



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

JOURNAL

OF

THE ROYAL ASIATIC SOCIETY.

ART. I.—*On the Birs Nimrud, or the Great Temple of Borsippa.*

By SIR HENRY C. RAWLINSON, K.C.B.

[Read 13th January, 1855.]

CHAPTER I.

I.—PERSONAL NARRATIVE.

AFTER being encamped for ten days at the foot of the Babylonian Mound of the *Kasr*, employed in a careful examination of the great mass of the ruins and the surrounding topography, I took advantage of the first break in the weather to pay a flying visit to the *Birs-Nimrud*, where excavations had been carried on for above two months, under my directions and on account of the British Museum, by an intelligent young man, M. Joseph Tonietti by name, with a view of ascertaining the general features of the building, and thus finally disposing of the many difficult questions connected with this remarkable ruin. Crossing the river at the village of *Anana*, a ride of three hours and a quarter brought our small party, which consisted of Dr. Hyslop, the Rev. Mr. Leacroft, and myself, to the spot in question. We found our tents already pitched at the camp, or village, which our labourers had formed a short distance to the north of the mound, but without alighting we proceeded on at once to inspect the excavations. That day was consumed in making a careful inspection of the various works in progress, and in endeavouring to realize and restore a general plan of the original building from a comparison of the various sections of exterior wall, and interior strata of brickwork, which had been laid bare by the vertical and horizontal trenches now seaming the mound.

Having satisfied myself from this examination that at several

points the outer walls of the primitive edifice had been reached, and that the line of one face (the south-eastern) of the third stage was completely uncovered, so as to leave the angles exposed, I proceeded on the next morning with a couple of gangs of workmen to turn to account the experience obtained from the excavations of Kileh-Shergat and Mugheir, in searching for commemorative cylinders.¹ On reaching the ruins I placed a gang at work upon each of the exposed angles of the third stage, directing them to remove the bricks forming the corner, carefully, one after the other, and when they had reached a certain level to pause until I came to inspect the further demolition of the wall. In the meantime I proceeded with flag staffs, compass, and measuring tape, to do what I could in taking sections and elevations. After half an hour I was summoned to the southern corner where the workmen had reached the tenth layer of brick above the plinth at the base, which was the limit I had marked out for their preliminary work. The bricks had been easily displaced, being laid in a mere bed of red earth of no tenacity whatever. The workmen eyed my proceedings with some curiosity, but as they had been already digging for above two months at various points of the mound without finding any thing, and as the demolition of a solid wall seemed to the last degree unpromising, and had at its commencement yielded no results, they were evidently dispirited and incredulous.

On reaching the spot I was first occupied for a few minutes in adjusting a prismatic compass on the lowest brick now remaining of the original angle, which fortunately projected a little, so as to afford a good point for obtaining the exact magnetic bearing of the two sides, and I then ordered the work to be resumed. No sooner had the next layer of bricks been removed than the workmen called out there was a *Khazeneh*, or "treasure hole;" that is, in the corner at the distance of two bricks from the exterior surface, there was a vacant space filled half up with loose reddish sand. "Clear away the sand," I said, "and bring out the cylinder;" and as I spoke the words, the Arab, groping with his hand among the débris in the hole, seized and held up in triumph a fine cylinder of baked clay, in as perfect a condition as when it was deposited in the artificial cavity above twenty-four centuries ago. The workmen were perfectly bewildered. They could be heard whispering to each other that it was *sîhr*, or "magic," while the grey-beard of the party significantly observed to his companion,

¹ From the ruins of a temple at the former place were obtained the cylinders of Tiglath Pileser I. (about b.c. 1120), which are now in the British Museum. The discovery of the cylinders of Nabonidus at Mugheir is described by Mr. Taylor in the last number of the Journal, vol. xv. part ii., p. 263 and 264.

that the *compass*, which, as I have mentioned, I had just before been using, and had accidentally placed immediately above the cylinder, was certainly "*a wonderful instrument.*"

I sat down for a few minutes on the ruins of the wall to run over the inscription on the cylinder, devouring its contents with that deep delight which antiquaries only know—such, I presume, as German scholars have sometimes felt when a Palimpsest yields up its treasures, and the historic doubts of ages are resolved in each succeeding line—and I then moved my station to the other angle of the stage, that is, to the eastern corner, in order to direct the search for a second cylinder. Here the discovery was not accomplished with the same certainty and celerity as in the first instance; the immediate angle of the wall was gradually demolished to the very base, and although I fully expected, as each layer of bricks was removed, that the cavity containing the cylinder would appear, I was doomed to disappointment. I then directed the bricks to be removed to a certain distance from the corner on each face, but the search was still unsuccessful; and I had just observed to my fellow-travellers that I feared the masons had served Nebuchadnezzar as the Russian architects were in the habit of serving Nicholas—that there had been foul play in carrying out His Majesty's orders—when a shout of joy arose from the workmen and another fine cylinder came forth from its hiding place in the wall.¹ As I knew the inscription would prove to be a mere duplicate of the other, I did not peruse it with the same absorbing interest, but still it was very satisfactory to have at least a double copy of the primitive autographic record.

I now moved the workmen to the two remaining angles of the stage; that is, to the northern and western corners, but with very little prospect of further success; for it was evident from a rough estimate of the level that the greater portion of the wall at these angles had been already broken away, and that, if any cylinders had been deposited within, they must thus have rolled down with the other débris to the foot of the mound. The workmen, however, were employed for two days in clearing away the wall at these points to its base, and subsequently in removing the bricks to a certain distance on each side of the corner; and although nothing resulted from the search, the rule was by no means impugned that, wherever the stage

¹ The news of this discovery of the cylinders at the Birs seems to have flown far and wide on the wings of fame, for since my return to Baghdad I have been besieged by applications to employ "the magic compass" in extracting treasures which are believed to be buried in the court yards or concealed in the walls of the houses; often in the very "boudoirs" of the ladies.

of an Assyrian or Babylonian temple can be laid bare, historical or commemorative cylinders will be found deposited in a cavity of the wall at the four corners, from one-third to one-half of the height of the stage, and at one or two feet from the outside surface. At the corners in question the angles were alone perfect near the base ; at the height where the cylinders should have been found the wall was already ruined to a distance of six feet on each side from the corners.

It now only remained for me to complete my measurements and, carrying off the cylinders as trophies, to return to the camp which had been left standing at Babylon.

II.—ACCOUNT OF THE EXCAVATIONS UNDERTAKEN IN AUGUST, SEPTEMBER, AND OCTOBER, 1854.

The next point of interest will be to give a brief description of the works at *Birs-Nimrud*.

My original instructions to M. Tonietti had been to search the slope of the mound (not the fissures or ravines) narrowly for any trace of brickwork cropping through the soil ; when this was found, to ascertain the line in which the bricks were running ; then to follow the bricks outwards, at right angles of course to the line of the wall, until the exterior facing was reached ; from such a point to make an opening to the foot of the wall, and subsequently to run a trench along the whole line of wall until the angles were turned at the two corners, so as to expose the complete face of one of the stages of which I had no doubt the original building had been formed. I left it entirely to chance as to which of the four faces might be thus attacked ; but I suggested, in regard to height above the plain, that the centre of the mound offered the most favourable *locale* for excavation, inasmuch as the exterior surfaces of the upper stages might be reasonably supposed to have been destroyed, or at any rate to have suffered extensive abrasion from their exposed position, while the accumulation of débris towards the base would render it a work of immense labour to lay bare the face of the lower platforms.

M. Tonietti carried out these instructions with care and judgment. About half way up the mound he came upon a line of wall almost immediately, and, by tracing it outwards, he soon arrived at the perpendicular face. This face he opened to a depth of 26 feet, when he reached the platform at the base, and after a month's labour he suc-

ceeded in uncovering the wall from its southern to its eastern angle.¹ Having obtained this indication of level and extent, he had no difficulty, presuming the platform to be square, in discovering the northern and western angles at equidistant points, although, as several feet of débris were here accumulated on the surface, but for the guide afforded by measurement, there would have been no more reason for sinking shafts at such points than in any other quarter of this immense mound.

It was impossible to err as to the identity of the wall, discovered by digging at the northern and western angles of the mound, with that of which the south-eastern face had been already exposed, because, as I shall presently explain, it was composed of a peculiar material, not otherwise found in the ruin; but I did not think it worth while to verify this identity by excavating the three remaining sides, and thus connecting all the corners, as such an operation would have required a vast expenditure both of time and money. I thought it quite sufficient to have uncovered the south-eastern face and to have exposed all the corners, thus obtaining, either by measurement or calculation, the dimensions of the platform; and I accordingly directed that the next operation should be to run two trenches, from the summit of the mound to its foot, crossing the line of the exposed stage at its corners, and at an angle of 135 degrees, which, if the original structure had been formed of a series of platforms receding at equal distances on the four sides, would of course have exposed the angles of each successive stage, and have thus led to an immediate recognition of the design. Wherever a corner, or a single perpendicular wall was met with, I further directed the trench to be sunk to its base, so as to determine the height of the platform. Unfortunately as M. Tonietti was without instruments, these trenches were not run in the exact lines indicated. Even had they faced the south and east, which would have been nearly the supposed line of the corners, they would not have quite answered the desired purpose, for I have since ascertained that the stages were not erected with perfect equidistant regularity one above the other. From the example indeed of Mugheir, and the general contour of the ruin at the Birs-Nimrud I ought to have

¹ I must here observe that Rich and Porter have both been guilty of a most singular error in describing the sides of the Birs, as facing the four cardinal points. In reality it is the four corners, which with a slight error face those points, and the titles of Ker Porter's Plates (vol. ii., plates 69 and 70) must be thus altered throughout the series, his "western face" being S.W.; southern face, S.E.; eastern face N.E.; and northern face, N.W. The N.E. face is the front of the temple; the S.W. the back, and the other two are the sides.

inferred in the first instance that on the north-eastern face, which formed the grand entrance, the platforms receded considerably in excess, in order to give a more imposing appearance to the façade; while on the south-western face which formed the back of the building, the gradines were crowded together, the difference of inclination which is thus observable on the two faces having been already remarked, and having even led to the supposition that the abruptly sloping face of the pile may have been originally perpendicular.¹

In M. Tonietti's operations the trenches were run too much to the left so that the eastern trench probably passed beyond the angle of the lower platform while the southern trench cut the wall at a distance of several yards inside the corner, they were still, however, of great importance in laying bare the successive strata of which the pile was composed and in fact first led me to suspect a peculiarity of design which was completely verified by subsequent discoveries.

I will now explain the exact results which followed from the excavation of these vertical trenches, an experimental operation which in its nature was precisely similar to laying bare for inspection a fine geological section.

From the summit of the mound, upon which stands the solitary pile of brickwork, estimated by Porter and Rich at 35 or 37 feet in height, the trenches could make little or no impression on the mound for a space of about 6 feet in perpendicular descent.² It was evident to me from an examination of the strata of bricks and from observing the general character of the irregular surface of the platform, that all this portion of the building had been artificially vitrified at the time of its construction, and previous to the erection of the culminating stage, of which the remains exist in the solid pile at the summit. For this vitrification, which was caused no doubt by the action of fierce and continued heat, and which in fact converted the second highest stage of the temple into a mass of blue slag, a substance well known to the Babylonians, and often used in the construction of their cities,³ I shall presently show a good and sufficient reason. I do not

¹ See the proposed restoration in "Nineveh and Babylon," p. 497, and Mr. Layard's ingenious suggestion that the perpendicular wall may have served the purpose of a gigantic gnomon.

² It is very doubtful if Porter took any independent measurements of height; his numbers throughout appear to be a mere servile copy of those given by Rich. Compare "Porter's Travels," vol. ii., p. 310, with "Babylon and Persepolis," pp. 75 and 167.

³ At *Sekheriyeh*, a Babylonian ruin, one hour south of *Bogheileh*, and near the confluence of the ancient Zab, or Nil Canal, with the Tigris (thus nearly answering to the position of the Apamæa Mesenes of the Greeks), the only material which

hesitate, moreover, to say that it was owing to the accidental use of an imperishable material like slag so near the summit of the Birs, that we are indebted for the solitary preservation of this one building among the many hundreds of not inferior temples which once studded the surface of Babylonia. The original slag stage reached, I think, several feet above the present level of the platform, and the huge masses of vitrified matter, which have been so often described as strewn about the surface of the mound, and in some instances as having rolled down into the plain, have almost certainly split off from the lower portion of the pile now standing. The action of the fire probably did not reach—or at any rate it reached but imperfectly—the portion of the brickwork furthest removed from the exterior surface; and there are thus few marks of the vitrification to be traced on the base of the pile as it stands at present; but there is still, I think, a difference of quality to be recognized between the upper and lower divisions of the brickwork, the latter being the harder of the two. I suspect, indeed, that it was the imperfect vitrification of the whole mass which impaired its cohesive power, and led to the upper exterior angles of the platform which were thoroughly hardened and could not crumble, splitting off, under the action of the elements, from the brickwork of the centre which was not equally indurated; but when a broader base had been obtained, less susceptible of impression from the weather, the huge slag platform lay over the mound like the keystone of an arch, affording for the steeple-like fragment of the upper stages an immovable pedestal, and compressing and preserving the more perishable lower stages by which it was itself supported. All this will be rendered clearer in the sequel, but I could not resist giving a preliminary explanation of the vitrified masses at the summit of the *Birs*, as their nature and probable mode of formation have been generally misunderstood and have given rise to much extravagant hypothesis.¹

Between the vitrified brick-work, which formed the second highest seems to have been employed in the construction of the city is a dark blue slag. The mortar and mud cement have everywhere crumbled, but the masses of slag, now lying in heaps on the desert, exhibit no sign of decomposition. The same peculiarity is also observable in the ruins of *Roweijeh*, near the Hye. I should now suspect that both these cities had been originally consecrated to the planet Mercury.

¹ Thus Ker Porter supposes these vitrified masses “on the fire-blasted summit of the pile” to be fragments of the upper stage of the original tower of Babel, erected by Nimrud and destroyed by lightning from heaven.—*Travels*, vol. ii. p. 319.

stage of the Birs, and the red stage exposed belowed, the trenches passed through two distinct strata of materials for a space as near as I could calculate of about 30 vertical feet. The angles being entirely abraded in the line of the trenches, and generally, as I think, around the entire slope of the mound, it was impossible to obtain any measurement of a perpendicular wall, or even to define from the exposed section the precise limits of the different systems of brickwork. As indeed in the upper standing pile, the grey weather-beaten bricks of the highest stage gradually merge into the vitrified stage below, so do the blue vitrified strata gradually merge into a mass of fine light-yellow brickwork lower down, the intermediate or conterminous layers being green, and what is still more remarkable, so does the third or yellow stage merge into a roseate, pink division which evidently formed the fourth or [centre stage of the building.¹ The original brickwork from the red stage upwards is generally of one uniform character. I thought at one time I could trace a gradual diminution in the dimensions of the bricks, those of the pink stage being 14 inches square and 4 inches deep, of the yellow $13\frac{1}{3}$ inches by $3\frac{2}{3}$, of the blue $12\frac{2}{3}$ by $3\frac{1}{3}$, of the grey at the summit 12 by 3 ; but previous travellers have given these measurements differently, and I could not obtain a sufficient number of detached specimens "in situ" to verify the distinction.² Indeed I am not sure but that the interior construction of the whole mass, from the red stage (or even from the base) upwards, may have been absolutely the same ; and that the distinctive characteristics of colouring which rendered this temple especially remarkable, and which were certainly in a great measure dependent on the materials employed, may have been exclusively considered near the exterior surface, where of course they would be alone visible.³ At any rate the description of brick, as exposed in the trenches, though differently coloured, was the same throughout the four upper stages, being kiln-baked and of the greatest hardness, while the lime cement, laid in very thin layers

¹ In following down the line of the trenches, it is to be observed that I number the stages from the summit, while in my subsequent attempt to restore the seven successive stages I commence the numerical series from the base.

² This theory of progressive diminution must certainly be abandoned, as far as regards the thickness of the bricks. I have found indeed on working out all my measurements of series of layers, that no uniform scale can be adopted, the bricks varying in thickness throughout the upper stages from three to four inches.

³ It will subsequently appear from the inscription found at the Birs that the *heart* of the pile must have been constructed of *libbin* or crude brick, and that the walls accordingly through which the trenches penetrated could have only been the exterior coating. The interior core of crude brick at any rate was never reached, and could not, I think, have existed originally above the fifth stage from the base.

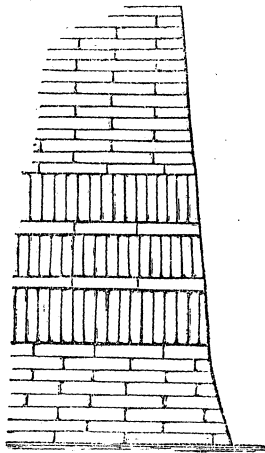
(not more than one-fourth of an inch in depth, in some places and never perhaps exceeding three-fourths of an inch,) was of the finest possible quality, and was entirely unmixed with reeds. I obtained my measurements of distances throughout the four upper stages by counting the layers of brick, but as I could not be sure of the uniform thickness of the bricks which varied from three inches to four, nor of the allowance to be made for the average layer of cement, varying from one-fourth to three-fourths of an inch, I do not pretend to consider them as any thing more than approximations. It will be seen, however, when I proceed to restore the elevation of the temple, that the measurements come out with sufficient accuracy.

From the summit of the mound to the fifth or red stage, the trenches were of no further use than in laying bare a double section of the brick-work : from that point downwards they were more satisfactory. The horizontal opening along the S. E. face of the mound, from one trench to the other, exposed the entire wall of the red stage, showing its height to be 26 feet, and revealed some peculiarities of building which require to be specially noticed. The bricks of which it was composed were formed of red clay and but half burnt, being that species of building material which is called by the Arabs of the present day *libin* (Heb. לְבִנָּה) and which is quite distinct from the *Ajúr* or *Tabook*, which is hard and kiln-baked.¹ These bricks, measuring 14 inches square and 5 inches in thickness, were laid in crude red clay, mixed up with chopped straw, the layer of this most indifferent cement being 2 inches in depth. The bricks were so soft as to yield to the blow of a hammer, and the clay cement crumbled under the touch. They thus formed the most unfavourable materials for building that could possibly have been devised ; and it is difficult to conceive how they could have supported, for any length of time, a mere exposure to the atmosphere. To obviate, in some measure, the inadequacy of such a bulwark to resist the interior pressure, the wall slanted inwards at an angle of two or three degrees, and additional strength was given to it by a slightly projecting plinth, formed of the

¹ Rich says that לְבִנָּה signifies "brick, of course the burnt sort from the root" —*Bab. and Pers.*, p. 69—but I question this very much. The name was given from the *white* colour of the clay employed, and has nothing to do with burning. The distinction in all the inscriptions between *libin* and *agur* is precisely that now observed by the Arabs; and in the famous passage of Genesis, chap. xi. v. 2, I understand the meaning to be, "Let us make bricks of *libin* (or 'white clay'), and then burn them." If לְבִנָּה implied "burning the bricks," what would have been the use of adding the verb נִשְׂרְפָה ?

same red bricks laid on their edges, and by an abutment at the base.¹ The most remarkable feature, however, in regard to this wall, was that at several points along its face, brickwork of a totally different class was found running up against it, to at least two-thirds of its height. This brick-work, although formed of the very best materials, was everywhere ruined; so much so, indeed, that I could not determine whether it belonged to the walls of chambers built on the platform at the foot of the wall, or whether it did not rather represent the débris of a series of lateral buttresses run up against the wall to support it. Of two things only could I be sure: Firstly, that it had not formed an exterior casing; and secondly, that it was of the same date as the original structure, the bricks being usually marked on their lower face with Nebuchadnezzar's stamp (as I should have observed was uniformly the case, though at irregular intervals, throughout the upper stages), and the discovery of the cylinders in the inner wall proving that portion of the building to be of the same age. It was certainly most extraordinary to find this outwork of masonry of the best description completely ruined, while of the very inferior and yielding wall within there was not a brick displaced; nor can I now (unless by supposing artificial mutilation in the one case, which did not extend to the other)² account for the condition of these two contiguous specimens of Babylonian architecture being exactly in an inverse ratio to their capability of resistance. The bricks of the red

¹ The corner of the wall exhibited something of this appearance—



² I shall subsequently suggest a reason for the intentional destruction of the outwork on the platform by later explorers of the mound.

wall, I must add, were in no case stamped, owing, I presume, to their inferior quality; at any rate the want of the stamp could not indicate their belonging to another age, against the evidence of the cylinders, carefully imbedded at the corners. Below the fifth or red stage, for a space of about 26 vertical feet, the trenches traversed a mass of crumbling brick-work, of the same character as the lateral walls abutting on the upper stage. I thought I could trace a wall in the southern trench, about half-way in horizontal distance between the perpendicular wall of the fifth or red stage above, and the perpendicular wall of the seventh or black stage below; but I could not be certain, as there had evidently been a series of buildings on the lower platform abutting on the sixth stage, and on the sixth platform abutting on the fifth stage; and now that these buildings, composed precisely of the same materials as the wall of the sixth stage, were all crumbling in ruin, it was impossible to discriminate their respective sections. Had there been any well-defined wall in this interval, M. Tonietti would have followed it vertically, so as to have exposed its facing. At one point, and that precisely where I subsequently remarked a very suspicious-looking line of masonry in the side of the trench, he did thus attempt to sink a shaft perpendicularly along what seemed to be a line of wall, but he was soon arrested by an aperture leading into a vaulted chamber, within which he penetrated, at imminent risk, for a distance of ten or twelve paces, observing by the light of a candle that all further passage was choked up with rubbish, and that the interior of the chamber had evidently fallen in. From the open part he brought out the trunk of a date-tree, hollowed out, as is the custom at the present day, to serve as a channel for water, but otherwise in a very fair state of preservation, although the tree must have been cut down above twenty centuries ago; for the bricks of which the chamber was composed bore the Nebuchadnezzar stamp, and I should question if the chamber could have been entered since the Greek occupation of Babylon. As there were above thirty feet of crumbling débris without the slightest tenacity whatever, pressing perpendicularly on the sides of the trench, and under which the chamber appeared to penetrate, it would have been a work of extreme danger to have cleared it out, and M. Tonietti therefore reserved its examination until my arrival. A few hours, however, before I visited the spot, the trench itself had given way, bringing down with it a shower of rubbish from the sides; and the chamber being thus again buried to a depth of fifteen or twenty feet, I did not think it worth while to re-excavate the entrance. From the position of this chamber I judged it to have been a gallery opening from the platform of the seventh stage into the wall of the

sixth stage, and I think it was in some way connected with the hydraulic works which supplied the temple with water. Although little was thus accomplished in clearing out the sixth stage, I here obtained some important measurements. By placing a flag-staff on the slope of the mound beyond the trench, but in the exact line of the lower or black wall which I shall presently describe, and by then measuring with the tape horizontally to the nearest point of the red wall, which insured the line being drawn at a right angle, I obtained a distance of 42 feet for the aggregate width of the seventh and sixth platforms on the S. E. face. I had already obtained a measurement of 12 feet for the platform of the red stage at the back of the temple, or on its N. E. face; and supposing the construction and recession of the gradines from the front to have been regular, these elements, with the square of the red stage accurately fixed at 188 feet, are sufficient for the restoration of the design.

It remains for me now to notice the wall of the lower stage. Towards the base of the mound, M. Tonietti's southern trench struck on the corner of a well-defined wall; and according to my instructions he immediately sunk a shaft in front of it, and subsequently opened the wall somewhat beyond the breadth of the trench, or for about 10 feet. He had only reached to a depth of 17 feet when I came to examine the work, and 9 feet more of excavation would thus have been required to reach the base of the wall, if, as appeared probable, it was equal in height to the walls of the two platforms immediately above; but being pressed for time, I did not think it necessary to continue the shaft. The wall was beautifully formed of bricks of the same size as those of the next superior stage, 14 inches square by 4 inches deep, which may be taken as the normal type in the lower stages; but there was this peculiarity in the construction, that the bricks were laid in bitumen, and that the face of the wall to a depth of half-an-inch was coated with the same material, so as to give it a jet-black appearance.¹ The eastern trench, as I have before observed, appeared from the direction to have run outside the eastern angle of the lower stage, and not to have been sunk deep enough to cut its N. E. face. The line of the southern trench, on the other hand, must have run somewhat within the southern angle; and much as I should have wished to lay bare the corners, where there are almost certainly commemorative cylinders, I shrunk from the enormous labour of continuing lateral galleries from either trench along the face of the wall

¹ Porter remarked fragments of bitumen towards the base of the mound, and even brought away a specimen 10 inches long and 3 in thickness. (*Travels*, vol. ii, p. 315.)—This had probably been a part of the coating of one of the recesses of the lower wall.

so as to reach the angles, there being at least 40 feet of perpendicular débris above the spots where I should expect the cylinders to be deposited.¹ Another remarkable feature of this lower wall was, that in the small portion laid bare there was one of those indented rectangular recesses which have been found at Khorsabad, Warka, and Mugheir, and which may be now, therefore, regarded as the standard decoration of the external architecture of ancient Assyria and Babylonia.

The trenches, on approaching the level of the plain, traversed a mass of crude, sun-dried bricks,² which formed the foundation of the temple, and which as we shall presently see from the cylinder inscription, belonging to the primitive edifice, was left untouched by Nebuchadnezzar when he rebuilt the upper stages. A curious illustration of this difference of age is also to be found in the varying direction of the lines of brick-work, as occurring in the foundation and in the temple which it supported; the corners in the upper building nearly facing the four cardinal points, while the lines of the sun-dried bricks at the base are deflected 16 degrees to the east. It is impossible, of course, that this great discrepancy between the two designs can have anything to do with astronomical variation; but for the small error from the true bearing, amounting to $4\frac{1}{2}$ degrees, which is apparent above, a natural explanation may very well be sought.³ We may assign the error, it is true, to imperfect instruments, but I should prefer explaining it by supposing the lines to have been laid on a day when the sun had $4\frac{1}{2}$ degrees of eastern amplitude. Leaving this question, however, for future discussion, I have here only to add, in reference to the foundation platform of the temple, that in the eastern trench it was quite impossible to estimate its true height above the plain, as the line of excavation fell upon the outskirts of the subsidiary mound on the N. E. face of the temple, which

¹ On laying down the ground-plan of the temple, I find that the right-hand trench must have run very near the southern corner of the lower stage; and I now, therefore, regret not having continued the gallery a little farther on. To my eye, however, on the spot, the distance of the angle from the trench appeared to be greater.

² As there is a general impression that the ordinary character of Babylonian building is a mass of crude sun-dried bricks laid in reeds, I may here observe that the employment of reeds was absolutely unknown to the Babylonians, except to prevent soft bricks from sinking into the bitumen when that material was used as a cement. All the ruins where the reeds are observed are Parthian, such as the upper wall of *Babel* (Rich's *Mujellibeh*) *Akkerkuf*, *Al Hymar*, *Ziblijeh*, and the walls of Seleucia. The baked bricks of Babylon often, however, bear the impression of reeds, from having been laid on reed matting when in a soft state.

³ M. Fresnel gives the error from the cardinal points at five or six degrees, and supposes this to be the magnetic variation of the spot (see *Journ. Asiat.* for

no doubt formed the grand entrance, and was a part of the primæval building; while in the southern trench, also, from the very gradual slope of the base, and the difficulty of ascertaining where the true level of the outside plain was reached, I could not venture on anything more than an approximation. To my eye, from the true base of the black wall (supposing nine feet to have remained uncovered) to the level of the alluvial soil was not more than five vertical feet; but if the calculations of Rich and Porter should be at all correct, in assigning a height of 235 feet to the mound, inclusive of the pile at the summit, I must have made some grievous error in the measurements which I have recorded, measurements which were partly obtained by counting the layers of bricks, partly by the actual tape-line, and partly by estimate, and which give at most 156 feet for the entire elevation. I did take the altitude of the Birs-Nimrud, trigonometrically, fifteen years ago, and to the best of my recollection the result was about 160 feet; but I have mislaid the memorandum of the measurement. On the present occasion I had no instrument with me but a surveying compass, and could not therefore repeat the experiment; so that, as I cannot claim to place estimated or imperfectly remembered numbers above that which appears to be a recorded observation on the part of Rich, and as the discrepancy between our aggregate results is too great to be adjusted by any petty correction either on one side or the other, I must leave the question of the detailed measurements in suspense between us, until the entire altitude of the mound is determinately fixed¹ by some competent authority.

July, 1853, p. 59). The true magnetic variation, however, at Babylon, determined by a series of azimuths, is four degrees. The compass which I used had an error in itself of one degree the other way; and as my magnetic bearing was $52\frac{1}{2}$ degrees for the line of the S.E. face, I thus give the true error of the building at $4\frac{1}{2}$ degrees east. Captain Jones, however, who is now surveying at Babylon, will be probably able to take a direct azimuth with the line of the red wall, which will determine the error of the building astronomically, and be independent of magnetic variation and the difficulty of adjusting such rude instruments as prismatic compasses.

¹ Captain Jones will certainly determine this point during his present survey of Babylon, and I may perhaps receive his measurements, obtained by the theodolite, in time to accompany the present paper.

Since writing the above, I have received from Captain Jones a note of his trigonometrical observations at the Birs. He worked upon a very carefully measured and levelled base, and employed a full-sized surveying theodolite, reversing the telescope at each observation, to insure perfect accuracy of the angles; and the result of the operation, both by protraction and calculation, was to determine the vertical distance from the water-level of the plain to the highest point of the ruin, at the summit of the mound of the Birs, at $153\frac{1}{2}$ English feet. As this measurement, then, is only a few feet ($2\frac{1}{2}$) below the aggregate of my estimated height, I have not thought it worth while to make any further correction of the numbers I have

Before closing my description of the works at the Birs, and proceeding to restore the temple, I must add a few general remarks on the mound, which may be of use to future excavators. Of all the Babylonian and Assyrian ruins which I have ever opened, the Birs is undoubtedly the most difficult to deal with. The mound is composed either of solid brick-work, or of a mass of débris formed of crumbling bricks and pounded mortar, which has no tenacity whatever, and which, immediately it is undermined by a vertical trench, is liable to come rushing down in an avalanche of rubbish; it is only where a trench is run along horizontally, under the shelter of one of the perpendicular walls, that the labourers can work with any degree of security; and this peculiarity seems to have been recognised in ancient times, and even to have been taken advantage of, by some adventurous explorers; for there appear to be traces of old horizontal trenches at various points of the mound, and in excavating along the red wall we had ample evidence that we were actually following in the footsteps of earlier explorers. The lateral walls, indeed, which must have stood upon the sixth platform and abutted on the fifth stage, bore strong marks, as I have already observed, of artificial destruction; and at the very foot of the red wall itself, at 26 vertical feet from its summit, the labourers found three baskets, precisely similar to those they were themselves using for carrying away the débris, with this sole exception that the baskets were made of India-palm, instead of Baghdad-date, fibre. At what period the excavations may have taken place, which were thus unexpectedly revealed to us, I will not pretend to decide; but I could only infer, from the discovery of the baskets, that we were but repeating an experiment of some earlier antiquaries or treasure-seekers; and that, in fact, the mound had been already probed and perforated at a hundred different points, and that it owed much of its irregular appearance, and the enormous accumulation of débris near the base, to the attacks which had been made on its surface by the hand of man.

It may be doubted if this temple ever possessed any valuable works of art, such as sculptures or statues. I saw no traces of slabs or marbles,¹ nor indeed of any substance but brick and mortar. Trea-

adopted. How Mr. Rich, who was a scientific observer, could have fallen into the error of exaggerating the height of the mound by one-third, is quite inexplicable; and it is equally strange that Porter, and all succeeding travellers, should have adopted the measurement without suspecting its accuracy, or taking any pains to verify the details.

¹ Rich, however, observes that the whole surface of the mound is strewn with pieces of black-stone, sandstone, and marble. (*Bab. and Pers.*, p. 76.) Such may

sures it of course originally contained, but of such it must have long ago been rifled. All that can be now looked for are commemorative records of the time of Nebuchadnezzar. The two perfect cylinders which I obtained from the southern and eastern angles of the wall of the red stage, belong to that series of local records which were deposited by Nebuchadnezzar at the angles of each successive platform of the edifice when he rebuilt the temple. Wherever the uninjured angles of a stage can be laid bare, there will other specimens of the same class undoubtedly be found ; but the inscription will be the same upon all, and the relics will therefore be merely of value as curiosities. Already I possess, from the débris in the trenches, two fragments of a third cylinder, which must have rolled down from one of the upper stages ; but the sole advantage of this relic is to furnish a third copy of the first column of the inscription. An accumulation of specimens may supply a few variant letters or supplementary phrases, but will be otherwise of no interest. But I still think it highly probable that there are other barrel cylinders to be found among the débris of the chambers erected upon the platforms, or along the line of the grand entrance on the north-eastern front, which are of greater importance. I obtained, indeed, at the Birs a small fragment of such a cylinder, which must have been of the largest size, and which contained probably an amplified description of all the works and achievements of Nebuchadnezzar, recorded on the famous slab at the India House ; for I find on this fragment a notice, in some detail, of Nebuchadnezzar's expedition to the Mediterranean and his conquest of the kings of the West, to which there is a cursory allusion in the great inscription, from the twelfth to the twenty-ninth line of the second column. Should excavations be resumed at the Birs-Nimrud at any future time, either on account of the British Museum or of other parties, I would especially recommend the N. E. face of the mound to the attention of explorers. Here was undoubtedly the grand entrance to the temple, the large mass of ruins at the foot of the great mound forming a sort of vestibule, which opened on the staircase leading from the second to the third platform from the base.¹ The débris above the stages of brickwork would be probably more extensive on this face than in any other quarter, owing to the greater space offered for its accumulation by the receding platforms, and excavation therefore would be more laborious ; but, judging from the single precedent of Mugheir, it would

have been the case when he visited the mound, but I can confidently assert that at present no such fragments exist.

¹ The outline of this vestibule is conjecturally laid down in my restoration of the N.E. profile of the temple.

seem to have been along the line of the entrance that the barrel cylinders were alone ranged, which bore inscriptions of a more general nature, and not exclusively appropriated to the record of one particular building; and if, accordingly, as I cannot help anticipating, the discovery awaits some future explorer, of Babylonian annals recording Nebuchadnezzar's conquest of Egypt and Judæa, the grand vestibule of the temple of Borsippa, affording the best-defined and most favourable locality at present available for examination, will be, I think, the spot where the treasure will be first disclosed.

III.—PROPOSED RESTORATION OF THE DESIGN OF THE TEMPLE.

I have not thought it necessary in the foregoing account to give any detailed description of the *Birs-Nimrud* as it existed before I opened trenches on its surface, nor, as I proceed with the narrative, will this matter occupy much of my attention. The notices of Rich, of Porter, of Buckingham, of Fraser, and of Layard, have pretty well exhausted the descriptive branch of the subject, and may be consulted and compared with advantage. My own aim is rather to show in how far my operations have verified the conjectures of my predecessors, or have resulted in novel discoveries; and I accordingly proceed at once to explain the restoration which I would propose for the design of the edifice.

On returning to my tent at the foot of the mound, after my first survey of the works, I reflected that there were certainly six or seven distinct stages to be recognised from the foundation platform to the summit. The marked difference of colouring had also forcibly impressed me; and I was soon after struck with the coincidence, that the colour black for the first stage, red for the third, and blue for what seemed to be the sixth,¹ were precisely the colours which belonged to the first, third, and sixth spheres of the Sabæan planetary system, reckoning from the outside; or, which is the same thing, were the colours which appertained to the planets Saturn, Mars, and Mercury, by whom those spheres were respectively ruled.

I had obtained no indication whatever at that time of a planetary design in the construction of the temple, from inscriptions or from other sources; but still it occurred to me that this agreement of numbers and colouring could hardly be accidental. Subsequently, I found from the cylinder record that the temple was dedicated to "the planets of the

¹ Observe that the numerical series now proceeds from the base, and that this order will be maintained throughout the subsequent description.

seven spheres ;” and I announce it therefore now, as an established fact, that we have, in the ruin at the Birs, an existing illustration of the seven-walled and seven-coloured Ecbatana of Herodotus,¹ or what we may term a quadrangular representation of the old circular Chaldæan planisphere. There is some difficulty with regard to the seven colours, for two reasons: firstly, because we do not know the exact chromatic scale of the ancients; and secondly, because the colouring, in some of the stages, was probably merely external, and the original surface of these stages has not been exposed. Following, however, the ordinary arrangement of the planetary colours, and the well known order of Saturn, Jupiter, Mars, Sol, Venus, Mercury, and the Moon, I will now endeavour to explain the design of the temple.²

Upon a platform of crude brick, raised a few feet above the alluvial plain, and belonging to a temple which was erected probably in the remotest antiquity by one of the primitive Chaldæan kings, Nebuchadnezzar, towards the close of his reign, must have rebuilt seven distinct stages, one upon the other, symbolical of the concentric circles of the seven spheres, and each coloured with the peculiar tint which belonged to the ruling planet. The lower stage was 272 feet square and twenty-six feet high; and it was thickly coated with bitumen, to represent the sable hue which was always attributed to the sphere of Saturn. The walls of this stage are still standing in a perfect state of preservation. The second stage, which belonged to Jupiter, was 230 feet square, and, by measurement, also twenty-six feet high, the platform in front, or on the north-eastern face, being thirty-feet in width, while that at the back, or on the south-western face, was only twelve feet. On the two other faces the platform was of equal dimensions, mea-

¹ I may as well thus early state my impression, derived from numerous points of evidence which seem to me conclusive, that Herodotus could never have visited Babylon in person. His description of the city was, I believe, entirely drawn from the statements of Persian travellers whom he encountered in Syria and in Asia Minor; and these statements, which were probably not very clear or accurate at first, were certainly not improved by being retailed to the Greeks at second hand. It is thus far from improbable that the temple of the seven spheres at Borsippa may have supplied hints both for the description of the temple of Jupiter Belus at Babylon and for the Median Ecbatana, though in reality it had nothing whatever to do with either one locality or the other. My reasons for adopting this view, which, although already familiar to the French Academy from the advocacy of Quatremère, may seem heretical to the English reader, will be given in detail in the geographical section which I shall append to the present paper.

² It may be remembered that I suggested, fifteen years ago, a Sabæan explanation for the parti-coloured walls of Ecbatana, in a memoir published by the Royal Geographical Society; (See Geograph. Journ., Vol. X., Part I., p. 127). and that I there compared the colours of Herodotus with those given by *Nizami* in his poem of *Heft-Peiker*.

suring twenty-one feet upon either side; and I may here note that these horizontal proportions seem to have been retained throughout the construction of the whole seven stages. It is not very certain what colour we are to attribute to Jupiter. The bricks, forming the second stage, are burnt to a rich red brown, nearer, perhaps, to raw sienna than any other modern colour. In the ordinary astrology of the East, the term applied to the sphere of Jupiter is *Sindali*, or Sandal-wood-colour. In the catalogue of Herodotus the corresponding word is *Σανδαράκιωος*, which is usually rendered by "orange." I have seen the second sphere coloured on a modern astronomical ceiling at Kermanshah very nearly of the same tint as the bricks of the second stage at Birs-i-Nimrud. Upon the two side platforms (those of the south-eastern and north-western faces) of the first and second stages, there seem to have been a series of chambers abutting upon the perpendicular walls of the second and third stages. The same mode of construction, indeed, was probably continued to the summit, for it must be remembered that in such positions alone could accommodation have been provided for the priests and attendants of the temple, the back platforms being too narrow to afford space for building, while the north-eastern front was, I conceive, entirely taken up with staircases and the other accessories of approach. There may also have been vaulted chambers leading from these side platforms into the interior of the mass of masonry. I have noticed the discovery of one such chamber on the platform of the lowest stage; and it is not probable that this was a solitary "souterrain."

The third stage, which was dedicated to Mars, was found by measurement to be 188 feet square, and again twenty-six feet high, the agreement in altitude between this stage and the last authorizing me, as I think, to apply the number in question to the lower stage also, which, however, as I have mentioned, was only excavated to the depth of seventeen feet. If there had not been some special reason for depicting the third stage of a bright red colour, it is inconceivable why the builders, having at their disposal the finest burnt brick and the most tenacious mortar, should have employed such indifferent materials as *Libbin* and red clay—materials, indeed, which were notoriously so deficient in strength that buttresses and abutments were required for the support of the wall, and an inclination even was given to it of some degrees from the perpendicular, to the utter destruction of all architectural symmetry. The reason, of course, for the preference of the crude brick was the exact agreement of its natural hue with the colour which was appropriated to Mars, the Chaldeans, Greeks, Persians, and Arabs having all agreed in repre-

senting this planetary god as "red," from the ruddy aspect, no doubt, which the star bears in the heavens.

The fourth stage must have been that of the Sun, whose sphere is described as "golden." No where upon the mound could I satisfy myself that the exterior surface of this stage was exposed. The debris, intermixed with walls, which was heaped upon the platform of the third stage on the south-eastern face, belonged no doubt to a series of supplementary chambers, as upon the lower platforms ; and on the south-western face or back of the temple,—although the earth was sufficiently cleared away to expose the breadth of the platform, and even, as I think, to show the position of the southern corner—the face of the wall was entirely broken away, as if with blows of the pickaxe. Indeed, I cannot help suspecting that the fourth stage, or that of the Sun, was originally gilt, or cased with gold plates (*Khuraz vashalbisu*, or "clothed with gold," according to the phraseology employed by Nebuchadnezzar in describing his other gilded palaces and temples); and that it was the discovery of this fact which prompted the later possessors of the country to sink trenches along the line of the wall, and after despoiling it of its casing, to extend their explorations to the walls of the stages immediately below, in search of the same rich material. The horizontal dimensions of the fourth stage, according to measurement, at the southern corner,—that is, by subtracting the breadth of the platform, as seen at this corner, from the inferior stage,—must have been 146 feet square. If the design of the original building had been perfectly symmetrical, the height of the fourth stage would have been twenty-six feet, like the two measured stages below ; and such were the proportions which I expected to find when I first began to restore the temple ; but although I had no positive measurements of the height of any of the upper walls—owing to the line of the trenches, which, from the base, thus far had run outside the original profile of the mound here falling within it—it soon became apparent that the standard of the lower stages could not apply to the superior platforms. As the section, indeed, of the trenches—exhibiting from the top of the third stage to the commencement of the slag which formed the sixth stage a solid and continuous mass of brickwork, of which the lower portion was formed of bricks of a pink colour, kiln-baked, but considerably lighter than those of the second stage, while the upper portion was formed of yellow bricks—admitted of no more than thirty vertical feet for the united height of the two intervening terraces, that is, for the fourth and fifth stages of the temple, I could not doubt but that the dimensions of the stages, from this point, were, in regard to elevation,

considerably diminished. The pink and yellow layers are so intermingled, where the zones, as exposed in the trenches, appear to join, and generally, indeed, wherever the bricks can be examined around the slope of the mound, that it is impossible to say exactly where one division ends, or the other begins. At no point, however, could I estimate the height of the fourth stage, from counting the layers of pink bricks, at more than sixteen feet (in some places it seemed reduced to twelve feet); nor the height of the fifth, or yellow stage, at less than fourteen feet; and I think, therefore, I am justified in assuming a height of about fifteen feet for each of the stages in question. The same proportions, it will presently be seen, also apply sufficiently well to the remains of the sixth and seventh stages; and the measurement accordingly of fifteen feet is adopted in my proposed restoration of the profile of the temple as the standard height of all the upper stages; but whether the numbers of twenty-six and fifteen have any architectural relation to each other, or whether the decrease in the elevation of the platforms refer to some astronomical conceit, indicating, in fact, the supposed diminution in size of the interior celestial spheres, I cannot undertake at present to determine.

With regard to the fifth or yellow stage, which should have belonged to Venus, I may note as follows: Firstly—the dimensions must have been, I think, 104 feet square, and it is very possible that one of the corners near the base may have been visible when Porter visited the mound, now thirty-five years ago, although at the present time I could not discover any trace of such an angle.¹ Secondly, in respect to height; the limits of the fifth stage are not very accurately marked, either above or below. In assigning it, indeed, a height of fifteen feet, I pass somewhat beyond the range indicated by the very light-coloured masonry, supposing the intense heat which was employed to vitrify the superior stage to have extended its influence for about two feet into the mass of yellow bricks below, changing the colour to green, and, in fact, producing the effect of an imperfect vitrification. And thirdly, with regard to colour; the hue of Venus, in the planetary scale, is not well defined. I have found it depicted as white, as a light blue (ازرق) *azrak*), and as a light yellow. Herodotus even exhibits some confusion on this head, for he gives white and silver in his notice of the walls of Ecbatana as two different colours. My own belief is that Venus was figured in the temple of Borsippa as light yellow.²

¹ Porter visited Birs-i-Nimrud in 1829, and he notices that the wall of fine brick presented itself in an angular form at a short distance down the slope of the mound from the summit. See *Travels*, vol. ii., p. 313.

² Rich, in describing these bricks, calls them “white, approaching more or less

I have already explained my views with regard to the sixth stage in sufficient detail. I allow fifteen feet for its altitude, about five feet of vitrified strata still forming the solid cap of the mound, and ten feet of the pile at the summit belonging, I think, to this same indurated stage. It may be objected that the whole extent of the standing pile exhibits, at present, one uniform appearance of dark, weather-beaten brickwork, and that there is no trace of its having been divided into two stages, or having supported a superstructure ; but I reply that the large detached masses of vitrified matter, now cumbering the upper platform, have most unmistakably split off from the lower portion of the pile ; that this vitrified matter is absolutely the same as that of which the platform itself is composed ; that in fact we may very well suppose the fire which was employed to vitrify the mass to have only taken full effect towards the edge, leaving the pith of the brickwork, which now forms the base of the standing pile, almost unscathed. I suppose this stage to have measured sixty-two feet square, and to have presented a dark blue appearance, the exterior surface which is now every where broken away, having been, in fact, one uniform mass of slag. The sphere of Mercury, I need only add, is everywhere represented as blue ; and there is this further curious coincidence in the present case, that the colour is sometimes especially described as a *burnt* blue, in reference, it has been suggested, to the immediate proximity of the planet to the Sun.¹

The seventh stage, which belonged to the Moon, alone remains to be considered. According to my view of the regularity of the receding platforms, the base of this stage could have measured but twenty feet square, so that, if its height were fifteen feet, as I have calculated the height of the three stages below it, it must have presented almost the appearance of a cube. The dimensions, however, of all the stages above the third are very doubtful. As the height, indeed, of the standing pile at the summit is thirty-seven feet, if my scale of elevation should be correct, there will still be, after deducting ten feet at the base of this pile for the sixth stage, and fifteen feet higher up for the seventh stage, a remainder of twelve feet of actual masonry to be

to a yellowish cast, like our Stourbridge or fire-brick." Bab. & Pers., p. 99. The Arabs, too, apply the term of *Biyaz*, بياض to the bricks in question.

¹ Norberg, in his Sabæan Lexicon, after noticing the *burnt* appearance of Mercury from the work of M. Abi Taleb, adds, "Sicut etiam solatus et perustus, cum ceteris planetis soli vicinior sit, a Poëtis fingitur. Dict. Poet. Stephan., p. 393." But I know not to what authority he alludes ; apparently to some dictionary of the poets, with which I am unacquainted. See the Onomasticon Codicis Nasaria, p. 98.

accounted for. This portion then of brickwork I propose to allot to a superstructure, or chapel, which may have crowned the pile, as in the description that Herodotus gives of the temple of Belus at Babylon—a description which, in all probability, was borrowed from this site. If such a chapel really existed, containing the “ark” or “tabernacle” of the god,¹ its height was probably fifteen feet, like that of the stage which supported it; and three feet of the side-wall may thus be supposed to have been alone broken away at the summit.

To return, however, to the seventh stage. On the front, or north-eastern side, the face of the standing pile, about half-way up, is so smooth and regular, that I can hardly doubt its representing the real external surface of the brick-wall; and here accordingly, for a space of about fifteen feet, I suppose we have the actual facing of the seventh stage, distinguished from the broken fragments of the sixth stage below, and the tapering wall of the chapel above. At the same time, it must be owned that there is no perceptible difference of colour between the supposed three divisions of the standing pile; that, in fact, the centre portion, where we have the original wall exposed, presents the same appearance as to colour as the broken brickwork above and below; and on this head a difficulty certainly exists. It must be remembered, however, that to obtain brick of the colour appropriated to the Moon, namely, a light or silvery green, was not possible. A casing of some sort must have been employed; and I fall back accordingly on the traditionary description of Herodotus, supported by the inscriptions, which often mention the *takh-lupta kassa*, or “coating of silver,” employed in the decoration of walls and pillars; and conjecture the upper stage of the temple of Borsippa to have been thus in reality encased with silver plates,

¹ The Babylonian gods appear to have each had several arks or tabernacles, distinguished in the inscriptions by the old Seythic or Hamite names which they bore from the remotest antiquity. The tabernacle itself is indicated by the same signs, which represent “a ship,” and of which the Semitic equivalent or synonym was *Elippa* (Chaldee אֵלִפָּא). And some of the bilingual vocabularies exhibit complete lists of the names. The name which thus occurs in the last line but one of the third column of the great East India House inscription, in connexion with the temple of the planets of the seven spheres at Borsippa, and which is also the proper name of a river, is explained in the vocabularies as the special appellation of the ark of the god Nebo; and it may be presumed, therefore, that although the temple of Borsippa was designed and named after the seven spheres, the particular god who was worshipped there was Nebo, or Hermes, who, indeed, was supposed to have the arrangement of the heavenly bodies under his particular control.

I shall quote many notices as I proceed of the special worship of Nebo at Borsippa.

which have now entirely disappeared. This of course is a mere conjecture, but it is one to which the previous argument, and our general knowledge of Babylonian architecture obtained from the inscriptions, gives some probability.

With regard to the chapel, which I conjecture to have crowned the summit of the pile, the seventh stage being entirely covered by it, I would, firstly, refer to the account of Herodotus, which states that the "eighth" or upper tower of the temple of Belus was in reality the shrine of the god, containing the sacred bed and table of gold ; and in the second place, I would compare the tomb of Cyrus at Pasargadæ, which is built on the same general plan as the Birs-Nimrud, in seven successive stages, of which the inferior are of much greater height than the upper, rising one above the other, and the seventh serving as a pedestal for the tomb.

The only other point which it occurs to me to notice is in regard to the rhomboidal series of holes which transect the entire mass of brickwork on its two faces, and which thus cross each other at right angles throughout the building. I was at one time under the impression that the rhomboidal arrangement of the channels was similar to the general plan of the temple ; that is, that the proportional distances, vertical and horizontal, were the same in both cases. But I found, on further examination, that I could not verify this identity, the distribution of the channels being far from uniform throughout the building, and the proportions, indeed, of the temple itself being irregular, both as to the height of the stages and the breadth of the platforms.

I cannot, of course, positively assert for what purpose these transverse channels were constructed. They are generally called air-holes ; and Porter supposes them to have been designed in order to admit a free circulation of air, and thus to have assisted in drying the building. My own impression, on the contrary, is, that they were drains, being intended to carry off any moisture from rain or dew that might percolate through the upper brickwork ; and I further believe that they are especially designated in the inscription of which I shall presently give a translation, by the phrase *muzé mié*, "exits of the waters," the bulging of the brickwork, and the ruin of the ancient temple being attributed to the little care that was bestowed on them.

IV.—INSCRIPTION ON THE CYLINDER.

I now proceed to explain the inscription upon the Birs cylinders, but in a mere popular sketch, such as that upon which I am engaged, it is impossible to enter upon the many difficult questions, both of reading and etymology, which must belong to translations from a language of which, as yet, we know comparatively so little as the Babylonian. To give any completeness, moreover, to such an inquiry, it would above all be necessary to compare together the many independent documents which we possess describing the works of the Babylonian kings; as it is from the context only that we are able in many passages to ascertain the true meaning of certain words. The inscriptions to which I particularly allude, as requiring comparison for their mutual illustration, are—first, the famous slab at the East India House, which is the most perfect and elaborate of all Nebuchadnezzar's records;¹ 2nd, Bellino's cylinder (now in the possession of Sir Thom. Phillips), which is an abridgment, with much independent matter however, of the same domestic history;² 3rd, Rich's cylinder (plate 9, No. 4, of *Babylon and Persepolis*), recording the clearing out of the old eastern canal which supplied water to the great lake or reservoir of Babylon from the head of the Sura or Sippara river; 4th, the Senkereh cylinder,³ commemorating the rebuilding by Nebuchadnezzar of the temple of "the Sun" at *Larrak*; 5th, the Birs cylinder, of which a translation will presently be given, describing the re-edification, by the same monarch, of the temple of the "Seven Spheres" at Borsippa; 6th, the Mugheir cylinders, deposited by Nabonidus in the angles of the second stage of the temple of "the Moon" at *Hur*, when he repaired the edifice; and 7th, the great Nabonidus cylinder, unfortunately in fragments, which was also found at Mugheir, and which describes all the architectural works of that monarch in Babylonia and Chaldæa, with additional and invaluable notices of the early builders.⁴

¹ This was printed in copper plate at the expense of the East India Company, and the impressions are not uncommon.

² A fac-simile of this inscription in lithograph was published by Grotefend in 1848.

³ Found by Mr. Loftus in 1854, when excavating for the Assyrian Fund Society. There are four copies of this inscription, two on cylinders and two on bricks, but they have not yet been published.

⁴ Mr. Taylor's discovery of these cylinders during his excavations at Mugheir in 1854, is described in the *Journal of the Royal Asiatic Society*, Vol. XV,

I have myself carefully collated all these documents,¹ and have further consulted all the Assyrian architectural inscriptions, which are very numerous, and generally of the same tenor as the Babylonian; so that I can hardly doubt my having arrived at the true sense of almost every expression; but to prove the reading and etymology of every word would require a far more elaborate memoir than I am prepared at present to execute. For the benefit of other scholars, however, who are in the meantime disposed to pursue the inquiry, I give the following list of Assyrian architectural inscriptions, which are all well deserving of analysis:—1st, the Shirgát cylinders, containing, at the close of the historical matter, notices of the repairs of the various temples in the city of *Asshur* by Tiglath Pileser I, towards the end of the twelfth century B.C.; 2nd, the inscriptions of the North-West Palace at Nimrud, recording the works of *Asshur-dani-bal* at Calah—the architectural notices are found both in the annals on the great monolith, and in the standard inscription of the palace; 3rd, the broken obelisk from Koyunjik, one column of which is devoted to a record of the various works executed by the same monarch in the city of *Asshur* (Shirgát); 4th, the inscription on the sitting figure from *Shirgát* (B.M. series, pls. 76 and 77), recording the repairs of the same city of *Asshur* by *Shalamabar*, the son of the king last mentioned; 5th, Sargon's inscriptions from *Khursabad*, and especially the cylinders lately discovered, which contain a more elaborate notice of the architectural works of that monarch than is to be found in the legends on the Bulls, though even in the latter the description is given in considerable detail; 6th, Sargon's commemorative tablet from Nimrud (B.M. series, pl. 33), describing the thorough repair which he gave to the North-West Palace; 7th, Sennacherib's inscriptions, both on the Koyunjik Bulls and on the cylinders, which are principally devoted to a description of the buildings of the famous palace at Nineveh; and 8th, Esar Haddon's cylinder (B.M. series, pl. 20 to 29), the latter part of which is taken up with a detailed account of the erection of the South-West Palace at Nimrud.² When to this enumeration of *bonâ fide* architectural

part ii, page 263. It is to be hoped that the cuneiform text of all these documents will shortly be published by the British Museum.

¹ (As these sheets are passing through the press, I have consulted another cylinder of Nebuchadnezzar's in the British Museum, from the Rich collection, which recapitulates that monarch's architectural labours at Babylon, and is of value for comparison; later still I have collated the inscription on a cylinder of Neriglissar's which is deposited in the library of Trinity College, Cambridge. London, March, 1856.)

² A few only of these inscriptions, Nos. 4, 6, and 8, have been as yet pub-

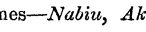
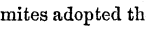
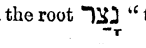


records, it is added that the brick legends and the tablets, both of Babylonia and Assyria, often contain similar notices in an abridged form, some idea will be obtained of the enormous extent of the materials relating to the particular subject of the building of cities, palaces, and temples, the excavation of aqueducts and the repairs of canals, which are now available for examination. Many years must elapse before it will be possible to present all this information to the public in an intelligible form; but, in the meantime, I can conscientiously affirm that I have examined every word contained in the above mentioned inscriptions; and that there are now comparatively few names of objects or expressions which are altogether obscure.

Having given this preliminary explanation of the grounds upon which I venture to translate the commemorative record of *Birs-Nimrud*, I shall now render the inscription in English, merely adding a sort of running commentary on the difficult passages in a series of marginal notes.

The inscription commences with an enumeration of the titles of Nebuchadnezzar, and is valuable in supplying equivalents or synonyms for many of the obscure terms which occur in other documents of the same class. It is impossible that I can here enter on an analysis or explanation of these terms, which, moreover, are only of interest etymologically; but the English rendering will sufficiently indicate the division and proposed reading of the phrases. The king says:—

“I am *Nabu-kuduri-uzur*, King of Babylon;¹ the established

lished; but the original slabs, cylinders, and obelisks may be consulted at the British Museum by those who are interested in the enquiry.

¹ The meaning of this name is still subject to some doubt. I propose to render it “Nebo is the protector against misfortunes,” and would thus explain the elements of which it is composed. In the old Hamite language Nebo had three names—*Nabiu*, *Ak*, and *Pa* (or ); but the Semites adopted the uniform pronunciation of *Nabu* () as is stated in one of the bilingual vocabularies. The second element, *Kuduri*, I doubtfully refer to the Arabic كدر “to be troubled by calamity,” remarking that, as a verb, the term is constantly used in the inscriptions to denote the “discomfiture of an enemy,” while, as a noun, it implies the “tribute” imposed on a conquered country, regarded, no doubt, as a calamity. כִּדּוּר in Heb. (Job xv, 24) applied to the troubles of war, is a kindred form. The third element is certainly a participle from the root נָצַר “to protect,” as the phonetic reading of  is given in one of the vocabularies for the monogram  or .

Governor,¹ he who pays homage to Merodach,² adorer of the Gods,³ glorifier of Nabu,⁴ the supreme chief,⁵ he who cultivates worship in

¹ I read *Rihuv kinu*—in the first word 𐎠𐎢𐎵 is often replaced by 𐎠𐎢𐎵 , so that we may feel pretty sure the root is רעה , “to feed,” and tropically, “to govern.” Compare רעה , “a friend.” 𐎠𐎢𐎵 𐎠𐎢𐎵 𐎠𐎢𐎵 𐎠𐎢𐎵 or 𐎠𐎢𐎵 𐎠𐎢𐎵 𐎠𐎢𐎵 = 𐎠𐎢𐎵 , *rihuvta*, or *rihuta*, is generally used for “government,” or “kingdom.” *Kinu* is from כין , “to establish;” but this word very often means in the inscriptions “first” or “eldest;” a synonymous phrase is *irsu itpisu*, “he who is made ruler.”

² 𐎠𐎢𐎵 𐎠𐎢𐎵 𐎠𐎢𐎵 is a doubtful word. I compare it, however, with 𐎠𐎢𐎵 𐎠𐎢𐎵 𐎠𐎢𐎵 , also used in the inscriptions to denote “dependence on,” and refer the forms to a root cognate with طاع “to obey.” In the E. I. H. Ins. Col. i, l. 4, the equivalent term is *Migir*, which certainly means “obeying” or “honouring,” as *la magira* means “disobedient.” In *Samgar Nebo* (Jer. xxxix, 3) we have perhaps a Shaphel form of the same root (the D being used for W). The meaning is “he who is obedient to Nebo.”

³ *Missakku* here replaces the old Hamite form 𐎠𐎢𐎵 𐎠𐎢𐎵 𐎠𐎢𐎵 ; (Rich Cyl. Col. 1, l. 5; and E. I. H. Ins. Col. 1, l. 5); the same term *Missakku* occurs in Bel. Cyl. 3, l. 1; and Mus. Cyl. 1, l. 6. I compare the common Assyrian participle 𐎠𐎢𐎵 = 𐎠𐎢𐎵 𐎠𐎢𐎵 𐎠𐎢𐎵 , *vanassik*, and refer to the root בשק , “to kiss,” or “pay homage to.” 𐎠𐎢𐎵 𐎠𐎢𐎵 𐎠𐎢𐎵 *Ziri* (often written 𐎠𐎢𐎵 𐎠𐎢𐎵 𐎠𐎢𐎵 *Tziri*, see Bel. Cyl. Col. 3, l. 1; and in Assyrian 𐎠𐎢𐎵 𐎠𐎢𐎵 𐎠𐎢𐎵 𐎠𐎢𐎵 𐎠𐎢𐎵 *Zirāti*), is derived from 𐎠𐎢𐎵 𐎠𐎢𐎵 𐎠𐎢𐎵 , *xiru*, “over, above.” (Compare זרית or صرح “a high place.”) This title is generally applied to the gods, but 𐎠𐎢𐎵 𐎠𐎢𐎵 𐎠𐎢𐎵 𐎠𐎢𐎵 , *rubu xiru*, “the supreme chief,” is not an uncommon epithet in Assyrian for the king also. (See Tiglath Pileasar Cyl. passim.)

⁴ *Naram*, from נרם or רם , requires no explanation; derivatives from this root are of very common employment in the inscriptions.

⁵ The title of *Muda emga* is difficult. In some of Nebuchadnezzar's inscriptions *emga* is joined with a participle, *mutaninnu*. See E. I. H. Ins. Col. 1, l. 18; and Mus. Cyl. Col. 1, l. 11; in others, *mutaninnu* stands alone. See Senk. Cyl. Col. 1, l. 2. *Emga* is perhaps connected with the Assyrian *emug* (from עמג , “to be deep” or “lofty”?) which is an ordinary title of the gods; but for the derivation of *muda* I cannot at present offer a suggestion. *Muda emga* is probably nearly equivalent to the better known *rubu emga*, which first occurs on the *Naramsin* vase in an inscription of the Hamite period (though apparently written in a Semitic language), and which is afterwards found on almost all the bricks of Nabonidus as the special epithet of his father. On the bricks of this king found at Senkereh the title is written *Rubbu maga*, so

honour of the great Gods,¹ the subduer of the disobedient man,² repairer of the temples of *Bit-Saggat'u* and *Bit-Tzida*, the eldest son of *Nabu-pal-uzur*, King of Babylon;

"Behold now,³ Merodach, my great Lord, has established me⁴ in

that there can be little doubt of its representing the 𐎠𐎢𐎽 , which in Jer. xxxix, 3, is attached to the name of Nergal-sharezer, or Neriglissor, before he ascended the throne; though I put no faith whatever in the translation ordinarily given of "chief of the Magi."

¹ The epithet thus conjecturally rendered admits of no illustration from other sources, and I abstain therefore from suggesting derivations for the obscure terms employed.

² *Sakkanasu*, which is here used for the old Hamite term 𐎠𐎢𐎽 𐎠𐎢𐎽 (E. I. H. Ins. Col. 1, l. 11), is the Shaphel Benoni of *kanas*, "to obey" or "submit," and thus signifies "he who makes submit," or "the subduer," being immediately cognate with the common Assyrian participle *Vasaknis*. However the old Hamite compound term 𐎠𐎢𐎽 𐎠𐎢𐎽 may have been pronounced, there can be no doubt of its meaning; 𐎠𐎢𐎽 signified "a yoke" (*nir* in Semitic), and 𐎠𐎢𐎽 was for a root which meant "to obey," so that prefixed to the name of a God, the epithet implied "submission to," the verb being used in a neuter sense; while in other positions it was used actively, and meant "causing to submit to" or "subduing." In Assyrian 𐎠𐎢𐎽 seems to have been pronounced *ardu*, the title, 𐎠𐎢𐎽 𐎠𐎢𐎽 𐎠𐎢𐎽 (Khurs. 145, 3, 12, and 151, 10, 9), being replaced by 𐎠𐎢𐎽 𐎠𐎢𐎽 𐎠𐎢𐎽 . 𐎠𐎢𐎽 𐎠𐎢𐎽 𐎠𐎢𐎽 *ardu kanshu* in Khurs. 123, 16. In Khurs. 71, 6, the equivalent is simply 𐎠𐎢𐎽 𐎠𐎢𐎽 . 𐎠𐎢𐎽 , "my lord, the king." "To pay homage" is also indifferently expressed by 𐎠𐎢𐎽 𐎠𐎢𐎽 . $\text{𐎠𐎢𐎽 𐎠𐎢𐎽} = \text{𐎠𐎢𐎽 𐎠𐎢𐎽}$ and $\text{𐎠𐎢𐎽 𐎠𐎢𐎽} = \text{𐎠𐎢𐎽 𐎠𐎢𐎽}$. 𐎠𐎢𐎽 𐎠𐎢𐎽 𐎠𐎢𐎽 𐎠𐎢𐎽 , the phonetic reading in both cases being *epis arduti*. The root apparently answers to 𐎠𐎢𐎽 , both in the neuter sense of "serving," and in the active sense of "making to serve" or "dominating." On the Senkereh cylinder, l. 2, Nebuchadnezzar calls himself 𐎠𐎢𐎽 𐎠𐎢𐎽 . 𐎠𐎢𐎽 𐎠𐎢𐎽 𐎠𐎢𐎽 , *asri kanshu*, probably with the same meaning of "Lord Paramount" (*asri*, like *sar*, from 𐎠𐎢𐎽 , "to rule"). The words which follow *shakkanshu* I doubtfully read as *la abkha*, comparing the root 𐎠𐎢𐎽 .

³ The initiatory particle, which is written 𐎠𐎢𐎽 𐎠𐎢𐎽 , *enú*, or *enuwa*, in the Assyrian legends, always appears as 𐎠𐎢𐎽 𐎠𐎢𐎽 , *ninú*, in the inscriptions of Babylon. It seems to be a mere expletive, and should perhaps be rendered by "verily" rather than "behold now."

⁴ The verb, which I translate "established," should probably be always read *ibbaniva*, although the second character is more often given as 𐎠𐎢𐎽 than as 𐎠𐎢𐎽 . These two characters, indeed, are not only liable to be confounded in writing, but do, I believe, actually interchange in phonetic value. In the primitive Chaldean

strength, and has urged me to repair his buildings. Nabu, the guardian over the heavens and the earth,¹ has committed to my hands the sceptre of royalty² (therefore), *Bit Saggat'u*,³ the palace of the heavens and the earth for Merodach, the supreme chief of the Gods, and *Bit Kua*, the shrine of his divinity, and adorned with shining gold, I have appointed them. *Bit Tzida* (also) I have firmly built, With silver and gold, and a facing of stone ; with wood of fir, and plane, and pine, I have completed it.

"The building named 'the Planisphere'⁴ which was the tower of Babylon, I have made and finished. With bricks enriched with lapis lazuli⁵ I have exalted its head.

"Now⁶ the building named 'the Stages of the Seven Spheres,' which was the tower of Borsippa, had been built by a former king. He had completed forty-two cubits⁷ (of the height), but he

legends a vast number of derivatives occur from this root, 𐎧𐎢𐎧 , which furnish a most interesting proof of the connection between the Hamite and Semitic tongues.

¹ "Heaven and earth" are always given phonetically on the Birs cylinders as $\text{𐎶𐎺𐎠} \text{ 𐎶𐎺𐎠}$ and $\text{𐎶𐎺𐎠} \text{ 𐎶𐎺𐎠}$, *shami'el* and *irzit*, instead of appearing under the old Chaldee forms of $\text{𐎶𐎺𐎠} \text{ 𐎶𐎺𐎠}$ and $\text{𐎶𐎺𐎠} \text{ 𐎶𐎺𐎠}$.

² The *Gispa* or *Gissapa*, $\text{𐎶𐎺𐎠} \text{ 𐎶𐎺𐎠}$ or $\text{𐎶𐎺𐎠} \text{ 𐎶𐎺𐎠}$ is, I think, the mace, or sceptre, which the king holds in his hand to indicate royalty. It is spoken of in almost every inscription as being given into the king's hand by his guardian divinity when he ascends the throne ; it was sometimes made of gold (Khurs. 151, 11, 11), and with it the king slays wild beasts. At one time I read the word *Gishla* (𐎶𐎺𐎠) and understood "a bow," but a bow of gold seems an impossibility.

³ For a general notice of the temples of Babylon and Borsippa, see the subsequent chapter.

⁴ The Cuneiform name of this building is $\text{𐎶𐎺𐎠} \text{ 𐎶𐎺𐎠} \text{ 𐎶𐎺𐎠}$, which I conjecturally render by "Planisphere," 𐎶𐎺𐎠 being explained in the Vocabularies by *temin*, "a platform," and $\text{𐎶𐎺𐎠} \text{ 𐎶𐎺𐎠}$ being the same word which answers to a sphere in the famous temple of Borsippa.

⁵ I still consider it doubtful whether by $\text{𐎶𐎺𐎠} \text{ 𐎶𐎺𐎠}$ we should understand Lapis Lazuli, or Cobalt, or some other mineral pigment ; all that can be said is that it was brought from Khorassan and applied to the decoration of bricks and tiles.

⁶ This adverb of time is usually written in the Babylonian inscriptions as $\text{𐎶𐎺𐎠} \text{ 𐎶𐎺𐎠} \text{ 𐎶𐎺𐎠}$; but sometimes as $\text{𐎶𐎺𐎠} \text{ 𐎶𐎺𐎠} \text{ 𐎶𐎺𐎠}$ or $\text{𐎶𐎺𐎠} \text{ 𐎶𐎺𐎠} \text{ 𐎶𐎺𐎠}$, which must, I presume, mean "to-day," or "now." In Assyrian the form is $\text{𐎶𐎺𐎠} \text{ 𐎶𐎺𐎠} \text{ 𐎶𐎺𐎠}$.

⁷ The phrase $\text{𐎶𐎺𐎠} \text{ 𐎶𐎺𐎠} \text{ 𐎶𐎺𐎠}$ is, I think, "forty-two cubits."

did not finish its head; from the lapse of time it had become ruined; they had not taken care of the exits of the waters, so the rain and wet¹ had penetrated into the brickwork; the casing of burnt brick had bulged out, and the terraces of crude brick lay scattered in heaps; (then) Merodach, my great Lord, inclined my heart to repair the building. I did not change its site, nor did I destroy its foundation platform;² but, in a fortunate month, and upon an auspicious day,³ I undertook the rebuilding of the crude brick terraces and the burnt brick casing (of the temple). I strengthened its foundation,⁴ and I placed a titular record⁵ in the part that I had rebuilt.⁶ I set my hand to build it up, and to finish its summit. As it had been in ancient times, so I built up its structure; as it had been in former days, thus I exalted its head.⁷ Nabu, the strengthener of his

is very important, but very doubtful. I had at one time supposed the passage to give the date of the building of the temple, explaining $\Sigma\text{III}\text{—}$, which follows the numerals, as a cycle of twelve years; but I have since found reason for reading $\Sigma\text{III}\text{—}$ as *amma*, identical with the Hebrew אמה, and for referring the measurement to the height of the original temple.

1 ¹ *Zunnu* and *rádu* are constantly used both in Assyrian and Babylonian for rain and water, though I have been unable to find correspondents in other Semitic languages. *Zunnu* may be connected with צנן, "to be cold."

2 The *temin* or *teminnu*, frequently mentioned in the description of temples, is certainly the foundation platform, though I know not the etymology. The resemblance to *τεμενος* is of course accidental.

3 *Salmu* and *shega* occur so frequently in Babylonian dates that they cannot possibly be the proper names of any particular month and day (compare E. I. H. Ins. Col. 8, l. 59). I compare *Salmu* with שָׁלוֹם, "prosperity," and *shega*, which is Hamite, is translated in the Vocabulary by *magaru*, "honour" (compare *migir*, "he who honours"); perhaps this is the true explanation of the Babylonian festival of the Σακία, the five intercalary days of the year being regarded with especial honour.

4 *Mikitta* is a rare word. I suppose it to stand for *mikinta*, and compare מִכְנֵה.

5 *Sihir sumiya* is literally "the writing of my name," and refers, no doubt, to the inscribed cylinders, one of which is here translated. A similar expression is used in most of the Assyrian royal autographic records.

6 Remark that *kishiri* is here written $\langle\text{EY}\rangle\langle\text{EY}\rangle\text{—}\text{III}$, positive proof being thus afforded that $\langle\text{EY}\rangle\text{—}$ is used for $\langle\text{Y}\text{—}$ as $\langle\text{Y}\text{—}$ often is for $\langle\text{EY}\rangle\text{—}$. There are many other examples also of this interchange. *Kisiri*, like the Hebrew כִּישׁוֹר, comes from the root כִּשַׁר, "to be right."



7 These two phrases are omitted on one of the cylinders, but occur almost in the same words in the inscriptions of Nabonidus.

children,¹ he who ministers² to the Gods(?), and Merodach, the supporter of sovereignty, may they cause this my work to be established for ever; may it last through the seven ages; may the stability of my throne, and the antiquity of my empire, secure against strangers and triumphant over many foes, continue to the end of time.”³

The inscription concludes with a prayer, which contains many new phrases of doubtful signification; it is something, however, to the following effect:—

“Under the guardianship of the Regent, who presides over the spheres of the heavens and the earth,⁴ may the length of my days pass on in due course. I invoke Merodach, the king of the heavens and the earth, that this my work may be preserved for me under thy care, in honour and respect. May *Nabu-kuduri-uzur*, the royal architect, remain under thy protection.”

¹ Comp. E. I. H. Ins. Col. 1, l. 33, and Col. 7, l. 28, &c., &c. In this title the singular *bal*, and the plural forms, *abil* and *aplu*, are used indifferently.

² In E. I. H. Ins. Col. 4, l. 18, a monogram is used for this participle, which in other passages has the phonetic power of *lakh*. On the Birs Cylinder the term employed is *zukkaku*, which also occurs on Bel. Cyl. Col. 3, l. 12;  in the latter passage, as is often the case, replacing .

³ This formula of invocation, with trifling variations, is common to all the Babylonian inscriptions. The general signification is certain; but in order to identify and explain each particular word, it would be necessary to collate all the various passages one with another, and this would be too elaborate a process for a mere marginal note.

⁴ The epithet of “*mukin puluk shami'é va irzi*” refers, I believe, to Nebo, whose name, however, is omitted in the text.

NOTE.

THE publication of this paper has been so long delayed and such great advances have been made in Cuneiform study in the interim that a few words of explanation appear to be indispensable. I had originally intended to classify my Birs Nimrud researches under five heads :—1. Narrative ; 2. Account of Excavations ; 3. Restoration of the design of the Temple ; 4. Translation of the Cylinder Inscription ; and 5. Memoir on Borsippa ;—and with this view, as soon as the 4 first sections were completed, I sent them from Baghdad in November, 1854, to be communicated to the Royal Asiatic Society of London, at a meeting of which Society they were accordingly read on January 13th, 1855. The 5th section I found to grow upon my hands ; from a few pages it expanded almost to the dimensions of a volume, and the notes embracing a great variety of subjects, were but half completed when in March, 1855, I left Baghdad and returned to England. Before my arrival, the opening portions of the Memoir had been printed, but I delayed their publication in hopes of being able to finish the last Section and thus present the whole subject to the world in a complete form. This consummation, however, owing to the pre-occupation of my time with public business, I have been unable to accomplish up to the present moment—I cannot even say when I may command the necessary leisure—and I am constrained accordingly to permit the paper to appear now in the Society's Journal without the historical and geographical explanations which I consider to form its most valuable portion.

I must further observe that whilst the paper has been thus lying in type, its contents have been to a greater or less extent made public in various ways and on various occasions. I read the greater part of the paper at the Royal Institution of London in June, 1855, and again at the British Association at Glasgow in August of the same year, on which occasion M. Oppert was present. In the following year, September, 1856, having again to describe the Birs Nimrud at the Meeting of the British Association at Cheltenham, I permitted my translation of the Inscription to be printed in a local paper, from which source it was transferred by Mr. Loftus to his volume on Chaldæa, published in the autumn of the same year. More recently, further extracts from the paper have appeared in the Appendix to the 2nd volume of the Rev. G. Rawlinson's "Herodotus." I have thought it necessary to state all these facts because I am informed that

M. Oppert has recently published in the "Journal Asiatique" of Paris a memoir on the Birs Nimrud Inscription, of which he claims to be the original decypherer and translator. I have not yet seen M. Oppert's paper, preferring that my version, loose and imperfect as it is, should now appear as it was originally read, rather than in the improved form which it might assume if corrected according to recent discoveries—but having thus vindicated my claim to originality and to priority in the publication of the Birs Nimrud Inscription, I shall not scruple to call in M. Oppert's aid when I resume my labours on Borsippa.

I added one foot note in 1856, while page 26 was yet merely in type, and I have also made two verbal corrections in the translation of the Inscription (*amma*, "a cubit," and *zikur* or *ziggur*, "a tower")—otherwise the paper now published is as it was sent from Baghdad in November, 1854.

C. R.

LONDON, *October 5th*, 1858.
