstruction completed the original plan of the palace, complete with a western defensive wall along the edge of the later extension. Copying the Western Extension on Nabopolassar's former palace, a small gateway tower has been placed onto the defensive wall to permit access outside the palace (Fig. 174).

Perimeter Residential Buildings

Before moving into the Western Extension, the perimeter buildings on the north and the south need to be addressed. Unlike the Southern Palace, the excavated southeast rooms and corridors did not reveal many self-contained buildings. This is not to say that



Fig. 171: Western Audience Hall. Cropped from Koldewey (1932: Pl. 8).

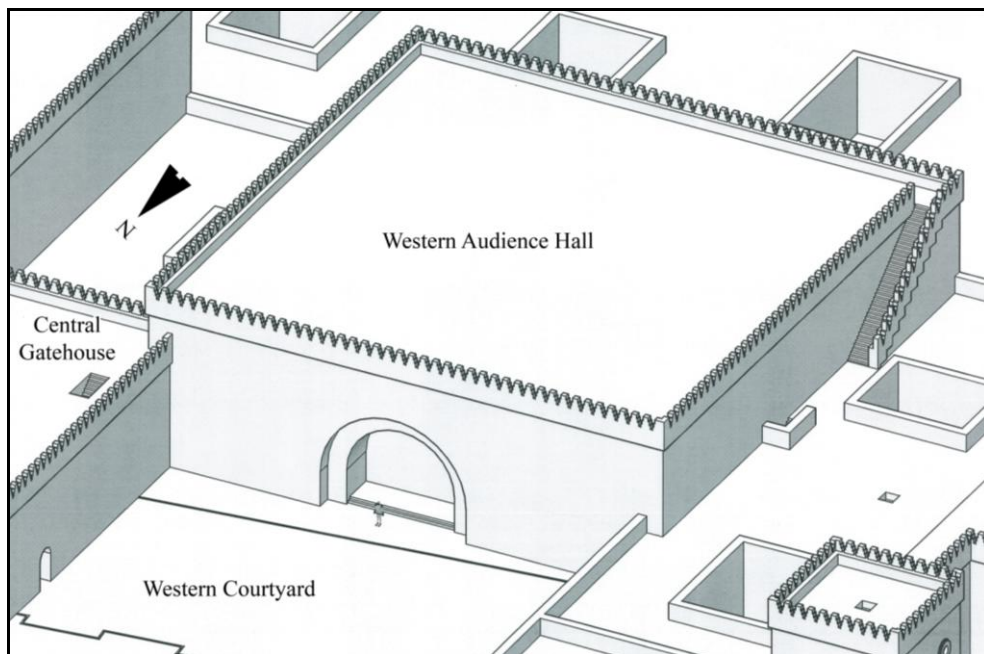


Fig. 172: Reconstruction of the Western Audience Hall.

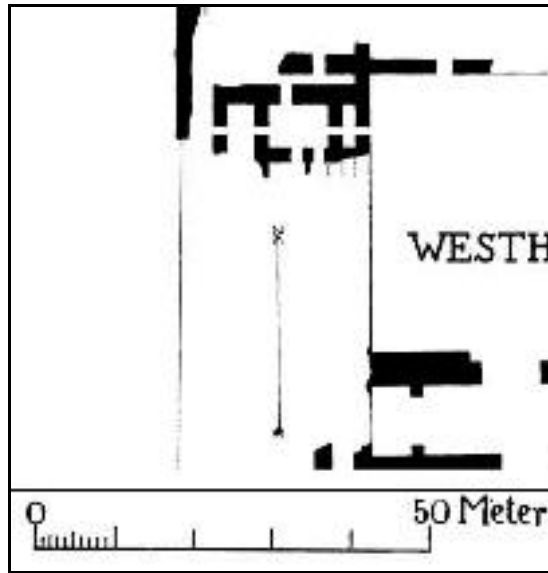


Fig. 173: Private courtyard west of the Western Court. Cropped from Koldewey (1932: Pl. 8).

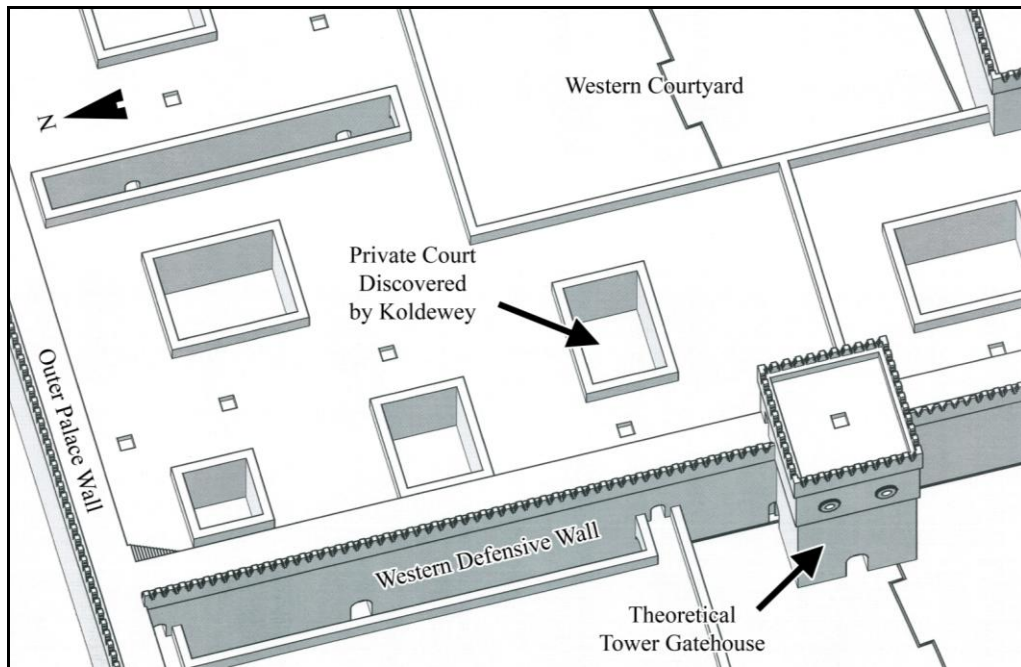


Fig. 174: Reconstruction of the western area with the small private courtyard.

they did not exist, but only that they lay undiscovered north of the great courts (Koldewey 1932: 2). This reconstruction followed that idea; the units in the south formed a combined single roofed structure, while in the north, the units consisted of individual buildings. The placement of residential units is of course conjectural. However, using the extended Nabopolassar Palace as a model, a similar number of residential units supporting lesser courtyards can be approximately placed in the same locations (Fig. 175).

Palace Extension

Beyond the theoretical western defensive wall, lay the palace extension. The unique separate foundation made Koldewey wonder towards the extension's purpose and lament that excavations could not be completed (1932: 15). Unfortunately at this point, the similarities between the Northern Palace and the extended Nabopolassar Palace come to an end. For that reason, there is very little that can be done to accurately reconstruct the Western Extension. Yet, it is reasonable to believe that any extension onto to Northern Palace somehow expanded upon the structure's original purpose. To that end, the placement of addition royal residential blocks and servants quarters would not be unreasonable. Completing the Northern Palace reconstruction, the placement and spacing of these units followed the same principles as buildings in the rest of the palace (Figs. 176 & 177).

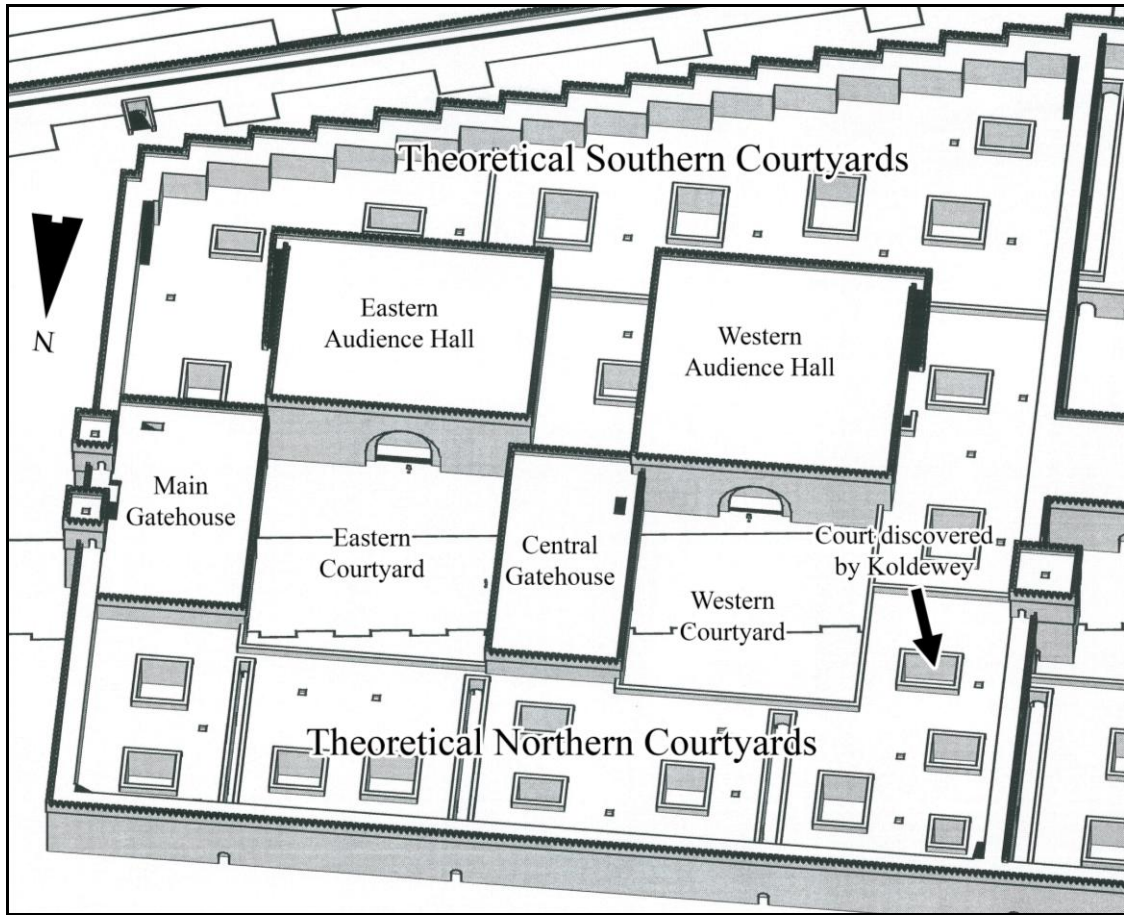


Fig. 175: Reconstruction of Northern Palace's original plan with conjectural lesser courtyards.

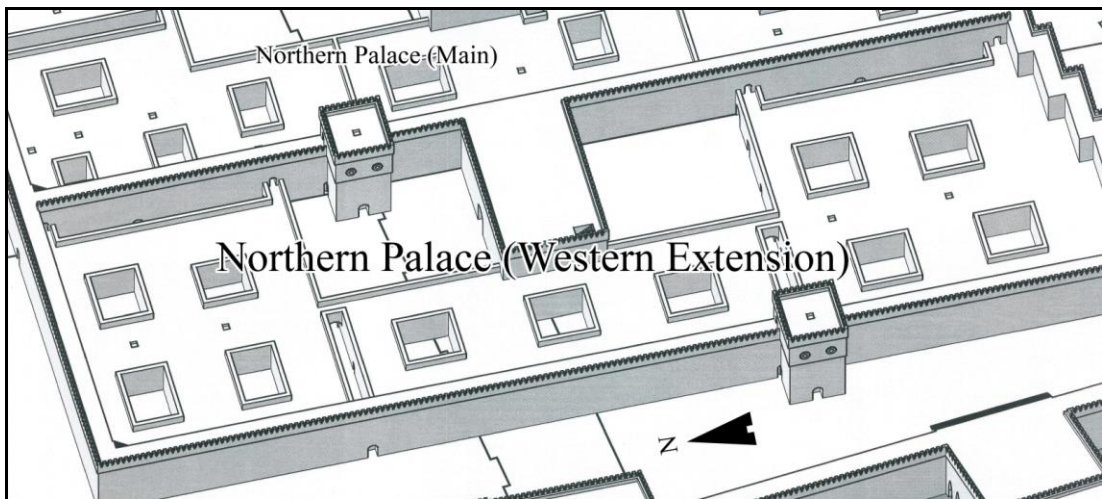


Fig. 176: Reconstruction of the Northern Palace's Western Extension.

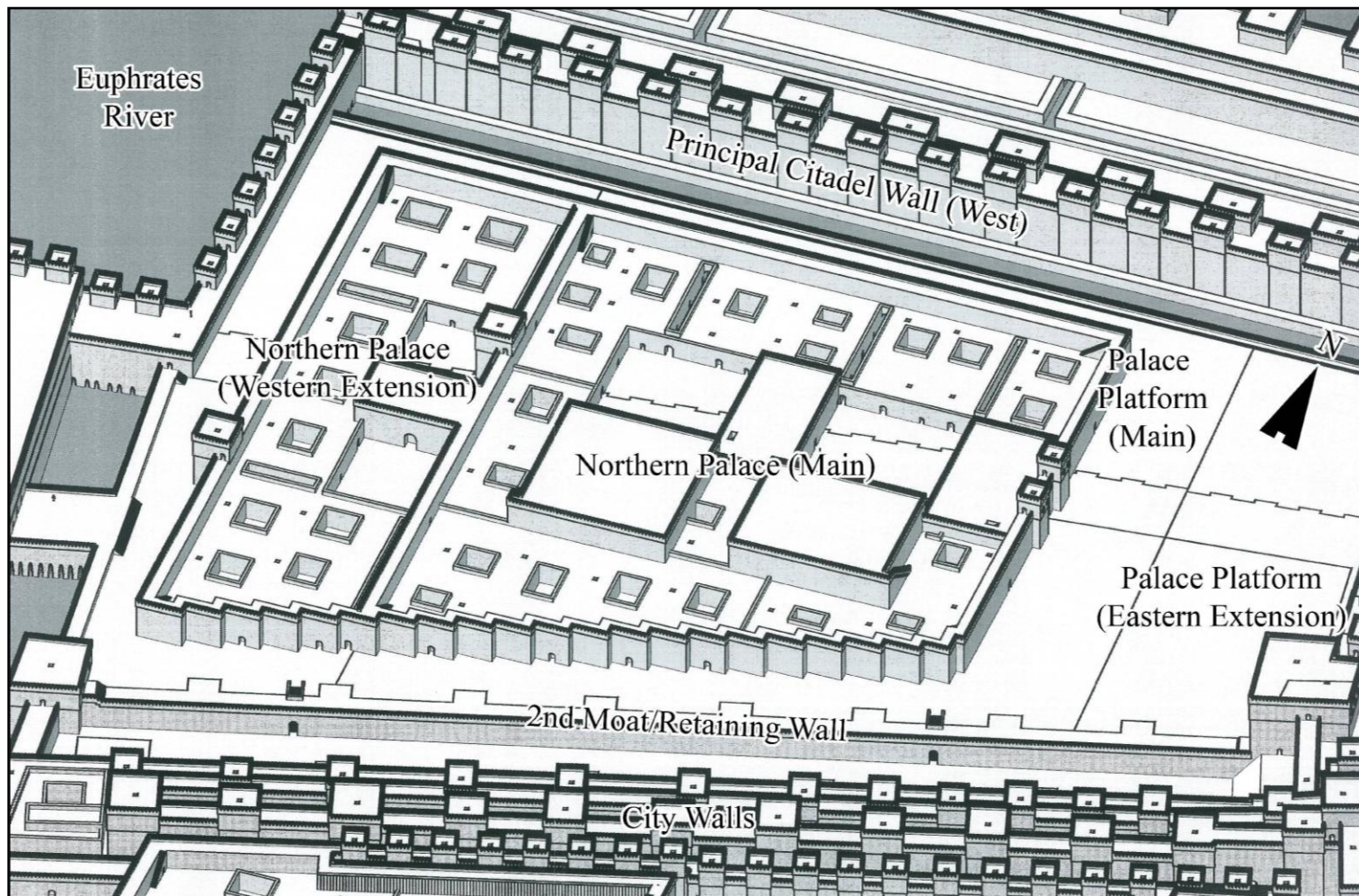


Fig. 177: Reconstructed view of the Northern Palace within the Northern Citadel enclosure.

CHAPTER IX

CONCLUSIONS

The primary purpose of this thesis is to explain how Babylon's monuments appeared on the Acropolis during the late 6th century B.C. Within the previous chapters, many small conclusions led to the greater appearance each structure. Rather than recounting each detail, more can be learned about these structures in their combined appearance upon the Acropolis.

Koldewey's excavations dispelled the westernized perception of Babylon, which until that point, perceived a beautiful gleaming city filled with temple structures, magnificently domed palaces, and the famous Hanging Gardens. In reality, this imagined picture is more closely linked to the architecture of the Roman Empire and the later Islamic period. This is not to say that Babylon's architecture should be considered insignificant. The reconstructed Acropolis revealed that unlike the palaces at Rome or medieval Baghdad, which contained numerous monuments of beauty, Babylon was primarily a fortress. This applied not only to defensive physicality, but towards the mental perception of both the internal inhabitants and outside visitors alike. While many Mesopotamian cities contained immense defensive fortifications, Babylon's architecture became more of an ideology. As revealed by the archaeology and then restored using Assyrian iconography, hundreds of towers with upper blockhouses lined the city walls and internal structures alike; all of which contained crenellations for defense. Beautification came only secondary through the use of decorative glazed bricks incorporated into the walls of important buildings. This thesis does not suggest that beautiful structures such as the royal Hanging Gardens did not exist, but only that the placement of such structures required incorporating them into a defensive area or monument.

Babylon's defenses reached a pinnacle under the Chaldean Dynasty following the city's 7th-century B.C. annihilation by the Assyrian king Sennacherib. Nebuchadnezzar and his father before him, sought to ensure that Babylon would never again face such tragedy by fortifying the city unlike ever before. Although the outward

defense of the city served as the primary focus, the newly raised Acropolis contained a deeper meaning. To enhance himself as both protector and the new ruler of a massive empire, Nebuchadnezzar visually elevated his status over the population. While Nabopolassar had lived near the main populace, Nebuchadnezzar separated himself and changed the appearance of not only the royal residence, but of all the surrounding supporting structures. When attempting to classify the social elite and other classes in society, residential structures are often key indicators of differences. Palaces represent the residences of important figures in a complex society (Renfrew & Bahn 2008: 213). In the case of Babylon, this is the absolute truth. The massive palace complexes and their associated defenses came to represent the greatest segregation both socially and physically of the royal elite from the remaining population. Comprised of raised platforms, the Acropolis visually elevated the king's power and prestige along with his family and retinue above the city (Figs. 178, 179, & 180). Only the ziggurat Etemenanki at the center of the city surpassed the citadel in height. Yet in that shared physical elevation above the city, the king became more closely associated with Babylon's patron deity. Like the Ziggurat, the fortified Acropolis represented security to the common citizen. Looking up from the lower city, the populace saw that together, Nebuchadnezzar and Marduk watched over and protected Babylon.

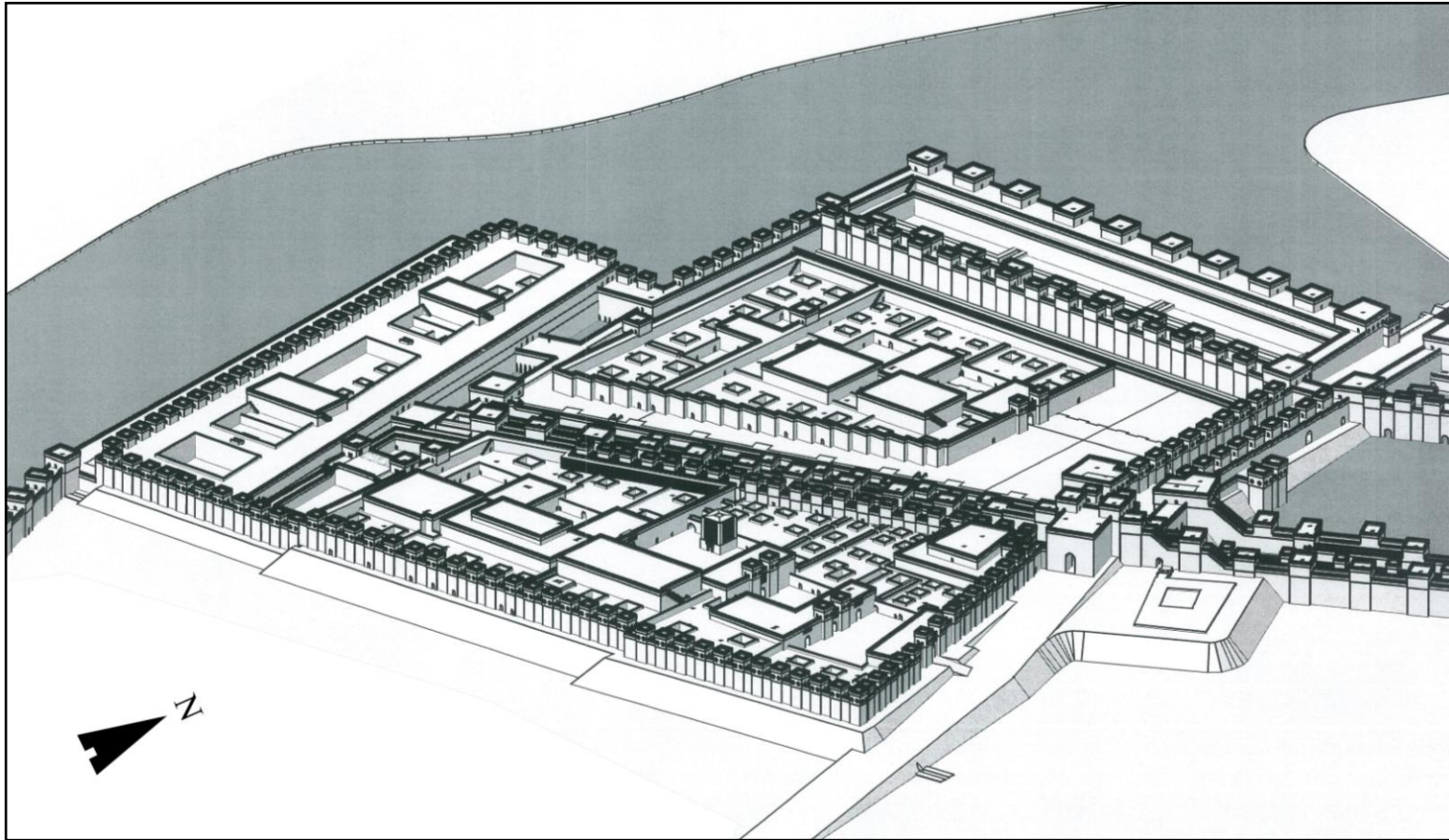


Fig. 178: Facing northwest, completed view of reconstructed Acropolis & surrounding buildings.

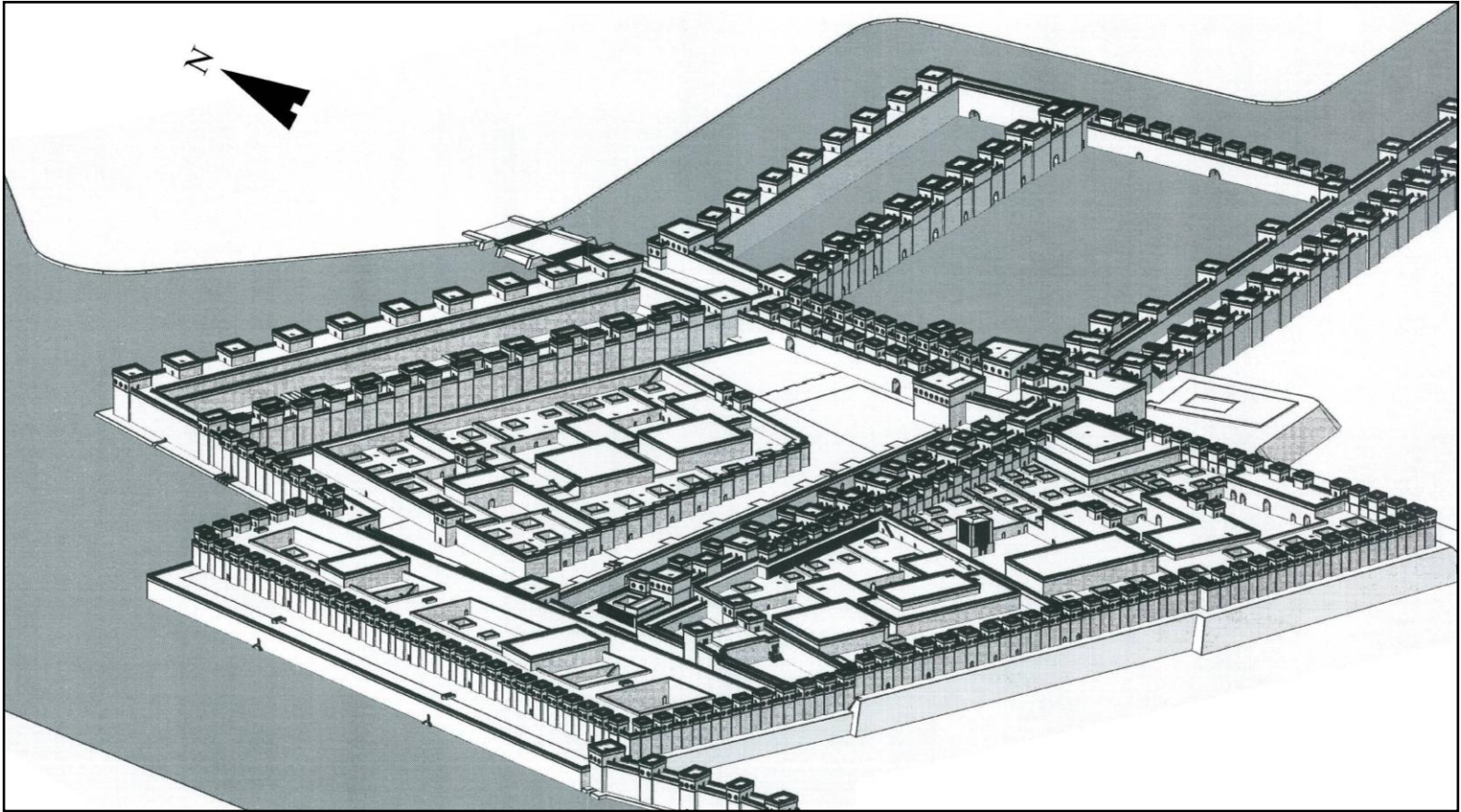


Fig. 179: Facing northeast, completed view of reconstructed Acropolis & surrounding buildings.

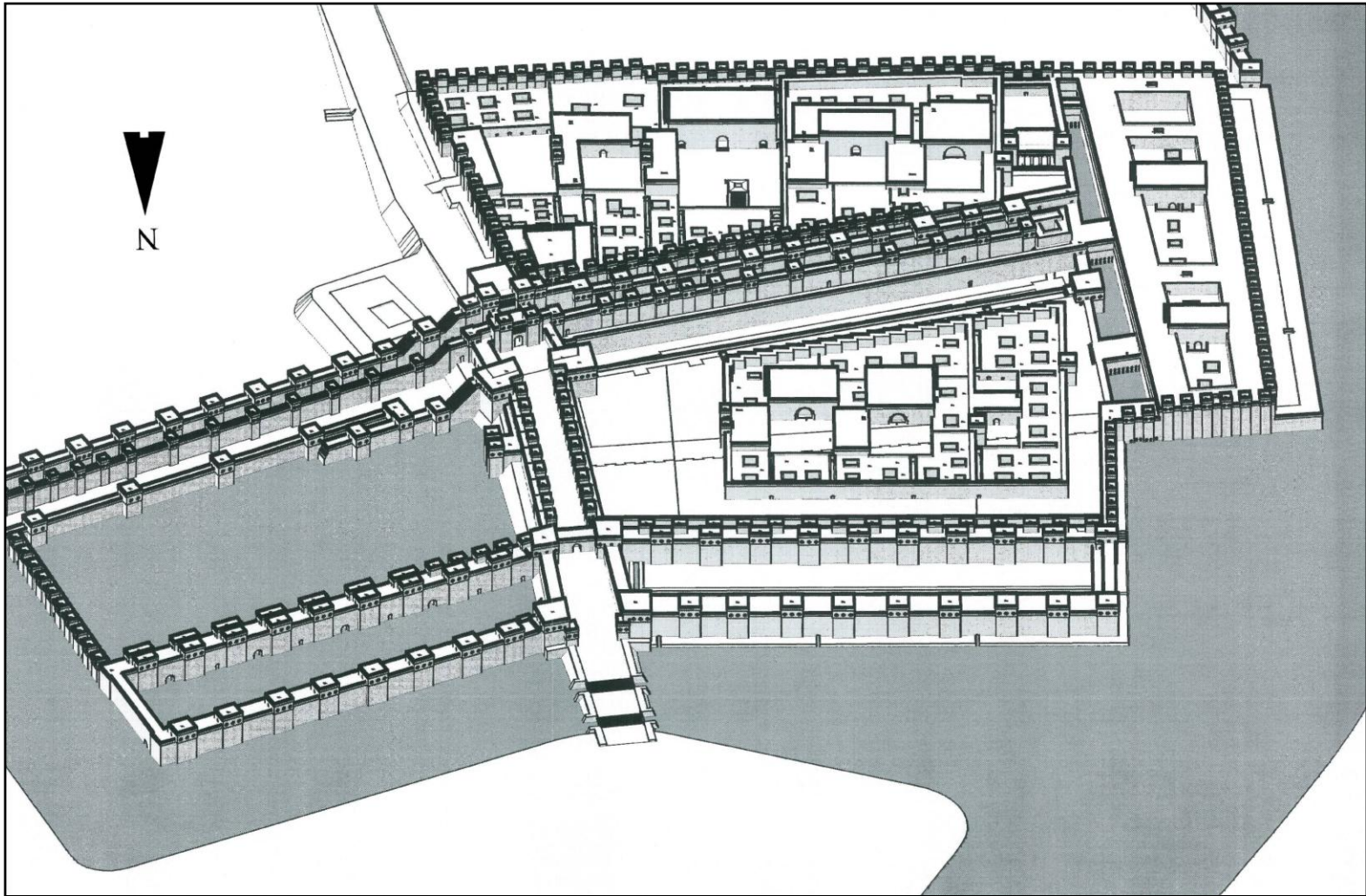


Fig. 180: Facing south, completed view of reconstructed Acropolis & surrounding buildings.

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