XXIV. *On the Topography of Ancient Babylon: suggested by the recent Observations and Discoveries of Claudius James Rich, Esq.* By MAJOR RENNELL.

Read 14th and 21st December, 1815.

. It may be proper to observe, at the outset, that References are made to two distinct Plans: the one, of the great central Ruins by Mr. Rich; the other, a Sketch, made by the Author of the Paper. This latter includes the entire site, of what is taken for Ancient Babylon. The former is always referred to, as the *Plan*; the latter, as the *Sketch*. The Letter-press referred to, is always that of Mr. Rich's Memoir.

THE very interesting Memoir of Mr. Claudius Rich, on the Remains of ANCIENT BABYLON, having a tendency, as well from the facts set forth, in it, concerning the present State of the Site of that City, as from his Reasonings on them, to occasion doubts respecting the established opinions that have been entertained, on the authority of the Ancient Historians; it appeared to be almost a required duty from myself to the Publick, as having already written on the subject, to vindicate the consistency and truth of Ancient History; (as well as that of my own Statement, which was conformable to it :) for if all the Remains of Ancient Babylon, are found on one and the same side of the Euphrates, as Mr. Rich reports them to be; either that River must have altered its course, in that particular place, or the Statements of the Ancients must be wrong.

But, independent of this motive, I really wish to place the very interesting and curious facts brought to our Notice by Mr. Rich's Researches, in the clearest and most useful point of view; so as to endeavour by their aid, to develope on the site itself, the general extent of this highly ancient City, and the distribution of its principal

Structures ; as set forth by the abovesaid ancient Authorities. For Mr. Rich appears to have employed much time, labour, and expence on the occasion ; to have entered on his Researches without prejudice ; to have prosecuted them with much zeal ; and finally, to have reported them faithfully. He is indeed the first person who has given any correct Ideas concerning the nature of the Remains, and in what they consist : and has given more particulars concerning the Remains of the supposed Tower of Belus, than Della Valle or Beauchamp ; who appear to have viewed them in too hasty a manner, to be enabled to furnish a detailed description.^a He gives also some new Information, respecting the general position, and extent of the remains of Babylon, at large :^b and in his Account of the *Nimroud Birs*, or Tower of

^a It is true that M. de Beauchamp says, “ the Ruins extend several leagues to the north of Hillah ; and incontestably mark the situation of Ancient Babylon : ” but this is so vaguely and indistinctly given, that the Idea has been applied, exclusively, to the Mujelibè, and the other Mounds near it. M. de Beauchamp does not appear to have observed the Mounds between the Mujelibè and Mohawill.

^b The details concerning those Remains, will be found in page 7, and page 20, & seq. of the Memoir of Mr. Rich.

In the line between Mohawill and Hillah, which is supposed to pass thro’ the centre of the Area of *Ancient Babylon*, from North to South, * traces of buildings are discovered in detached Mounds of Rubbish, strewed with the fragments of bricks and bitumen, through a space of about 9 Miles.

Towards the centre of this space, besides a remarkable ruin, taken for that of the *Tower of Belus*, Mounds of vast magnitude and extent, are seen, formed of the ruins, and decomposed materials of buildings ; all of which have been dug into, more or less, in search of Bricks ; and have their surfaces strewed with fragments of brick, bitumen, and pottery ; and are deeply furrowed by channels, made by the running off of the rain water.

One of these Mounds in particular, appears to be composed of the remains of buildings, far superior to all the rest, by the fineness of the bricks, and the goodness of the lime mortar : and the surface has on it, in addition to the substances generally found on the other Mounds, fragments of alabaster vessels, fine earthen ware, marble, and great quantities of varnished tiles. And notwithstanding that in latter times, the greatest supplies of bricks have been drawn from this Mound, they appear still to be abundant.

It is conceived that the Mound in question, contains the ruins of the Great Palace, described by Herodotus and Diodorus.

* See the accompanying *Sketch*.

Nimrod, he presents a subject, which, in point of description, is perfectly *novel*; although its name and position had been long known, from the Travels of the celebrated M. Niebuhr.

But Mr. Rich, having entertained a suspicion that the Tower of *Nimrod*, was the representative of that of *Belus*, appears to have given up the advantages of a part of his discoveries; and has thereby left the principal matter, to float in uncertainty. With a knowledge of the northern and southern extremities of the general Remains; and of the position of the *Mujelibè* (the Tower of Belus of Della Valle and Beauchamp), in the centre of them; much might have been done towards the progress of developement of the general Plan and extent. Perhaps, had he adverted to the circumstance of a small change of course of the Euphrates, through the Ruins, the prominent objects would have appeared to him to fall at once into their proper places: and with a conviction of the Identity of the *Mujelibè*, with the Tower of *Belus*, which might immediately have followed; he might have been encouraged to proceed from it, as from a centre, in order to search after the places of the exterior walls and ditches; which being once found, even in part only, would set the general questions of site and extent, fully at rest.

It appears to me, that in the act of considering the site and distribution of the Remains of this Ancient City, two circumstances arise, that must not be lost sight of: the one, the probable change of course of the River; the other, that the whole of the Remains, visible in the form of *Mounds*, &c. do not belong exclusively, to the Ancient City; but in part, to a subsequent Establishment, not recorded in History: and perhaps of a date previous to the Mahomedan Conquest. For it is difficult to reconcile the circular, and other Mounds of Earth, with the description of the regular distribution of streets, in Ancient Babylon.^a

^a See the accompanying *Plan* of the site of the principal Remains of Babylon, by Mr. Rich: as also the *Sketch* of the general extent of those Remains; and of the supposed change in the course of the Euphrates.

Two minor points of difference will appear, between the received accounts of the Ancients, and the facts, as they appear from the Report of Mr. Rich. The one, that the Tower of Belus, and the principal Palace, could not have stood *opposite* to each other, in respect of the general course of the River: and the other, that the *base* of the Tower of Belus, was not a *Square*, but a *Parallelogram*.

It would no doubt, be *begging the question*, to assume, in the first instance, that the Euphrates had changed its course; and that it once ran thro' the narrow space, between the Mound of the *Kasr*,^a and the mass of ruins situated to the northeastward of it; unless I first brought forward some kind of evidence, to shew the probability of it: as, that the several particulars of the Remains on the site, required only the presence of the River, in a particular line of course, to complete the general description, given by the Ancients: and that such a change of course appears likely to have taken place. For instance, that the *Mujelibè* really occupies a central position, amongst the extensive remains, which may be taken for those of Ancient Babylon; as the *Tower of Belus* did, in former times, in the existing City; that the same *Mujelibè* may well pass for the Remains of that Tower; and that two Mounds or Masses of Ruins, that appear on the Plan, may be taken for those of the two Palaces, described by Diodorus; only that the river does not separate them, as the history describes; the narrow space between the Mounds now forming a part of the Plain. For as I have said, according to the Plan of the Ground, and principal Remains, by Mr. Rich, (and which I can have no doubt, are strictly conformable to the truth,) all the Remains are on the same side of the Euphrates; that is, the *eastern* side; (for I lay out of the question, *at present*, the *Nimroud Birs*, which is about $8\frac{1}{2}$ miles distant from the *Mujelibè*). Therefore, if the Euphrates has not changed its course, in a small degree, the Ancients, who have left accounts of the arrangement and distribution of the principal Structures, in Babylon, have only been amusing us with fairy Tales!

^a See again the *Plan* of Babylon.

I shall now proceed to state certain facts, collected from Mr. Rich's Memoir and Plan, (in which they are very fairly set forth,) in order to shew the probability of a change of course of the River; which has now left all the principal Remains on the eastern side: although the principal Palace, and the hanging Gardens certainly stood on the opposite side to the Temple and Tower of Belus.

Mr. Rich states (page 7) that in his way from Baghdad towards Hillah, [in a southerly direction], he came to *Mohawill*, a Khan, or Caravanserai; "close to which, is a large Canal with a Bridge over it: "beyond this, every thing announces an approach to the remains of "a large City. *The Ruins of Babylon may in fact be said almost to "commence from this spot; the whole Country between it and Hillah, "exhibiting at intervals, traces of building, in which are discoverable "burnt and unburnt bricks and bitumen:* three Mounds in particular, "attract attention, from their magnitude"—"Hillah is nine miles "from Mohawill."^a

He also says (page 28,) that "at a mile distant from the north of "the Kasr" (taken for the remains of the principal Palace), "and "full five miles distant from Hillah, is the *Mujelibè*." As this latter is known to lie nearly in the direct line, between Mohawill and Hillah, it must of course be about 4 miles distant from the former. [His detail, however, referring to page 17, and to the Plan, gives rather $4\frac{3}{4}$ miles than 5 from Hillah; leaving of course, $4\frac{1}{4}$ miles to Mohawill]. But taking it either way, the *Mujelibè* falls within a quarter, or half a mile, of the *middle point* of the space, occupied by the heaps of ruins; and which, as we have seen, is nine miles in length: that is, somewhat within the extent allowed by Strabo, to the square of Babylon; but somewhat more, than what Diodorus gives,

^a This description of traces of buildings, occurring *at intervals*, appears to agree with the ancient accounts of Babylon—that the ground inclosed by the walls was only partially built on. The heaps, no doubt, are made up of decomposed bricks, bitumen, and mortar: the whole Bricks having generally disappeared, in places where they were easily got at; and from the nature of the cement used, (that is, *bitumen*), easily separated.

from Ctesias, and others. But niceties are out of the question, here, where all is from computation, and judgment; and not from actual mensuration.

Mr. Rich has mentioned a large Canal at Mohawill. This is also remarked by other Travellers; but without combining with it the circumstance of *the commencement of the ruins*, near that place. Admitting these to be, as Mr. Rich concludes, a part of the remains of Ancient Babylon, what is more probable, than that the Canal should be the exterior fosse of that City? The line of direction of the Canal, is not mentioned; but ought to be inquired into; as also, whether there be a Mound on that side of it, towards the site of Babylon; which might be expected, if the line of direction agreed. But, at all events, the traces of the Wall and Ditch may probably be looked for, near the place of commencement of the ruins.

The Mujelibè then, may be allowed to occupy such a general position amongst these Remains; admitted by Mr. Rich, to be those of Ancient Babylon; as the Tower of Belus did, in the Ancient City itself.

I shall not trouble this learned Society, with Quotations from Della Valle, Beauchamp, and Rich, containing descriptions of the Mujelibè; as they are so easily referred to; and would therefore swell the Paper unnecessarily. It may suffice to say, that according to every description; and more particularly to that of Mr. Rich, himself, including his excellent drawings of it; the ruin presents very much the appearance of being the remains of such a Structure, as the descriptions of the Tower of Belus would lead us to expect. Not that, had we only viewed the Ruin, and had been ignorant of the reports concerning its ancient form, one could have guessed it to have been such as it was described: but that, knowing the original form, one may reconcile to his mind, that it may well be the remains of such a Structure.^a That the matter of the upper Stories is wanting, may

^a See the drawings of its four fronts, at the end of the Memoir of Mr. Rich.

with ease be accounted for. The principal Mass was probably formed of *Sun-dried* Bricks; with a *coating* of those, *baked* in the *furnace*. The latter have been removed, for use; the former dissolved by rain, or carried away by the winds, in a pulverized state (being nothing more than earth): for this Tower was in ruins so long ago as the date of Alexander's visit; when it was said, that it would require the labour of ten thousand men during two months, to remove the rubbish. The deep channels, made by the running off of the rain water, with which it is every where deeply furrowed, prove how much it has been acted on by the rain: and most of all, on the western side, which is the most exposed to the prevalent rainy winds. And this surely tends to prove, that the Mound must have been artificial: for the quantity of rain water that could possibly fall on so limited a space, as the area of the Mound, would not have worn away a natural Hill, in so great a degree.^a

Little more, therefore, need be said, in respect of the probability of this venerable Ruin, being the Tower of Belus; of a date possibly, that may remount almost to the earliest period of post-diluvian History. But although Mr. Rich's description affords full conviction; our curiosity is by no means yet satisfied.

It is very possible, that a part of the remains of the external walling now seen, may be of a date, long subsequent to that of the erection of the Tower. The semicircular Mound of Earth, described by Mr. Rich (page 17), and which embraces the principal Remains, within a diameter of about $2\frac{1}{2}$ miles, appears to have been the Rampart of a *new* Babylon, of reduced dimensions: but of whose History, we know nothing. It may clearly be seen by the *Plan*, and description (page 17) that the termination of this Rampart, northward,

^a It must certainly be taken into the Account, that the ground adjacent to this ruin must have been raised, by the matter washed down from it by the Rain; particularly on the west side. Yet the South east angle is still more than 140 feet above the Plain. The height of the other parts, we are not told. Much more is required to be known, concerning it.

points directly towards the south-eastern angle of the Mujelibè (and appears to have actually joined it, according to Mr. Rich's account,) thus making it serve the purpose of a *Bastion, Place of Arms, or Citadel*: and it was by no means, a bad design. The Rampart was doubtless extended to the river bank, wheresoever it might have been, at that time; as on the opposite side of the Circle. Now, I have an idea, that when the Turks call the Mujelibè the *Kalaa*, or Citadel, they allude to the use that had latterly been made of the Ruin, in the state it then was; and which had been handed down, by tradition. And hence, there may have been some alterations introduced, in order to adapt it the better to its new character.

It appears pretty certain from the dimensions of the ruins, that the Tower (admitting the Mujelibè to be such), could never have been raised on an *equilateral* Base; since accident cannot be supposed to have occasioned such a difference between the length of the sides that face the North and South, and those that face the East and West; and which have at a mean, a difference of about one fourth part. So that the ruin is a *Parallelogram*, whose longest sides lie East and West. This is a circumstance quite unexpected: and serves to shew, that Herodotus took for granted that it was equilateral; as he did, that the Great Palace and Tower of Belus stood directly opposite to each other, across the River: for which latter mistake, however, some excuse may possibly be offered.^a As the circumference of the Tower, appears to have been nearly about four stadia; (that is, in its present ruined state, it is 2111 feet, by Mr. Rich's account, page 49,) perhaps, Herodotus and others contented themselves with that result; and *concluded* that the sides were equal.^b

^a That is, if the River had, at the time he saw it, deviated from its straight course, through the City: or had not originally been made so.

^b See the Memoir of Mr. Rich, pages 28, and 49. The Base must confessedly be larger *now*, than in its original state; and yet it is no more in circumference than 2111 English feet. Consequently, in its *present* state, it would give no more than 528 English feet, to the Stade; and probably, in its perfect state, less than 500. The Stade of Strabo was about 530.

With respect to the Coffins and Skeletons found in the kind of Gallery, that runs along its northern face, I confess I have no opinion to offer. It is possible that the Coffins may not be of a very early date: but that the Gallery, or Passage of the Tower, had been converted into a Place of Sepulture. (See the Memoir, pages 31, and 32).

The two *straight* Mounds of Earth, running parallel to each other, towards the middle part of the circular Inclosure, are also, no doubt, of a later date than that of Ancient Babylon. Their use, it may be difficult to discover; unless they were Dams to prevent Inundations of the River; if ever it took its Course in that direction. The termination of one of them, in a vast heap, of a curious red colour, will be spoken of, afterwards.

I shall next consider the position of the Remains, which may be taken for those of the Palaces: first stating what has been said, on the subject, by the Ancients.

Herodotus describes only *one* Palace; Diodorus, *two*: that is, the *principal* one, on one side of the River, and the *lesser* one, on the other side; the two communicating with each other, by a *Bridge* above, and by a *Tunnel* under the River bed. Probably, the Palace mentioned by Herodotus, may be the same with the *principal* one spoken of by Diodorus; whence the latter should have been on the same side of the River, with the Temple and Tower of Belus: and which I have formerly ventured to suppose, in common with M. D'Anville and others, to have been situated on the *East* side. For it appeared to me, to be strongly implied in Diodorus; and yet stronger in Herodotus, where the *Belidian* Gate is evidently placed in the eastern side of Babylon. And I confess I do not perceive a more plausible reason for the Name, than that of its being opposite to so famous a Structure; altho' it be more common, in all Countries, to name the Gates of a City, or fortress, from the distant places to which they lead, than to any object within. But Gates have also *proper Names*, without any reference to Communications.

Herodotus assigns to the Temple of Belus, and to the Palace, the central part of each of the two divisions of Babylon, made by the Passage of the Euphrates: or rather, they might be said to have occupied a central position in that quarter of each division, situated towards the River. Diodorus places the Temple in the centre: but is silent respecting the positions of the Palaces; only saying that the bridge was built over the *narrowest* part of the River; and the Palaces, at each end of the Bridge. As we cannot but admit the existence of *two* Palaces, after the circumstantial details, respecting them; a doubt arises, whether the Temple or the Palaces, occupied the centre! In this uncertainty, it may perhaps be allowable to place the Temple and Tower in the centre; since Herodotus and Diodorus are agreed in that point: and accordingly regard the Mujelibè as that centre; although it be of no particular Import, in the present deficient State of our Information, which of the two is adopted.

According to the Plan and Description of Mr. Rich, in which, all the remains are on the same side of the River, with the Mujelibè, there cannot, of course, be any ruins opposite to it, to answer to the principal Palace. But, on a supposition that the river has altered its Course, such remains are to be found; tho' not *in front* of the Mujelibè, as Herodotus reports of the Temple and Tower.

Four Mounds (besides the Mujelibè), constituting the principal remains of Ancient Babylon, appear on Mr. Rich's Plan; three of which, only, he has described, in his Memoir: and of these, the one named from the *Kasr* or *Palace* (meaning the *principal* Palace) is supposed by him, very justly, in my opinion, to answer to the remains of that Structure. This opinion is grounded on the vast extent of the Ground Plan; the solidity of the Walls; and the superior quality of the materials and workmanship; together with various articles, and fragments of utensils, that have been found there; indicating the residence of Persons of a superior Class. (See the Memoir, pages 22, and 23.)* This however, is to be understood to relate to the *Mound*,

* M. de Beauchamp says, "Black Stones with Inscriptions engraved on them, are also

itself; and not to the *Ruin*, named *Kasr*; concerning which, more will be said in the sequel.

Now, this Mound is situated at a full mile to the southward of the Mujelibè: and although the *general Course* of the River, in this quarter, is between the SSE, and SEbS,^a (in which direction one may conclude it was conducted thro' the artificial Cut, said to have been made by Semiramis;) yet still the mound in question, could not have been less than *three fourths of a mile* below the point, opposite to the Mujelibè; the supposed Tower of Belus. Consequently, there being no other remains whatsoever, in that quarter, the statement of Herodotus, respecting the relative positions of the Temple and Palace, must be erroneous; and that of Diodorus, probably more exact, when he places the Temple and Tower in the centre, and the Palaces in some other situation; where they were, of course, opposite to each other; being joined together by the Bridge.

But in order to admit this Mound of the Kasr to be the remains of the Great Palace; a change of Course of the Euphrates, must necessarily be admitted, also. And this is surely more probable, than that the Ancient Authors should have been so greatly mistaken: especially when the disposition of the several objects on the site, is such, as that it only requires the presence of the River, to complete the description. A change of 5 or 6 times the breadth of the River, is all that is contended for: and even now, there may be traced on the Plan, an ancient bed of the River; which it probably filled, on its departure from its supposed line of course, between the Mounds: and which Bed, it appears to have afterwards deserted, for the one it

“ met with,” there. One of these, a species of Jasper, so well polished, and so distinctly engraved, that it printed like a Copper Plate, was sent home by Sir Harford Jones. It is in the Possession of Sir Hugh Inglis.

^a The present course of the Euphrates, through the Ruins, is Southwardly. It is not known whether Mr. Rich allowed the Variation of the Magnetic Needle in his Plan. This may be about 9 or 10 degrees, westerly, in that quarter. So that, if it be not allowed, the *North* of the Plan must be reckoned N. $9\frac{1}{2}^{\circ}$ West.

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now occupies; the River continuing to this time, to verge to the westward, in that place; and for this we have the testimony of Mr. Rich, (page 18.)

To those accustomed to study, on the spot, the wandering Courses of Rivers, and the effects often produced on their banks, in alluvial Soils, nothing is more familiar than such Changes; especially when, as in the present Case, they are obstructed by the ruins of a bridge; and subject to be in part choaked up, by the falling in of ruins, from their banks; and by the continual washing down of the finer parts of the Rubbish. In the course of my observations, I have found that no cause operates more powerfully in diverting the courses of Streams, than fallen Ruins.^a More will be said, respecting this Ancient River Bed, in the sequel.

Admitting then, so probable a Change, I shall beg leave to consider the Mound that lies immediately to the Northeast of the Kasr, as the remains of the *lesser* Palace; which was separated from the other, only by the River and Bridge. The space indeed, between the two mounds, is at present not much more than two thirds of the breadth of the Euphrates, (as given by Mr. Rich, at 150 yards, page 13); but may have been reduced, by the just mentioned accidents.^b The *direction* of the opening, is also favorable to the supposition of a change.

Mr. Rich has either not yet examined, or has not prepared, any Account of this Northeastern Mound. To judge from the Plan, it seems as if it were flatter, or less prominent, than the others; as if the materials were more decomposed, from time. The only circumstance given, that applies to any part of it, is the following; which respects a vast Mass, lying in a line with, and at the northern termination, of one of the two long mounds beforementioned: and which Mr. Rich appears to regard as a portion of it. He calls it (page 19,)

^a Signor Balbi, in his navigation down the Euphrates in 1579, found the Navigation very much impeded by the ruins of buildings fallen into the River, above Annâh.

^b He says that the breadth of the River varies, in its course thro' the Ruins. On the Plan, it is commonly 200 yards.

“ a high heap of rubbish, of a curious red colour, nearly 300 yards long, and 100 broad, terminating on the top, in a ridge.^a It has been dug into, in various parts, but few or no fine whole bricks have been found in it.” This one can only regard as a vast mass of decomposed red bricks : and if the decomposition be the effect of time, it would imply that the lesser Palace (if of such, this may be taken for a part,) is of much higher Antiquity than the other.

From the scanty notices given, respecting the *southern* Mound, or Mound of Amran, (see page 21), it is difficult to form an opinion, whether it did, or did not, originally constitute one mass, with that of the Kasr ; and that the *low space* between them, “ covered with rank grass, and crossed by a line of ruins, of *very little elevation*,”^b (see page 22) has not been reduced to that state, by the action of the Euphrates, in varying its course through it, from one side of it, to the other, at different periods: or, at least, that those Mounds approximated towards each other, more than at present. For, doubtless, the *southern* side of the Mound of the Kasr, looks in the Plan, as if it had been worn away, by the stream ; as the *western* side, evidently does ; as having formed one of the banks of the *deserted* bed of the same River. Again, the northern side of the Mound of Amran, appears also to have been acted on, by the Stream. I conclude that these operations took place, previous to the formation of the *circular Rampart* ; and that the long Mound on the west, which connects this Mound of Amran, with that of the Kasr, was made at the same time with the circular one ; whether as a part of the military defences, alone ; or as a Dam, to prevent Inundations ; as the River, at that period, passed, as I conceive, (from the arrangement of another part of the Mound,) thro’ the *deserted* bed, so often mentioned. Or, it might have been, to answer both purposes.

^a As Mr. Rich had no opportunity of correcting the Press, it is possible that the numbers may be wrong. They evidently appear to be so, in some parts of the Memoir.

^b A part, perhaps, of too great solidity for the Stream to dissolve, or to remove.

I shall close these observations on the site of Ancient Babylon, with some further remarks on this deserted Bed of the Euphrates: as the existence of it, not only shews that the river has, in one instance, at least, entirely changed its Course thro' the Ruins, in that part; but that it has also had some considerable effect on the present distribution and state of these mounds.

Mr. Rich thus describes it, (page 27:) “ The Embankment of “ the River is separated from the Mounds of Amran and the Kasr, “ by a *winding Valley* or *Ravine*, 150 yards in breadth; the bottom “ of which is white with nitre, and apparently never had any build- “ ings in it, except a *small circular heap*, in the centre of it”—— This, as I have said before, has every character of a river bed: and is moreover, precisely of the same breadth with the Euphrates: that is, 150 yards; as it has already been stated, from the authority of Mr. Rich (page 13).

This ancient bed is traceable thro' a course of about a mile and half: and it commences, not very far below the point, from whence the River may be supposed to have departed from the general course, which it held through the site of the Ancient City; and through the narrow Pass, between the two mounds, taken for the remains of the Palaces. In its progress, it has evidently sapped the great southern mound, (or that of Amran): and the *circular heap* abovementioned, is no doubt, a portion of that mound, which was perhaps, a mass of masonry, too well consolidated, to be dissolved, or removed.^a And accordingly, the mound named by Mr. Rich, (page 18) the Embankment, has been cut off, from that of Amran.^b It is probable too, that the River, in its present course, has taken away a considerable portion of the Mound of the *Embankment*; which is at present in a state

^a I have seen in the Ganges, far out in the strongest part of the Stream, a building which had stood there for a great number of years; and may perhaps, be still there.

^b See also the *Plan* of Mr. Rich.

of dilapidation, from the encroachment of the Stream on it. (See page 28.)

Few Persons, conversant with the nature of Rivers, and their changes, will for a moment hesitate to receive the internal evidence, contained in the Plan and Description, in proof of this Valley or Ravine, being a deserted Bed of the Euphrates: and proving the tendency of that River, in common with all others that pass thro' alluvial Soils, to vary their Courses, unless Art be employed to prevent it.^a

It appears not improbable, that had Mr. Rich been aware of this circumstance, he might have been prepared to believe, that the River might also have varied, in other places: and thence have been induced to examine the Ground between the *great bend* of the River, opposite to the Mujelibè, and the opening between the two mounds, before spoken of: and had he been so fortunate, as to have discovered the traces of its ancient course, in that line, it might possibly have given occasion to other discoveries; and to have made him, in a great degree, master of the Plan and extent of the Area of the ancient City.

To prevent an interruption of the main subject, I forbore to speak of the *Ruin* named the *Kasr*; and of the subterraneous Passage under the Ravine; spoken of, both by Mr. Rich, and M. de Beauchamp.

I cannot but suspect that the ruin now standing, named the *Kasr*, is by no means a Babylonish Structure, but one of much later date: possibly coeval with the circular, & other Mounds of Earth, before spoken of. In the first place, it appears to be seated on a mound of Ruins or Rubbish, of ancient Babylon: and does not seem to be at all

^a In a series of Maps of the Rhine, by Mr. Wiebeking of Darmstadt (1796), these Changes are admirably illustrated. It appears that the Rhine has so much varied its Course, within no great length of time, that *Patches* of Ground, now far removed from its banks, were known to have been Islands in its bed.

identified with them. For it is said, (page 25,) to be "surprisingly fresh in appearance;" which is not the usual character of ruins, more than 2000 years old. Nor does there appear in the description, any thing characteristic of a Building of Babylonish Construction: altho' it is, no doubt, built with Bricks extracted from such.

It would appear to owe its remaining in existence, to this time, to the extreme tenacity of the *Lime Cement*, used in the Construction. Not but that Lime Cement was in use, with the Babylonians, altho' they used Bitumen, generally. I cannot however, agree with Mr. Rich (pages, 62, 63,) that "*Lime Cement* was the one most generally "employed." Probably the fact is, that the works cemented with Bitumen, have chiefly disappeared, whilst those cemented with Lime Mortar, remain. By the Specimens which have been exhibited here, of the Babylonish Bricks that had been laid in Bitumen; and with the latter substance adhering to them; we are fully aware of the small degree of tenacity which it possesses. But it is agreed, on all hands, that it is extremely difficult to separate in a whole state, the Bricks that have been laid in Lime Mortar, in Babylon. (See also Mr. Rich's account, page 63.) The Bricks which were laid in Bitumen, are probably those which are now found, in a *whole* state, in the construction of Baghdad, Hillah, and other places.

With respect to the subterraneous Passage under the *Mound* on which the ruin of the *Kasr* stands, it is difficult to make a right judgement of its Intention and Use, unless its level, in respect of the Plain, and River, were better known. Mr. Rich has stated (page 23) that this Passage is at the bottom of a Ravine which has been hollowed out in digging for bricks; and which ravine he judged to be from forty to fifty feet in depth. He omits the height of the Mound above the Plain; but states that of Amran, to be 50 or 60 feet; and of the Mound of the Embankment, 40. The Mound of the *Kasr* cannot be supposed to contain a less depth of Rubbish, than that of Amran; whence, it should be concluded, that the Passage can be but little be-

low the level of the Plain ; being immediately *under the foundations*, which I believe, are never laid low, in alluvial Soils ; the Ground growing more and more loose, as we descend. The Passage may therefore be about the ordinary level of the River ; and its Use, possibly, to serve as an Aqueduct from it, for the supply of the Palace, at large ; the water being drawn up thro' apertures, in the nature of Wells.^a The Influx, of course, might be regulated by a Sluice ; and accommodated to the periodical swellings of the River. One can hardly suppose that the Tunnel, spoken of by Diodorus, originated so far within the river Bank ; for the part seen by Mr. Rich, was from 200 to 300 yards, within the border of the mound.

Mr. Rich found this Passage about 7 feet in height ; but was told that further on it was high enough for a horseman to pass, upright. The breadth is *implied* by the length of the Sand Stones which form the roof ; and which are said to be *several* yards long (Pages 23, and 24.)^b M. de Beauchamp says, 6 or 7 feet in length, by 3 in breadth.

It remains that I should say a word respecting the *Nimroud Birs*, or Tower of Nimrod ; situated on the west side of the Euphrates.^c

I confess, it does not appear to me, to have the character of an artificial Work : nor the very curious Masonry on its summit, that of one of the Stages of such a Structure, as the Tower of Belus is described to have been ; but rather like a building, which crowned the summit of a conical hill : and the cone itself, too solid, to be formed of *sun-dried* Bricks.^d Nor does the mound appear to be furrowed, by

^a An ancient Aqueduct of this kind occurs on the Arabian Desert.

^b It has been already remarked, that Mr. Rich had no opportunity of correcting the Press.

^c See the Drawings of its four fronts at the end of Mr. Rich's Book.

^d A Traveller through the Desert, remarked a conical hill, with a building on it, situated at about 43 British miles to the south of Hillah. It is named *Al Athy* : and is probably one of the two Mounts, seen by Mr. Rich, from the top of the Mujelibè, at a great distance. (page 40.) The other is perhaps the Hill of *red Gravel*, seen by the same Traveller.

the running off of Rain Water, like the Mujelibè. But I may be prejudiced; and every one must judge for himself.

Certainly, the description of the matter of its composition, is wanting. The places of the Sun-dried Bricks, and of the traces of building exactly similar to the Brick Pile, should have been particularized. A knowledge of the former is more particularly wanted, to enable us to judge whether the body of the conical hill be artificial, or otherwise.

But, notwithstanding, Mr. Rich has, by his drawing and description, put the Publick in possession, of what is, in its nature and description, a new discovery: for even M. Niebuhr's Account of it, leaves us to suppose it to have been no more than a large ruined Tower, rising out of a Mass of Rubbish.

But, whatsoever may be the nature of the Nimroud Birs, whether natural or artificial, it is so far distant from the centre of the remains, taken for those of Ancient Babylon, at large, that it may be regarded as out of the question, in respect of its being the Tower of Belus, which is described to have occupied the centre; whilst the *Birs* is $7\frac{1}{2}$ miles from the Kasr; $8\frac{1}{2}$ from the Mujelibè: so that it could not even be included within the Area of Babylon, according to the above facts and descriptions, found in Mr. Rich's Memoir.^a

Mr. Rich has expressed a wish in his Memoir, to learn the opinions of other Persons, respecting the objects of his future Researches. Certain of the Remarks in the foregoing pages, may be

^a On the Sketch, I have placed the *Birs* according to M. Niebuhr's Bearing from Hillah; which is West, $27\frac{1}{2}$ degrees Southerly. Mr. Rich reckons it Southwest; in which case, it would be no less than $9\frac{1}{2}$ miles from the Mujelibè.

Mr. Rich has made an Observation respecting an Appendage to the Nimroud Birs, which is common also to two other Structures in the same Quarter. He says, page 38, "at a trifling distance from the Birs, and parallel with its eastern face, is a Mound, not inferior to the Kasr, in elevation, but much longer than it is broad." *Al Heimar*, which bears on a smaller Scale, some resemblance to the Birs; and *Akerkouf*, a ruin in the quarter of Bagdad; have similar dependent Mounds. (p. 41, and 55.) None is mentioned at the *Mujelibè*.

conceived applicable to this purpose. If it be possible to trace certain portions of the exterior Ditch, and of the Mounds of Rubbish, which the remains of the walls cannot but have left in most places, this object appears to be of the most Importance; as a knowledge of the exterior, must infallibly lead to that of the central positions. Accordingly, taking the *Mujelibè*, or the *Kasr*, for a *supposed* centre, (merely as a point to reckon from, in the first instance) the traces of the Rubbish of the Walls, and of the hollows left by the Ditches, may be sought, in the direction of the four Cardinal Points, generally, within the limits assigned to the extent of the site; that is, from about 4 to 5 miles from the centre: for the statement of Herodotus, at 120 stadia for each side, appears excessive and improbable. Wheresoever the Mound and Ditch may be fallen upon, it should of course be pursued, with a view of finding the Angle, or return of the adjoining side: and so forward.

But if the Canal of Mohawill lies in the probable direction of the City wall, (a circumstance that must be known to Mr. Rich,) that is likely to afford the most certain clue to the whole. And if the heaps of ruins are dispersed thro' all the different quarters, as they are, in the line described by Mr. Rich, between Mohawill and Hillah, these ought to mark the extent of the Area, generally, towards each quarter.

If the artificial Canal, by which the Euphrates was conducted thro' the site of Babylon, was really straight; it may be expected to have left traces enough to detect its general line of direction. In the course of traversing the soil, for the beforementioned purposes, it might be well to note all the different hollows that have at any time contained the Waters of the Euphrates; with a view not only to this purpose, but for the sake of general Information. Such traces are most likely to be found at a distance from the great mounds that lie towards the centre. Probably, they will be most conspicuous at the commencement of the Inundation.

Since the general Course of the River is in this quarter, to the SSE. and SE b S, it may be presumed that it was conducted through Babylon in that general direction; and that the Plan of the City was constructed parallel to it.

The Ground in and about the great Mounds, south of the Mujelibè, should be particularly examined; partly with a view to find the ancient Bed of the River, between them; and partly to ascertain the precise limits, as well as the altitudes of the Mounds, and the level of the subterraneous Passage.

The Mound lying between the *Kasr* and the *Mujelibè*, should also be examined. It has probably been dug into, for Bricks; and some Information may be collected, from a view of the Excavations.

It has not yet been distinctly shewn by any person, of what quality the materials of the *Substratum* of the Mujelibè are. Much may be collected from a knowledge of this circumstance; as it is possible that it may have been a natural Eminence, reduced to that form; such a one being said to occur at Musseib, a place at the side of the Euphrates, higher up, on the same side (of *Mesopotamia*.)

As Mr. Rich projected other Excursions to these Ruins, (see his *Memoir*, page 3), we may soon expect some further Information, and that probably of an interesting kind. It is obvious, however, that very much time will be required, for the purpose of examining the different Objects generally; they being so numerous, and so widely extended.