ASIATIC PAPERS

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ROYAL ASIATIC SOCIETY

BY

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CONTENTS. PAGE

1.	The River Karun, just opened to trade by the Persian Government (vide Journal, B. B. R. A. S., XVII, Abstract of Proceedings, p. v.)	1
2.	The Game of Ball-Bat (Chowgân-gui) among the Ancient Persians, as described in the Epic of Firdousi (Journal, B. B. R. A. S., XVIII, pp. 39-46)	23
3.	The Divine Comedy of Dante and the Virâf-nâmeh of Ardâi Virâf (Journal, B. B. R. A. S., XVIII,	г. Э.,е
4.	pp. 192—205) · The So-called Pahlavi Origin of the Sindibâd-nâmeh, or,	31
-	The Story of the Seven Wise Masters (Journal, B. B. R. A. S., XVIII, 206-212)	45
5.	The Irish Story of Cucullin and Conloch and the Persian Story of Rustam and Sohrâb (Journal, B. B. R. A. S., XVIII, pp. 317-329)	53
6.	The Bas-relief of Beharâm Gour (Beharâm V.) at Naksh- i-Rustam, and his Marriage with an Indian Princess (Journal, B. B. R. A. S., XIX, pp. 58-75)	67
7.	Firdousi on the Indian Origin of the Game of Chess (Journal, B. B. R. A. S., XIX, pp. 224-236)	85
8.	Cashmere and the Ancient Persians (Journal, B. B. R. A. S., XIX, pp. 237-248)	99
9.	The Antiquity of the Avesta (Journal, B. B. R. A. S., XIX, pp. 263-287)	111
10.	The Belief about the Future of the Soul among the ancient Egyptians and Iranians (Journal, B. B. R. A. S., XIX, pp. 365-374)	137
11.	The Cities of Itân as described in the old Pahlavi Trea- tise of Shatrôihâ-i-Airân (Journal, B. B. R. A. S., XX, pp. 156-190)	147
12.	The Etymology of a Few Towns of Central and Western	÷
-	Asia, as given by Eastern Writers (Journal, B. B. R.	183

CONTENTS.

- 14. An Untranslated Chapter of the Bundebesh (Journal, B.

 B. R. A. S., XXI, pp. 49-65) ...

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- 15. A New Medal of King Behrâm Gour of Persia (ride Journal, B. B. R. A.S., XX., Abstract of Proceedings, p. lxxvi)² 235
- 16. References to China in the Ancient Books of the Parsees (Journal, B. B. R. A. S., XXI., pp. 525-536)... ... 241

APPENDIX.

- 17. Quelques observations sur les Ossuaires Rapportés de Perse par M. Dieulafoy et déposés au Musée du Louvre 255
- L'Etymologie Populaire des noms des etapes entre Pichaver et Kaboul (Vide Journal Asiatique, Nouvembre-Décembre 1889. Huitième Serie, Tome XIV., pp. 527-28) 261

13.

PÁGE

¹ (a) Asistic Researches I., p. 357—Paper by General Carnac; (b) Indian Antiquary, V., p. 276—Paper by Dr. Bühler; (c) Indian Antiquary., IX, p. 33—Paper by Mr. Justice Telang.

² This paper was read before the Society on 15th March 1900, but being published in the Cama Memorial Volume (pp. 225-30), is not printed in the Journal of the Society.

The River Karun.

[Read, 16th of January 1889. President,—The Hon'ble Mr. Raymond West in the Chair.]

The opening of the river Karun to trade by the Persian Government is welcome news for England and India. Though the concessions originally granted at the instance of Sir H. D. Wolff, our present Plenipotentiary at Persia, are one by one being withdrawn, we must accept them as the thin end of the wedge and wait for better results. About fifty years ago, even the mere navigation of the river was looked upon with an eye of jealousy by the Persian Government. They considered it so much opposed to their interests, that, in order to avoid any conflict, Captain Hennel, the then Resident and Political Agent at Bushire, had asked the Bombay Government to issue a special order prohibiting even an attempt at navigation in the river. The steam vessel Euphrates, in the Euphrates expedition, under Colonel Chesney, was the first that had attempted to go up the river in 1836. But it had then succeeded to go so far as Ahwaz only. Lieutenant Selby, I.N., commanding the s.s. Assyria, was, however, very fortunate in navigating the river for the first time in 1842, as far as Shuster, about 150 miles from the sea.¹ He was accompanied in this expedition by Mr. (now Sir) Henry Layard, who had also previously travelled at a great risk of life in the regions watered by the Karun.*

I will treat my subject under two heads:---

- I. A geographical account of the river and the towns over it as given by modern writers and Firdousi.
- II. The identification of the river with the river Kharenanghaiti of the Avesta.

¹ Vide Journal of the Royal Geographical Society, London, Vol. 14, pp. 219 to 246.

² Vide Journal of the Royal Geographical Society, London, Vol. 16, pp. 49 to 67.

THE RIVER KABUN.

I.

The country through which the river Karun passes is very interesting, not only from a commercial and political point of view, but also from an archæological and antiquarian point of view. It was on the shores of this river Karun, that Daniel, according to the Old Testament, had his celebrated dream in the palace at Shushan. It is the river down which, we learn from Arrian, Alexander the Great sailed in his journey from Persepolis to Susa, and it is the river which his admiral, Nearchus, ascended with the fleet placed at his disposal. It is the river which is spoken of in the celebrated march of Taimur, in later times, as the Chahar Dangah.

To a Parsee, the region traversed by this river is very interesting, because it contains a good deal that would remind him of the greatness of the ancient Persian Empire under the Sassanians, the last dynasty of its kings, whose overthrow threw them on the foreign shores of this country, where, after several vicissitudes of fortune, they have at last settled to lead a quiet and peaceful, prosperous and contented life, under the benign British Government, whose shadow, they wish, may continue to be as auspicious over their head as that of the bird Homâê, mentioned in the old Persian fables. It is the region where the foreign Parthian dynasty under its last king Ardavân (the Artabanes of the Greek writers), was overthrown by the well-known Ardeshir Bâbêgân (Ardeshir I.). Ardeshir Bâbêgân, whose memory is cherished by the Parsees, even up to this day, when his glorious name is mentioned in the usual Afringân ceremony as "Ardeshir Bâbêgân aîdar yâd bâd anosheh ravân ravani," i.e., "May the Ardeshir Bâbêgân of pious soul be It is the region where Shapur, the son of remembered here." Ardeshir, had, after his victory at the battle of Edessa, imprisoned his royal Roman prisoner Valerian, whose prison house is even now shown by tradition to inquisitive travellers in a castle at Shuster on It is the region where Hormuz, the the banks of the Karun. grandson of Ardeshir, had founded the well-known city known by his name, the city of Râm Hormuz, which also gives its name to a large plain watered by the Karun. It is the region which even now contains many signs of the greatness of the Sassanian dynasty.

We will first trace the course of the river from its source downwards.¹ The principal sources of the Karan are in the mountains of

¹ Vide Sir Henry Layard's Early Adventures in Persia, &c., Vol. II., chap. 18

THE RIVER KARUN.

Zardah Kuh (i.e., the yellow mountain) near Ispahan, on the opposite or eastern side of which are the Chehel Cheshmeh (i.e., the forty springs), the sources of the Zindeh Rud (i.e., the living river), which runs to Ispahan.¹ According to Kinneir, it begins at a place called "Correng." The river, after forcing its way through lofty mountains and receiving many small streams, is joined by its principal tributary, the Ab-i-Bors, a few miles above Susan. It then enters the valley of Susan. Below Susan it is crossed by a magnificent bridge which Sir H. Layard attributes to the Kayânian epoch, "It then emerges into the plain of Akili. It receives several tributary streams, the principal of which are the Talâk, which rises near Kuh-Keinu, and runs near the foot of Diz-Malekân to Zin-rud; and the Ab-i-Shur, a large salt stream. The Karun enters the plain of Akili by a narrow gorge,"2 which is fortified by two ancient castles, probably Sassanian, the Kileh-i-Rustam on the right and the Kileh-i-Dukhtar (i.e., Daughter's Castle) on the left. After running quietly for ten miles on the plains of Akili, it is joined by the large salt stream of Beïtawand. Then it passes near Shuster. Here the river is divided into two parts, the main stream, and an artificial canal, called the Ab-i-Gargar, which joins the main stream again at Here the main stream is also joined by the river of Band-i-Kir. After this junction, the river Karun runs for some consider-Dizful. able length in three distinct parallel streams according to the soil through which the waters have flowed. The main stream of the Karun which runs in the centre, presents a dull reddish colour; the Ab-i-Gargar a milkwhite colour, and the Dizful, black. About thirteen miles below Band-i-Kir it passes the village of Wais. It then passes by Ahwaz. From Ahwaz it runs for some distance well nigh straight and then takes a serpentine course up to Ismâiliyeh. Thence, passing by the village of Idrisyeh, it runs to the Haffâr, and running by Mohammerah, joins the Shat-al-Arab.³

According to Lieutenant Selby, who was the first to navigate this river to a very great extent, the Karun communicates with the sea by two channels. The direct and natural mouth and the one by which it formerly emptied itself into the sea is by that of the Khor Bamushir. The indirect channel is that of the Haffar (or canal), an

* Ibid, p. 51.

³ Ibid, pp. 53-54.

¹ Sir H. Layard on Khuzistan. Royal Geographical Society's Journal, Vol. 16, p. 50.

THE RIVER KARUN.

artificial canal through which the Karun now discharges the greater part of its waters into the Shat-al-Arab and thence into the sea. Sir Henry Layard says:--- " In the early part of this century, and before that, the Karun emptied itself into the sea by two or three additional outlets." Shaikh Suliman at one time (in 1763) succeeded in deviating the whole of the Karun at the deserted village of Sobla into an artificial channel that passed through his town of Goban to the sea, thus raising the town in prosperity and importance. During the time of the second invasion of Kurrim Khan, the dyke, which diverted the course of the river, was in ruins and the river ran in its original bed, "The earlier mouths of this river to the east of the Bamushir had been gradually deserted by it and were silted up and dry. In fact, the Karun had for centuries been forcing its way westwards until it found a convenient outlet for the principal portion of its waters through the Haffar canal into the Shat-al-Arab," Whether the Haffar through which the Karun empties itself into the Shat-al-Arab is an artificial canal or a natural outlet was at one time a question of great discussion and immense importance. About fifty years ago Persia and Turkey were well nigh on the point of going to war with each other, and the point of dispute then depended upon this question. Both these powers claimed the important town of Mohammerah, which is situated on this canal. Persia claimed it and took it as a Persian town, saying that the Karun being all along its course a Persian river, the town of Mohammarch belonged to it as a matter of course, because the Haffar on which it stood was the natural outlet, and therefore a part and parcel of the Karun. They said, that if the Haffar was not one of its original outlets, yet the river Karun had at some very remote period deviated of itself from its original course and made its way to the Shat-al-Arab. They did not acknowledge Haffar to be an artificial canal. On the other hand, Turkey, to whom the possession of this town was of very great importance, as it commanded the navigation of its two very important rivers-the Euphrates and the Tigris-whose joint waters were known as the Shat-al-Arab (the river of the Arab), said that the Haffar did not form a part and parcel of the Karun, inasmuch as it was not one of the original outlets of the river, but an artificial outlet. That this Haffar is an artificial canal and not an original or natural outlet appears from the very meaning of the word, which from an Arabic root hafr,

i.e., digging out, comes to mean a canal. The point in dispute between the two powers, however, was decided in favour of Persia by Lord Aberdeen, the then Secretary of State for Foreign Affairs.

Haffar, the artificial outlet of the Karun, is from 200 to 400 yards in breadth and from 30 to 40 feet in depth. This great width and depth have made some writers doubt that it is an artificial canal. But the existence of other similar large canals in different parts of Persia has removed these doubts. Of these, the celebrated Naharwan, running from the river Zab in the province of Bagdad to the sea, which is said to have been constructed by Shapur Zolaktâf and extended by the great Noshirwan the Just, is about 450 miles in length and 120 to 130 yards in breadth. It still stands, as Lieutenant Selby says, "in solemn grandeur, filling the beholder with wonder almost allied to awe, as he gazes on the remains of what once was so glorious a country." The canal in the plain of Babylon connecting the Euphrates and the Tigris and the great Ab-i-Gargar canal, of which I will speak later on, are further instances of the great water works constructed by the kings of the Sassanian dynasty. Commander F Jones, I. N., in his account of the great Naharwan canal, communicated in 1850 to the Bombay Geographical Society¹ by Mr. Malet, the then Chief Secretary to Government, says of these canals that, "As a prolific source of revenue, the value of water was not only fully appreciated by the ancients, but an eminent skill, if we may judge by the decayed remains that are displayed to us, pervaded the system employed for its circulation over the vast plain comprising the territory of Irak. . . . The region we are treating demanded a degree of hydraulic proficiency compatible to the undertaking in the distribution of water over so large an extent, and in the construction of the Naharwan canal it was eminently displayed."

Having traced the course of the Karun from its source downwards to the sea, we will now consider the important towns standing on its banks. In doing so, we will trace our course upwards. Mohammerah is the first town of importance on ascending the river Karun. It stands, as said above, on the Haffar canal joining the river Karun with the Shat-al-Arab. It stands half-way between the two streams. As Sir Henry Layard says, "the position which it occupies is one

¹ Transactions of the Bombay Geographical Society, Vol. 9, pp. 231 to 342.

THE RIVER KABUN.

of great importance to any Power having commercial and political interests in the East. It commands the entrance to the Euphrates and the Tigris, which are navigable to the very heart of the Turkish dominions in Asia and that of the Karun, which flows through one of the richest, though one of the most neglected, provinces of Persia, These rivers are destined to become great military and trading highways. It is consequently to the interest of England that their mouths should not fall into the possession of a Power which might be hostile to her. . . . Having the Karun to the north-eastward, it (Mohammerah) communicates with the fertile plains of Khuzistan, and having the Shat-al-Arab to the north-westward, it communicates with Basrah, Bagdad and other important towns on the Euphrates and the Tigris. Again, it communicates with the sea by the direct channel known as the Khor Bamushir and by the Shat-al-Arab." Now when the Karun is open to trade, it promises from a commercial point of view to be the most important town on the rivers of Mesopotamia. From a military point of view also it is said to enjoy a very excellent position. Again it enjoys a healthy climate all the year round.

On ascending further up from Mohammerah the river Karun passes through the classical plains of Ram Hormuz, so called from the city of that name situated therein and founded by Hormuz. The name is the contraction of Ârâm-i-Hormuz, or the "Rest of Hormuz," it being a favourite place of that king. It was on these plains that the famous battle was fought in which Ardeshir Bâbêgân overthrew the Parthian dynasty in its last king Ardavân. From Mohammerah the Karun runs N.N.E. and S.S.W., having Idrisyeh, a stronghold, and Ismailia, a small trading town, on its banks. The river then passes near Ahwaz, the town up to which only, according to later telegrams, the Persian Government will allow foreign vessels to go.

Ahwaz, which is built on the site of the ancient Aginis, is a town of great importance. It is about 40 miles south of Shuster. At one time it was a city of much importance. It was the capital of the province of Khuzistan and the winter residence of the kings of the Parthian dynasty, and especially of its last king Ardavan. Here are still seen the remnants of a great palace of the ancient Persian kings. A wall of the palace now standing is 300 feet long and 15 feet high. It is built of hewn stones, many pieces of which measure more than six feet. These ruins belong to Shapur I. It appears from Firdousi that this monarch, after his victory over the Roman Emperor Valerian at the battle of Balunieh on the shores of the Euphrates (the battle of Edessa according to the Roman writers), came to this town of Ahwaz, stayed there for a period of one full year, and spent a good deal of his energy and the money got from the Romans as the price of peace, in scheming and building many public buildings all round. These ruins near Ahwaz seem to be one of them. The passage in Firdousi runs as follows (Mohl. V, p. 392):--

> Be Bâluineh dar bebud rûz haft, Ze Rûm andar âmad be Ahwâz raft. Yakî Shârasân nam Shâpur kard, Kê guyand bâ dâd Shâpur kard. Hamî-bord yaksâl az ân sheher ranj, Beperdakht bâ ranj besyâr ganj.

i.e., "He was for seven days in Bâlunyeh (Edressa), then left the Roman territories and went to Ahwaz. He built a city of the name of Shapur. They say Shapur founded it with justice (i.e., spread justice into the town). He worked hard for one year in that city and spent a good deal of wealth together with trouble." In later times Ahwaz was in the zenith of its prosperity under the earlier Khalifs of the house of Abbas. It was celebrated for its sugar plantations, and carried on a large trade with India. It no longer enjoys any trace of its original prosperity. Of its present condition Lieutenant Selby says :--- " A collection of hovels rather than houses, built of the stones which once formed a part of the city on whose site it now stands, a barren desert on every side, vestiges of canals which once irrigated and carried plenty through the whole of this then productive country, watermills, formerly used to grind the corn and press the sugarcanes, which the country abundantly produced, but now neglected and useless, are all that remain of this once great and important city; and the knowledge of the power and importance it possessed in former times, contrasted with the present wretched state of the place, caused me to view it with peculiar interest. I could hardly reconcile the idea that the silent and sandy desert, I then trod, once teemed with life and cultivation, and that the town on which I gazed was really all that remained to mark the spot where a citygreat, opulent, and powerful-once stood."

In the vicinity of this town of Ahwaz there are certain excavations in the sides of a hill which Sir John Macdonald Kinneir and Lieutenant Selby think to have been used as cemeteries. In some of these, difficult of access, Lieutenant Selby found a quantity of human bones. These excavations must be the Astodâns or bone receptacles of the ancient Persians, the like of which are seen in other parts of Persia, and which European travellers erroneously think to be tombs.

It is near this town, that the large famous band is thrown across the river, which is known as the "Band of Ahwaz." "It still bears," says Lieutenant Selby, "strong evidence of the proficiency the inhabitants had attained in the art of building; the cement which has been used being more durable than the rock itself, on which it is built, as this has in many places worn away, while the cement stands out in relief." It may be mentioned here that the durability of the cement used in ancient Persia was attributed to sheep's milk. Sir William Ousley says, on the authority of a native writer of Persia, that the cement formed by the mixture of sheep's milk with lime and mortar was held in Persia to be the most durable.¹ This band or dam was built on a ridge of rock to shut up the water of the river in order to enable it to flow in the adjoining canals for the purposes of irrigation. The water is allowed to run in the original bed of the river by an opening about 40 yards in breadth. Consequently it rushes with a very great force and velocity. Lieutenant Selby, the first man who attempted the navigation of the river higher up in March 1842, tried to ascend up the river by this mouth, but finding the rush of the water too strong for his small vessel, he overcame the current and effected the ascent with the help of a large hawser, drawn by his men on the shore.

The next town of any importance after Ahwaz is Weis, 35 miles east of Ahwaz by the river, in lat. 31° 40' N. Lieutenant Selby thinks the present bed of the river Karun between Ahwaz and Band-i-Kir, which is higher up, not to be its original bed, but a canal, which is the continuation of the Ab-i-Gargar canal, which is said to have been built by the Sassanian king Shapur, and which taking its water at Shuster higher up, empties it at Band-i-Kir. Ascending higher up we come to Band-i Kir, which lies at the junction of the Karun with the river Dizful and the canal of Ab-i-Gargar. It is so

¹ Travels in Persia, Vol. 1, p. 358n.

called from an ancient dam in its neighbourhood said to have been constructed with kir, i.e., bitumen.

Going higher up ten miles from Band-i-Kir we come to the celebrated town of Shuster. The river here, as it passes by the town of Shuster, is sometimes called the Ab-i-Shuster, *i.e.*, the river of Shuster. According to Kinneir, some oriental writers say that it was Hoshang, the second monarch of the Peshdadyan dynasty, who had built this town. But the public water-works round Shuster show them to be of the Sassanian times. The river Karun flows very rapidly near Shuster. Firdousi (Mohl V, p. 392), speaking of this river in the reign of Shapur, the son of Ardeshir Bàbêgân, thus describes the rapidity of its current:—

> Yakî rûd bud pehan dar Shûshter, Ke mâhi nekardî barû bar guzar.

i.e., "There was a large river at Shuster, over which no fish could pass." Sir William Ousley finds these lines in his manuscript of the Shahnameh¹ as :---

Yakî rûd pehan ziê Shûshter, Ne kardi bar ân rûd bar kas guzar.

i.e., "There was a certain large river near Shuster; nobody could pass over that river." According to Sir John Malcolm and Sir J. Macdonald Kinneir,² the Persian historians derived the name of this town from "shus," which, they say is a Pehlvi word meaning "pleasant." Shuster, they consider to be the comparative form of shus, meaning "more pleasant." It is said that this name was given to it by Shapur, the son of Ardeshir Bâbêgân who founded the town in commemoration of his victory over the Roman Emperor Valerian. But I do not think this is the proper derivation of the word. We have no word like "shus" in the Pehlvi language meaning "pleasant." The more probable derivation of the term, I think, is ShahShetra, *i.e.*, the City of the King. We know of a city founded by Shah Shapoor known as Shapur. This city of Shuster which was also founded by Shah Shapoor was probably named by him Shah Shetra, *i.e.*, the City of the King.

¹ Ibid p. 357.

² History of Persia, Vol. 1, p. 542; and Kinneir's Memoirs of the Persian Empire, p. 98.

The water-works on the river Karun near Shuster founded by the Sassanian king Shapur I. are still admired by various travellers. They are built with a threefold object : first, from a military point of view, to surround the city by water, so as to secure it from an attack, the town of Shuster itself being built on a natural eminence; secondly, to supply with water the city itself, which stands on a higher level; and, thirdly, with the most important object of irrigating the surrounding country. Here a great band or dyke is thrown across the river. It is built with a twofold object: (1) of supplying a strong foundation for the bridge across the river; and (2) of raising the water to a sufficient height to fill the canal of Ab-i-Gargar which, taking the water of the Karun at this place, fertilizes the country round Shuster and then after a long run joins the main stream again at Band-i-kir. "This dyke," says Sir John Malcolm, " is formed of cut stones (from 15 to 25 feet long), cemented by lime and fastened together by clamps of iron; it is 20 feet broad and 1,200 in length. The whole is a solid mass, excepting the centre, where two small arches have been constructed to allow a part of the stream to flow in its natural bed. This great work is more worthy of our attention, from being almost the only one of a useful nature amid those vast ruins, which bespeak the pomp and magnificence of the monarchs of Persia; and it has, as if preserved by its nobler character, survived all the sumptuous palaces and luxurious edifices of the same age." According to Firdousi, Shapoor had sought the aid of a Roman architect in the construction of the dyke and the bridge over the Karun near Shuster. Though we find a slight difference in the account of the battle between Shapoor, the Persian King, and Valerian the Roman Emperor, as given by Gibbon (Vol. I., p. 161-62), on the authority of Roman writers and that by Firdousi the Persian poet, we learn from both these sources that a large number of Romans had fallen into the hands of Shapoor as captives. Among these Firdousi includes one "Baranoush," who, he says, was the general of Valerian. After the battle of Edessa (Balunieh according to Firdousi), on the banks of the Euphrates, Shapoor returned to Ahwaz, and then to Shuster, with the large amount of treasure given to him by Valerian as tribute and with Baranoush as his prisoner. He kept Baranoush always by his side and always consulted him in the construction of palaces and water-works, in which he spent a great part of the money he got from Valerian.

This explains the Roman style of architecture observed by European travellers in this part of Persia. Firdousi thus speaks about the construction of the bridge over Shuster (Mohl V., pp. 392, 394):—

Barânoush râ goft gar hiudacy, Puli sâzi ân jåegeh chun raçy. Kê mâ bâz gardîm va în pul be jâê. Bemânad be dânâî-ê-rehnumaê. Barash kardê bâlâê în pul hazâr, Bekhâhi zê ganj ânchê khâhi bekâr. Tô az dânish-i-filsufân i-Rûm, Bekâr âr chandi bidîn marz ô bûm. Chu in pul bar âyad suyê khân i-khîsh, Beraô tâ ziyî bâsh mehmân-i-khish. Abî shâdmâni va bâ aîmanî, Zê bad dur-y-az dast-i-Ahrimnani. Bekår andar âmad Barânoush mard, Bê sê sâl ân pul tamâmi be kard. Chu shud pul tamâm û zê Shuster beraft, Suyê khân-i-khud ruî benehâd taft.

i.e.-"" He (the king) said to Baranoush, 'If you are a geometrician, make a bridge over it like a rope, so that, though we may go away from this world, yet the bridge, may remain in its place through the skill of its architect. Let the length of the bridge be 1,000 cubits, and ask from the treasury whatever amount is required. Make use of some of the skill of the learned of Rome in this work in this country. When this bridge is finished, go to your own house, and as long as you live, be your own guest with joy and pleasure, remaining far away from evil and from the hand of Ahri-Baranoush began the work and finished it in three years. man.' When the bridge was finished, he went from Shuster and went quickly in the direction of his house." M. Mohl in the translation of the latter part of this passage commits a great mistake in making Barânoush return to the house of the king instead of his own house. He does not seem to have understood the promise given by Shapoor to Baranoush to grant him liberty from captivity if he properly built the bridge. In the above passage of Firdousi the following words of King Shapoor to the Roman architect Baranoush are really worth noting. He says :-- "Build the bridge in such a way that, though we may depart from this world, this bridge may remain in

its place for a long time to come." And let us see what a European traveller says of it after a period of 1,600 years. Lieutenant Selby says of the water-works at Shuster :--- "Unless destroyed by some convulsion of nature, it will endure as long as the world lasts, and will for ever commemorate the name of Shapoor under whom it was undertaken and completed." About the bridge he says :--- "And that some idea of its strength may be formed, I need only mention that, situated as it is at the very foot of the hills, the river from heavy falls of rain and snow melting on the mountains has been known to rise 30 feet in one night, converting the stream into a torrent; yet has this bridge stood for years until the spring of 1842, when, in an extraordinary flood, it remained completely under water for two days, and on the river subsiding, a part of the structure was found to have yielded to the immense pressure which it had had to sustain. It is erected on a band or dam constructed of blocks of stone from 15 to 25 feet long." From a military point of view the city of Shuster enjoys a very strong position. It is situated on an eminence and is surrounded by the river on its two sides. On the other sides it is surrounded by a ditch which can be easily put in order for the purposes of defence. "Naturally strong from its position," says Lieutenant Selby, "it might be rendered sufficiently so, to resist any other than a well-appointed European force. · • · • Shuster is a spot which should be viewed with peculiar interest by us, whether for the advantages of mercantile communication or in the event of a war with Persia. For, from this point we might not only supply Khuzistan, one of her finest provinces, but pour an unlimited force into the heart of the country. Naturally strong, completely insulated, and capable of being rendered almost impregnable, with no obstruction to our water communication with India, Shuster might in our possession become of the greatest importance to us, both in a military and political point of view, if ever the time should come, which I trust is far distant, when we shall be at variance with Persia."

On the subject of its trade, Lieutenant Selby says: "The country about Shuster produces grain of all descriptions in abundance, and the people only require encouragement and a feeling of security to export opium, wool, cotton, and flax, all of which can be abundantly produced. It would import in return sugar, hardware, cutlery, chintzes, cottons, and woollens, nearly all of which are now supplied

by Russia. notwithstanding the tedious land carriage to which merchandize coming from that country into the southern parts of Persia must be subjected." " Little trade is at present carried on by Shuster," said Lieutenant Selby, about fifty years ago, "its principal imports being tea and other Russian articles from Ispahan, and dates, rice, and a few English articles from Basrah. Manv efforts have indeed been made by some spirited inhabitants of Shuster and the vicinity to commence a trade on a larger scale than is now carried on, but checked by the discountenance of the Persian authorities, their efforts have been abortive, and their desire to better themselves and their country has been met with a studied indifference in their rulers, whose aim has ever been to prevent Shuster from rising to that importance which its situation and natural advantages justly entitle it to hold. . . . Close to the hills, by which the inhabitants may enjoy any temperature, the parching heat of summer alleviated by the snow which is procured in profusion throughout the year, watered on all sides by the river, and canals, numerous extensive gardens close around, Shuster presents a most pleasing appearance, and might, from the natural advantages it possesses, soon be held in that estimation it was formerly, and become one of the first commercial towns in the southern part of Persia."

Sir Henry Layard corroborates Lieutenant Selby when he says, "The trade of Shuster which had at one time been considerable as it was the capital of Khuzistan, whence the inhabitants of the province obtained their supplies, and where its produce was sent to market, had been so greatly reduced in consequence of the corrupt administration and oppression of the Persian officials and by the transfer of the seat of Government to Dizful, that the extensive bazaars were almost empty. Situated on two navigable rivers, the main body of the river Karun and the ancient canal which receives a large part of its waters, and at the foot of the mountains over which passes the highway to Ispahan and to the centre of Persia the city is admirably fitted for the development of an important commerce." Let us observe here that there was a great difference of opinion among the travellers of Persia as to whether this town of Shuster is not the ancient Susa referred to by the Greek writers such as Herodotus, Diordorus and Arrian, as one of the seats of the

ancient Persian monarchs.¹ But it appears that this town of Shuster is quite different from Susa on the shores of the Chirkheh, situated further west.

Though Lieutenant Selby went up the river up to Shuster only, he thought the river to be navigable up to its very source in the Bakhtiary mountains by means of specially constructed powerful vessels. Sir Henry Layard, who had travelled for a very long time in these parts, saw laden rafts moving up and down the river in these mountainous regions. Ab-i-Bors, or the river of Bors, is one of the principal confluents of the river in these regions. While fording it on animals, Sir Henry found the water deep, and the stream so rapid, that the donkeys could scarcely breast it.

The next place of any importance on the Karun, higher up from Shuster, is the place known as the ruins of Shusan. This place is pointed out as the site of the celebrated vision of Daniel (viii., 2), wherein he saw the fall of Persia and Media and the subsequent rise and fall of Greece. Daniel thus describes the place:--"And I saw in a vision, and it came to pass, when I saw that I (was) at Susan (in) the palace, which is (in) the province of Elam; and I saw in a vision, and I was by the river of Ulai." Thus, if this Shushan is the Shushan mentioned in the Old Testament, then the river Ulai, on whose banks Shushan of the palace stood, is the modern Karun, on which the ruins of Shushan stand. Again, even now, a place is shown to the travellers in the valley of this town of Shushan The spot is held to be very sacred by the as the tomb of Daniel. Bakhtiary people, and the tradition that Daniel was buried there is of very ancient origin. It is frequented by dervishes and other religious Sir Henry Rawlinson² and others hold this place to be the people. Shushan and the Karun to be the Ulai of the Old Testament. But Sir Henry Layard and others assign the ruins of Susa situated on the Chirkheh to the site of Daniel's Shushan. Thus there are two places in the province of the Ancient Susiana that claim the honour of being the sacred place of the tomb of Daniel. Again, tradition has given to both these places a tomb of Daniel. A place known as the tomb of Daniel at Susa is also visited by the Jews, Christians, and The tomb at Shushan on the Karun Mahomedans as a sacred place.

¹ Kinneir's Memoir of Persia, pp. 100, 101.

² Paper on Khuzistan, Journal of the Royal Geographical Society, Vol. 9, p. 85.

is known as that of Daniel-i-Akbar, *i. e.*, the Great Daniel, and that at Susa as that of Daniel-i-Ashkar, *i. e.*, the Lesser Daniel.

Sir Henry Rawlinson says on this subject :--- "I believe then, that in ancient times, there were two cities of the name of Sûsan, or Susa, in the province of Susiana-the more ancient, which is the Shushan of Scripture, being situated at Sûsan on the Kuran or Eulæus; the other, the Susa of the Greeks, at Sûs, near the Kerkhah, or Choaspes. The river of Dizfûl I consider to be the Coprates ; the Åb-i-Zird and its continuation the Jerrâhi, the Hedyphon or Hedypnus; and the united arms of the Kuran and Dizfûl river, the real Pasitigris." 1

Leaving apart the question of the determination of the site of the Shushan of the Old Testament, the ruins in the valley of Sûsan on the banks of the Karun are said to be very old. Some belong to the Sassanian period, and others are still older.

In the valley of Shushan, the Karun passes by the side of two fortresses known as the Kaleh-i-Rustam, *i. e.*, the Castle of Rustam the national hero of old Iran, and the Kaleh-i-Dukhtar, *i. e.*, the Castle of the Daughter. The legend connected with these castles reminds us of Firdousi's story of Tehemina and Rustam.

As there are no other places worth mentioning on the river, we will now speak of the importance of the river Karun. But before doing so, we will say a few words on its canal, the Åb-i-Gargar, as no account of the river will be complete without an account of this important canal.

The Åb-i-Gargar canal is said to have been cut by the well-known Shapur, to whom many grand works of art on the Karun and round about are attributed. It runs from the main river Karun at Shuster in a south-easterly direction, and joins the main river again at Bandi-Kir, where the river of Dizful also meets the Karun. It is called the Nahr-i-Masrukan by some oriental geographers. Latterly it was also called the Dû Dângah² (*i.e.*, two parts), because it carried twosixths of the water from the Karun, while the remaining four-sixths ran in the original bed of the river. It is now called Ab-i-Gargar from the name of a Mahullah or street of that name in the town of Shuster through which it runs. Tradition reports that this artificial

¹ Ibid, Vol. 9, p. 85.

² Journal of the Royal Geographical Society, Vol. 9, p. 74, Major Rawlinson on Khuzistan.

THE RIVER KARUN.

canal did not end at Band-i-Kir, but continued up to Ahwaz, and that the bed of the river Karun from Band-i-Kir to Ahwaz is not its original natural bed, but an artificial bed. Major Rawlinson and Lieutenant Selby believe in the truth of this tradition, especially because "the long straight reach from that place (Band-i-Kir) to Ahwaz bears a much greater resemblance to an artificial than to a natural channel." This canal is about ten miles in length, from 12 to 18 feet in depth in the lowest season, and from 60 to 120 yards in breadth. Lieutenant Selby found it much better adapted for steam navigation than the main stream of the Karun itself, the reason being that its current is less rapid. The town of Shuster is approached nearer, by three miles, by this canal than by the main stream. Lieutenant Selby ran on until within one mile of the town, where a natural ledge of rock closed the passage for his steamer; but a small opening of the width of about 20 yards allowed boats of 20 tons to go to the very heart of the town.

The opening of the river Karun to trade affords many commercial advantages. Shuster, the furthermost place from the sea hitherto reached by a steam vessel, can be approached at any season by a passage of, at most, 18 days from Bombay. Wood adapted for fuel on the steam-ships is plentiful all along the banks. The people on the banks and in the adjoining parts are well disposed to the English. They hate the Persians of the capital and other parts, who often oppress them and look upon them with a jealous eye, because, being somewhat isolated in their mountainous districts, they preserve the tone of independence towards the Government. The people are hospitable and inclined to pursue a quite agricultural life and to trade with the English. The opening of the river Karun will open the way to many other parts of Persia by other rivers, such as the river of Dizful, which meets it at Band-i-Kir. "It is a source of extreme wonder and surprise to me," said Lieutenant Selby (Jour. R. Geographical S., XIV., p. 242), about half a centurya go, "that they (the rivers), being as it were the high road into the very heart of that part of Persia with which we now take such a roundabout method of trading, should so long have been neglected, and that we should have so quietly shut our eyes to their vast importance. Russia, though struggling with a tedious land-carriage, supplies the markets of this province with European articles; which we could much more easily do by water at once from England or our colonies. A commercial

treaty entered into with Persia, our steamers running on the rivers of Mesopotamia, those rivers strictly in the Persian dominions, and having been easily and safely traversed by a vessel possessing much less capabilities for river navigation than the boats which are now built for that purpose, what prevents us, I would ask, from commencing that intercourse with the inhabitants, which their advancements in civilization and our own interests so imperatively demand? An extremely healthy and productive region, friendly tribes on the banks of the rivers, the country fertile in objects of interest both to the merchant and geographer, our present political relations with Persia considered, all tend to point out these rivers as the means whereby we may not only increase our political power, but our commercial advantages." Thus said Lieutenant Selby about fifty years ago, and I think under the regime of our present ambassador at Persia, we are nearer the point of his wishes being realized.

Lieutenant Selby (*Ibid*, p. 245), thus speaks of the regions traversed by the Karun and the river Dizful :—" If any political movement is to be attempted in this quarter—if the spirit of discovery and research continue to actuate, as it ever has done, our government—if a material increase in our commercial relations with Persia is considered of moment—if the connection of ancient with modern history, in some of its most interesting points, still continue to hold out charms to the antiquarian and geographer, then is this country one of those which should be most particularly examined, and which would yield an abundant harvest."

On the nature of the water of the Karun, Von Hammer, quoted by Mr. G. Long in his article on the Site of Susa¹ says on the authority of an oriental manuscript that "the water is always cool, and has so digestive a power that, under this burning sky, the inhabitants of this country eat the heaviest food for the stomach, trusting to its digestive power—and they do digest." Sir Henry Layard, Lieutenant Selby, and other travellers confirm this. This seems to be the property of the waters of this river as well as of those of the Choaspes. We learn from Herodotus that the Persian kings, in whatever distant parts of their extensive territories they were, always sent for the water of the Choaspes.

¹ Journal of the Royal Geographical Society, Vol. III., p. 261.

Now, we come to the question by what name is the Karun known in the books of the Parsees, the descendants of the original occupants of the land.

As mentioned by Professor Justi and Dr. West, this river is one of the rivers mentioned in the Pahlavi Bundehesh. Chapter twentieth of this work contains a list of the principal rivers of Persia and a short description of each of them. The river Khoreh mentioned therein is the same as the modern Karun. The word is differently written in different manuscripts. As Pahlavi writings admit of different readings, the word is read Khvaraê by Dr. West, Khurâê by Professor Justi, and Khoreh by the old Dasturs of Bombay. In this paper we will speak of it as Khoreh as read by Dastur Edaljee Jâmâspâsânâ of Bombay.

That this river Khoreh of the Pahlavi Bundehesh is the same as the modern Karun appears from several facts. Firstly, we learn from travellers in this part of Persia, such as Sir Henry Rawlinson, Sir Henry Layard, Sir John Macdonald Kinneir, and Lieutenant Selby, that the Karun is the largest river in Khuzistan, or, as they term it, a very noble river. Now the Pahlavi Bundehesh also mentions the Khoreh as the largest river in Khuzistan. Secondly, these travellers say that the Karun rises near Ispahan in the mountains of Kuh-i-The Bundehesh says of the Khoreh also, that it rises near Zerd. Thirdly, according to modern travellers, the Karun or the Ispahan. Khoreh empties itself in the Tigris, or the Dijleh after it has joined the Euphrates. We read in the Bandehesh the following passage on this subject¹:---"Khôreh rûd bûn-i-khânân min Spâhân pavan Khôjistân barâ vadirêd farâz val dâîrîd (Dijlah) rûd rîzêd. Avash pavan Spâhân Mesrakân rud karîtûnand," i.e., "The river Khorêh has its source near Ispahan. It flows through Khuzistan, pours forth (its waters) into the river Daîrîd (Dijleh, i.e., the Tigris). In Ispahan it is called the Mesrakan river." Fourthly, we learn from the above passage that the river Khoreh is called Mesrakan at Ispahan. We learn this also from another passage of the Bundehesh, where we read-Khôreh rûd mûn Mesrâkânach Karîtùnand ; i.e., The river Khoreh, which is also called Mesrakan. Now, according to Rawlinson,² we are told by oriental geographers that the artificial canal on

¹ Westergaard, p. 52. West Sacred Books of the East, Vol. 5, Chapter 20,

^{*} Royal Geographical Society, Vol. 9, p. 74.

the left of the river was known as the Nahr-i-Masrukân, *i.e.*, the Mesrakan canal. Then this fact proves the identity of the Khoreh and the Karun. Fifthly, the river Karun, according to the description of Sir Henry Layard, Lieutenant Selby, and others, is a very fast flowing river with some rapids here and there. We have quoted above the Persian poet Firdousi on this point. He says of the current that even a fish cannot pass the rapid. Now the river Khoreh is mentioned in the Bundehesh as one of a number of fast-flowing rivers. There we read of these rivers :—"Afdûn zûd zûd ayûk min dûd barâ tachêt homand chegûn gabrâî amat ashemvohûî min patîsâr bara imallunêd :" *i.e.*, "They run as fast, one from another, as a man saying an Ashemvohû¹ from a long series."² Thus we find that the river Karun is the river Khoreh of the Pahlavi Bundehesh of the Parsees.

The next question which strikes us is, how is this river Karun or Khoreh mentioned in the still older book of the Avesta. The river Karun or Khoreh is not hitherto compared with any river in the Avesta. Therefore, what I say now on the subject, is more as a question for further consideration than a matter of certainty.

To Professor Geldner is due the credit of first drawing the attention of the Avesta students to the 67th para. of the Zamiâd Yesht, where several words were taken as mere adjectives and so translated. He pointed out, that they were proper nouns, and names of rivers, which flowed from the Ushidhâo mountain. The names of the rivers pointed out therein are Khâstra, Hvaspa, Fradatha, Kharênanghaiti, Ustavaiti, Urvadha, Erezi, and Zarenumaiti.

Now Professor Aurel Stein, the learned Principal of the Oriental College at Lahore, in the Academy of 16th May, 1885, writing an article on "Afghanistan in Avestic Geography," tries to identify some of these rivers with the rivers near Seistan. Professor Stein identifies three of these eight rivers with three rivers in Afghanistan, and then tries to identify the mountain of Ushidâo, from which they are said to rise in the Zamiad Yesht, with the Koh-i-Baba of Afghanistan. But I think the safest and surest way is first to identify the mountain

¹ Ashemvohu is a sacred prayer enjoined to be repeated on certain occasions. As Dr. West says, it is like the Pater Noster of some Christians. It may be thus translated :—" Piety is the best good and happiness. Happiness to him who is pious for the best piety."

² It may also mean from beginning to end.

and then to identify the rivers which flow from it. I am disposed to place the Ushidao mountain in the west near Âzarbaizân, because the mountain, on the top of which the prophet Zoroaster is said to have taken his inspirations, should be a mountain nearer his home and not in the remote east. As I have said in my essay on "Avestic Geography," we are not in a position to point out exactly the situation of Mount Ushidâo, but it appears, that it was a name given to a very long range in the west. So I look also to the west for the identification of these eight rivers which rise from this Mount Ushidão. I think that three of these rivers-the very three which Professor Stein has tried to identify with the three rivers of Afghanistan-can be identified with the rivers in that part of Persia of which we are speaking. For example, the Fradatha is the Frât of the Pehlvi Bundehesh and of the Pâzand Âfrin, and the modern Euphrates, which is still spoken of by Mahomedan geographers and writers as the Farah. The Hvaspa of the above passage is the Choaspes of the Greek writers and the modern Cherkheh.

Now the Kharennghaiti of this passage is, I think, the Khôreh of the Bundehesh, and therefore the modern Karun. We know that the Pahlavi word for the Avestic kharenang, meaning "glory or splendour," is Khur or Khoreh. So Pahlavi Khoreh will be a proper rendering of the Avestic Kharenanghaiti. Again I suggest that the place "Correng," mentioned by Sir Macdonald Kinneir in his Memoir of Ancient Persia, as the place, where the Karun river rises has someting to do with the ancient Avestic name Kharenanghaiti. I simply throw this suggestion as a matter for further consideration. I do not say this with great certainty, especially as Kinneir does not give the name in the Persian characters to enable us to compare the Again I think that Eulæus, the Greek name of the river words. Karun, is another form of the Pehlvi Khoreh. The first part (kho) of the word Khoreh can be read as "hu," the Greek rendering of which is "eu." The "r" is frequently changeable into "l", these being letters of the same class, and the final "s" in Eulæus is frequently found in the Greek rendering of the Avestic names (as Hystaspes for Vistaçpa). Again I think that the modern name Karun is a changed form of the Avestic Kharenang and Pahlavi Khoreh. The "Kh" of the Avesta is softened into "k," and the "n" in the end is the "nangh" of the Avesta. So all the three words-the Avestic "Kharenangh," the Pahlavi "Khoreh," and the modern "Karun" seem to be

well nigh the same and carry the meaning of "splendour and brauty." In this connection we must bear in mind that in the Avesta, the river is spoken of as "Kharenanghaiti yâ Srira," *i.e.*, "the beautiful Kharenanghaiti." Many modern travellers speak of the river Karun as a noble river. Thus, I think, that the river Kharenanghaiti of the Avesta, the Khoreh of the Pahlavi Bundehesh, the Karun of the modern times, the Eulæus of the Greeks, and the Ulia of the Old Testament are one and the same river. It appears that among the Greeks, the part of the river above its junction with the river of Dizful at Band-i-Kir was known as the Eulæus, but the part below this point was called the Pasi Tigris.

In Mahomedan times, the river is known by different names by different writers. It was called the river of Shuster because it passes by that town. Firdousi does not give any name of this river, but only speaks of it as the river passing by Shuster. It was also known as the Dajeile Masrukan, because at one time-perhaps at the time of the building of its dyke near Shuster-the whole of the river must have run into the artificial canal Ab-i-Gargar, which was called the Nahri-Masrukan. We learn from the Bundehesh that it was so called in the Pahlavi times. The original channel of the river was also known as the Nahr-i-Tuster or Dajeile-i-Tuster. In the description of the march of Taimur by the ancient historians the original stream is called Chahar Daugah, s.e., four parts, while its canal, the Ab-i-Gargar, is called Du Dangah, i.e., two parts, because it was believed that four-sixths of the whole water of the river ran into the original bed and twosixths into the artificial channel of the Ab-i-Gargar. It is during the last two centuries that it is generally known by its present name of Karun. The particular part of the river between the dyke near Shuster and that at the mouth of the Ab-i-Gargar canal is called Nahr-i-Mahaparyan, corrupted into Mafarian (perhaps meaning the large part [pareh]). This particular part is also called the Shadarwan, i. e., the carpet of the Shah, so called perhaps because King Shapoor had paved this part with large pieces of stone in order to prevent its being dug out deep by the force of the water. The dyke or the band near Shuster is called the Band-i-Kaisar, and the bridge over it the Pul-i-Kaisar. They bear these names to commemorate the victory of Shah Shapoor over the Kaisar of Rome (Emperor Valerian), from the money got from

whom as the price of peace, according to Firdousi, the waterworks near Shuster were built. The "band" is also called the Band-i-Shabzadeh, *i. e.*, the Prince's Band, from the fact of its being partially repaired by Prince Mahomed Ali Mirza. The dyke at the month of the canal Ab-i-Gargar is called Band-i-Mizân, *i. e.*, the Band of Balance, because its level is equal to that of the Band-i Kaisar.