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The Karun River and the Commercial Geography of South-West Persia

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PROCEEDINGS

OF THE

ROYAL GEOGRAPHICAL SOCIETY

AND MONTHLY RECORD OF GEOGRAPHY.

The Karun River and the Commercial Geography of South-west Persia.

By the Hon. G. CURZON, M.P.

(Read at the Evening Meeting, May 12th, 1890.)

Map, p. 576.

THE first duty that a traveller owes—the last, too often, that he thinks of paying—is a tribute of acknowledgment to those who have preceded him, and have both assisted and lightened his labours by their own. In the case of the subject with which I am about to deal, such a tribute is the more gratefully rendered that it has been so pre-eminently well deserved. Among those who have previously visited and written about the Karun river occur the famous names of Rawlinson and Layard, whose explorations in Persia, though conducted half a century ago, still supply the basis of our knowledge about many parts of that country, and whose names alone are a guarantee for adventurous research and painstaking observation. I append a list of the English or English-writing travellers, not more than a dozen in number, who have described in print their experiences on the Karun river or at Shushter; * and it is

* The English writers who have dealt with the Karun river, Shushter, and the surrounding districts, are as follows:—

Dean Vincent, ‘The Commerce and Navigation of the Ancients in the Indian Ocean,’ 2 vols., London, 1807.

J. M. Kinneir, ‘A Geographical Memoir of the Persian Empire,’ London, 1813.

Captain R. Mignan, ‘Travels in Chaldæa,’ London, 1829.

J. H. Stocqueler, ‘Fifteen Months’ Pilgrimage through Untrodden Tracks of Khuzistan and Persia,’ 2 vols, London, 1832.

Major Estcourt (who in 1836 ascended the Karun as far as Ahwaz in the s.s. *Euphrates*), ‘A Memoir and Survey presented to the Court of Directors of the East India Company.’ [This cannot now be traced.]

Sir H. C. Rawlinson, “Notes on a March from Zohab to Khuzistan in 1836,” ‘Journal of the R.G.S.’ vol. ix., 1839.

Lieut. W. B. Selby, I.N., ‘Report of an Ascent of the River Karun as far as Ahwaz in the s.s. *Nitocris* in May–June, 1841, presented to the Court of Directors of the East India Company.’ [This cannot now be traced.] “Account of the Ascent of the Karun

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from an attentive perusal of their often conflicting accounts, as well as from the personal experiences of a recent visit to the same regions, that I have derived the conclusion that a paper may not be unacceptable to this Society which shall collate, and so to speak consolidate, previous sources of information, and shall also provide an accurate description of the existing state of affairs. In the catalogue of earlier travellers, the names, in addition to those already mentioned, which claim most frequent and honourable reference, are Lieutenant Selby, an officer of the Indian Navy, who twice ascended the Karun river, in 1841 and again in 1842, accompanied on the latter occasion by Mr. (now Sir Henry) Layard;* and Mr. Ainsworth, who was surgeon and geologist to the Euphrates Expedition in 1836, and who has published both an

and Dizful rivers and the Ab-i-Gargar Canal to Shuster, in the *ss. Assyria*, in March-April 1842," 'Journal of the R.G.S.,' vol. xiv., 1844.

Sir A. H. Layard, "Ancient Sites among the Bakhtiari Mountains" (with remarks on the Rivers of Susiana, by Professor Long), 'Journal of the R.G.S.,' vol. xii., 1842; "A Description of the Province of Khuzistan," 'Journal of the R.G.S.,' vol. xvi., 1846; 'Early Adventures in Persia, Susiana, and Babylonia, including a residence among the Bakhtiari and other wild tribes,' 2 vols., London, 1887.

Baron C. A. De Bode, "Notes on a Journey through the Mamaseni, Khogilu, and Bakhtiyari Countries," 'Journal of the R.G.S.,' vol. xiii., 1843; 'Travels in Luristan and Arabistan,' 2 vols., London, 1845.

Colonel F. R. Chesney, 'Expeditions for the Survey of the Rivers Euphrates and Tigris in 1835-37,' 2 vols., London, 1850.

W. F. Ainsworth (Surgeon and Geologist to the Euphrates Expedition), 'Researches in Assyria, Babylonia, and Chaldæa,' London, 1838; 'A Personal Narrative of the Euphrates Expedition,' 2 vols., London, 1888; 'The River Karun,' London, 1890.

W. K. Loftus, 'Travels and Researches in Chaldæa and Susiana,' London, 1857.

Captain G. H. Hunt, 'Outram and Havelock's Persian Campaign' (1857), London, 1858.

'Proceedings of the R.G.S.,' March 1883, containing:—Paper by Colonel J. Bateman-Champain "On the various means of Communication between Central Persia and the Sea;" Speech by Mr. G. S. Mackenzie; "Surveying Tours in South Persia," by Major H. L. Wells.

Colonel M. S. Bell, v.c., "A Visit to the Karun River and Kum," 'Blackwood's Magazine,' April 1889.

Gen. Sir R. Murdoch Smith, "Address to the London Chamber of Commerce upon the Karun River and British Trade with India," 'Chamber of Commerce Journal,' March 5th, 1889. "Address on the Karun River as a Trade Route," 'Journal of the Society of Arts,' May 10th, 1889.

* So far as I can ascertain, the ascents of the Karun river, by boat or steamer, recorded by English travellers prior to the concession of 1888, were as follows:—

In 1830, Colonel Chesney in a large Arab vessel.

In May 1831, Mr. Stocqueler in an Arab boat, as far as Wais.

In September 1836, Major Estcourt and party in the *ss. Euphrates* as far as Ismailiyah; in November 1836, as far as Ahwaz, and thence in a native boat to Bund-i-Kir.

In May and June 1841, Lieut. Selby in the *ss. Nitocris* as far as Ahwaz.

In February, March, and April 1842, Lieut. Selby and Sir A. H. Layard in the *ss. Assyria* as far as Shushter.

In March 1857, in the Anglo-Persian War, the *ss. Comet*, *Planet*, and *Assyria*, under Captain Rennie, with 300 men and three gunboats in tow, as far as Ahwaz.

interesting personal narrative of the expedition, and a separate but less authoritative volume upon the river Karun. The 'Journal' of this Society for 1883 contains among the sequels to a paper read by Sir J. Bateman-Champain, the report of a speech by Mr. G. Mackenzie, formerly a member of a large trading firm in Persia, upon journeys twice made by him, in 1875 and in 1878, between Ispahan and Mohammerah. There also is printed the account of a similar journey made by Major Wells in 1881, as well as a chart by that officer of the famous rapids of Ahwaz. Since the opening of the Karun river to the commerce of the world by the Shah's edict of October 1888, Colonel Bell, v.c., late head of the Indian Intelligence Department, whose extraordinary travels over almost the whole Asian continent, though little known to the public, entitle him to be considered the territorial Ulysses of this age, has published in 'Blackwood's Magazine' a condensed but vivid account of his journeys in the region between Mohammerah and Teheran. A year ago Sir R. Murdoch Smith, late Director of the Indo-European Telegraph Department in Persia, delivered two addresses, before the London Chamber of Commerce and the Society of Arts, upon the commercial aspects of the Karun river-and-inland route, to which any student of that aspect of the question may unhesitatingly be referred. Finally, if a personal reference be permitted, I may mention that in the 'Fortnightly Review' for April and May of the present year, I have related my own experiences in a more detailed and colloquial fashion than is here permissible; whilst, if any too censorious critic should suspect me, either in those articles or in my remarks to-night, of having plagiarised from a long article on the Karun Question which appeared in the *Times* last February, suffer me to reply that, so far as I know, the ethics of literary propriety do not yet—whatever they may come to in the future—prohibit a writer from quoting from himself.

The Karun question may be contemplated in any of three aspects—geographical, political, or commercial—according as an attempt is made to describe the physical features of the river and surrounding country, to define the relations existing between its nomad peoples and the central government at Teheran, or to relate the steps that are being taken, or require to be taken, in order to develop the important trade route thus opened into the interior of Persia. In addressing a Geographical Society it will be expected of me that the first of these subjects should receive the greatest attention; although I shall not, I am sure, be denied the permission to make such political references as are necessary to a general understanding, or be excluded from the discussion of those practical corollaries of the laws of physical configuration which are in process of forming a new science under the title of Commercial Geography.

As regards orthography, let me say that, although the most correct form of the name Karun, viewed in the light of its derivation (Kuh-i-

rung), appears to be Kuran, yet, in deference both to local pronunciation in Arabistan and to popular custom, I shall write and pronounce it Karun. As regards sequence of narrative, I shall invert the customary order; and instead of tracing the river from its source to the sea, shall follow it upwards from the mouth, that being the line which travellers take for convenience, and which commerce must take of necessity, in their mutual ambitions to penetrate into the interior.

The factors—physical, political, and historical—with which I shall require to deal are few in number, are easily ascertained, and are already widely known. The Karun river is described in text-books of geography as the only navigable river in Persia. Rising in the knotted mountain range to the west of Ispahan, it pursues a westerly course through wild gorges and upland plains, until, emerging from the hills immediately to the north of Shushter, it turns sharply to the south, and after adorning that town with the waterworks that have rendered it famous in history and still leave it respectable in decay, pursues a sinuous course over the wide alluvial plain that stretches to the Shat-el-Arab and the Persian Gulf. On the way it receives, at Bund-i-kir, its main affluent, the Ab-i-diz or river of Dizful; whilst lower down its channel is interrupted, and navigation is impeded, by the renowned rapids of Ahwaz. At the river-port of Mohammerah it flows into the estuary, by which, 40 miles lower down, at Fao, the combined waters of the Tigris and Euphrates enter the Persian Gulf. The provinces which, in the course of this devious transit, it touches or traverses, and ought to, but at present does not in any appreciable degree, irrigate, are those of Luristan and Arabistan. The former is the country of the Lurs, those warlike and turbulent tribesmen of whom the Feili division inhabit Luristan proper, i.e. the mountain ranges between Kermanshah, the Tigris, and Dizful; while the better known Bakhtiari people the region between the Ab-i-diz and the western confines of Fars. Arabistan, i.e. the country of the Arabs, indicates its population by its name. There, on the flat plains reaching from the mountains to the sea, are settled various Arab tribes, who at different times have migrated in this direction from Turkish or Arabian territory, and of whom the principal are now the Ka'b or Cha'b Arabs, living around Mohammerah and Fellahieh. Arabistan is also called Khuzistan, the two names being interchangeable, and the province includes the ancient Susiana and Elymais, or Elam. These are the main features of country and population to be borne in mind.

With ancient history, and with the disputed questions of the Ulai or Eulæus, the Coprates, the Choaspes, the Pasitigris, and their identity with the modern river-beds, I shall not trouble myself or you. The channels, and even the entire course of the rivers of Susiana—where from time to time great masses of snow-fed water are suddenly propelled through a sandy and friable soil, and where vast artificial irrigation works have sometimes reversed the dispositions of nature—have shifted

frequently and irrecongnisably. Unless we adopt this explanation, which charity as well as nature recommends, we shall be forced to the conclusion that the ancient chroniclers and geographers who dealt with these rivers were a very muddle-headed set of people; a hypothesis to which I am only inclined by the discovery that the majority of their modern successors have been guilty of confusions at least as startling, but over which the impulse of common impartiality tempts me equally to draw a veil. I take up the history of the Karun river at the moment when it first concerns ourselves, and when its commercial advantages began to be recognised, not by the British public, who are habitually ill-informed, but by the few pioneers whose invariable fate it is to be snubbed by their own generation and applauded by the next.

It was just fifty years ago that the immense latent value of the Karun trade route, as an avenue of expeditious approach to the great cities and centres of grain cultivation in the west of Persia, and as an opening more especially for British and Anglo-Indian commerce, was first brought prominently before the attention of Englishmen by the united labours and writings of Sir H. Layard and Lieut. Selby. The former of these explorers, from his intimate relations, both with Mohammed Taki Khan, the great Bakhtiari chieftain, and with the merchants of Shushter, was enabled to guarantee Persian reciprocity in any such enterprise; and he penned at the same time a report to the Home Government, and a letter to the Chamber of Commerce at Bombay, urging the prompt utilisation of so favourable an opportunity. Political convulsions in Persia frustrated the further prosecution of the design, and it was not till thirty years later that the opening of the Karun river to foreign commerce appears to have been made the subject of formal official communications between the Governments of Downing Street and Teheran. After seventeen years of diplomatic fencing, with feint and counterfeint, and all the diversified tricks of the Oriental school—in the course of which France at one time appeared as a combatant in the arena, and all but carried off an exclusive concession for the navigation of the river and the development of the surrounding lands—the matter was at last settled by a decree of the Shah, issued in October 1888, by which the Karun river, as far as Ahwaz, was, subject to certain somewhat vexatious conditions, opened to the mercantile marine of the world.

Ten years earlier, Hussein Kuli Khan, the second redoubtable Ilkhani whom the Bakhtiari clans have produced in this century, had made offers of co-operation to Mr. Mackenzie not less cordial than those which his famous predecessor had made to Layard. The independent action, however, and conspicuous authority of these chieftains in each case excited the jealousy of the central government. Layard's friend died in imprisonment at Teheran; Mackenzie's friend was put to death at Ispahan by the son of the present Shah. Hence it arose that when the

concession was finally granted, and the firm of Messrs. Lynch detached a boat from their Tigris flotilla, to run at regular intervals from Mohammerah to Ahwaz, no such local assistance was rendered to the British as might in earlier days have been forthcoming, and the subsequent prosecution of traffic has only been continued in the face of obstacles and discouragement which I have elsewhere described. With the remark that by the exercise of patience, and by fortunate appeals to the sincerity of the Persian Government, these impediments are gradually being overcome, and that by the lately accorded permission for a steamboat to navigate the upper river from Ahwaz to Shushter in correspondence with Messrs. Lynch's steamers on the lower river, and by the expected commencement of a wagon road, under the auspices of an English company, from Ahwaz to Teheran, a notable impulse has been given to the chances of success,—with this remark I will take leave of the historical aspect of the Karun question, and will proceed to the main or geographical portion of my paper.

The Karun river may be divided into six sections, which I will successively discuss. These are—(1) its mouths, past and present; (2) the section next above, as far as Ahwaz; (3) the rapids of Ahwaz; (4) the section between Ahwaz and Bund-i-kir, at which point the hitherto undivided river is split up into three confluent; (5) the section or sections formed by the two streams which reunite at Shushter; (6) the course of the river above Shushter in its passage through the Bakhtiari mountains. At Bund-i-kir I shall also diverge for a brief while to follow the course of the third confluent, or Ab-i-diz, which descends to that point from the mountains of Luristan, passing on its way the important town of Dizful.

1. About 60 miles above the bar outside the Shat-el-Arab, 40 miles above the entrance to that estuary at Fao, and 20 miles below the Turkish port of Busrah, the present main exit of the Karun river flows into the Shat-el-Arab from the north-east by an artificial channel, whose etymology testifies to its origin, known as the Haffar Canal.* When this canal was cut no one knows, and I shall not attempt to conjecture. The reason for its construction was presumably to open a communication between the Karun, which then entered the Persian Gulf by an independent mouth, and the Shat-el-Arab, and thus to promote trade between Arabistan and the then existing predecessors of the Turkish ports of Busrah and Baghdad. Where it flows into the Shat-el-Arab, the Haffar Canal is about a quarter of a mile in width, with a depth of from 20 to 30 feet. The town of Mohammerah is situated a little more than a mile up the canal, on its right bank, and is a filthy place with about 2000 inhabitants (Ka'b Arabs), and consisting mainly of mud huts and hovels, backed by a superb fringe of date-palms. Lower down on the same shore, at the angle of confluence between the Haffar and the Shat-el-

* Haffar is said to signify "canal-digger."

Arab, the Persian authorities have just built a large warehouse and governor's house and a primitive quay, which are to be the centre and depot of the trade of the future.

Some two miles above Mohammerah, and, therefore, three miles from the mouth of the Haffar, we come to the *Bahmeshir* (derivation disputed), or alternative channel, by which a portion of the waters of the Karun still enter, and the whole, in all probability, once entered the Persian Gulf. It runs in a line, from north-west to south-east, parallel with the Shat-el-Arab, for a total length of over 40 miles, and flows into the sea by a wide mouth at a distance of several miles from the embouchure of the estuary. I desire to invite your especial attention to the Bahmeshir channel, because it occurs to me as not impossible that it may assume a new and specific importance in the future. I have, in the 'Fortnightly Review,' dwelt at some length upon the jealousy with which the Turks at Busrah regard the probable development of Mohammerah and the Karun trade route, and upon the aggressive and offensive action which they are taking in erecting fortifications on the Shat-el-Arab at several points, where it will be in their power either to block the entrance to the river or to overawe and imperil Mohammerah. Should this attitude lead at any time to positive collision, it may be of incalculable importance to Persia to have an alternative and independent way of entry into and exit from the Karun. Such a channel is provided by the Bahmeshir. With both its banks and its mouth exclusively Persian, and safely removed from risk either of Ottoman menace or violence, it may be that the Bahmeshir will once again be utilised for navigation. It was ascended by the steamship *Euphrates* under Major Estcourt, in connection with the Euphrates expedition of 1836. In 1841 Lieut. Selby steamed down it from Mohammerah to the sea and back, and found a channel of not less than nine feet at low water.* Layard described it as having a good navigable channel to its junction with the sea of not less than four fathoms depth, and over half a mile in width, and said that its entrance at low water, during spring tides, was more than three fathoms deep, and therefore practicable for ships of large burden.† Since then shoals appear to have formed outside its sea-mouth, pierced only by a tortuous and shifting channel. There is a rise and fall of tide of about nine feet, and the water throughout its course is said to be growing shallower. It would be well if a careful survey were made of the Bahmeshir channel; and it is possible that by dredging or other artificial means it might again become accessible to ocean steamers of light draught, and thus provide an exclusively Persian entry to the Karun. I doubt if the Persians themselves, who are commercially apathetic, except in the cause of obstruction, have at all realised the possible value of this stream. By us, however, it should not be overlooked.

At a distance of from 10 to 12 miles above the Bahmeshir occurs a

* 'Journal of the R.G.S.,' vol. xiv. p. 221.

† Ibid., vol. xvi. p. 55.

third, but now choked and disused channel of the Karun, by which also, in days probably anterior to the Bahmeshir, it once sought the sea. This dried-up bed, which is supposed to be that up which the fleet of Nearchus sailed to join Alexander the Great at Susa, is called the Karun-el-amrah, or Blind Karun. It was followed by the officers of the Euphrates Expedition in 1836 towards the sea, and was found by them to consist of a depression 200 yards in width, in the middle of which still existed a small channel that was filled by the flowing tide, but left with only one foot of brackish water at the ebb. The probability of this having been the original or earliest mouth of the Karun is enhanced by the fact that the Oriental geographers describe the Haffar Canal as being four parasangs, or about 15 miles in length, figures which almost exactly correspond with the length of the present stream from the mouth of the Karun-el-amrah to Mohammerah; so that we should be justified in regarding the entire river-bed below the former point as an artificial creation.

From the Karun-al-amrah has been cut a canal conducting to the former Ka'b capital of Fellahieh, on the Jerrahi river, and variously known as the Kaban or Gobban. In the last century a dam was thrown across the Karun at this point by a Sheikh Salman, i. e. Suleiman, of the Ka'b tribe, with the object of diverting its waters either into this canal or into the Karun-al-amrah. In the Persian invasion of Karim Khan this dam was destroyed, and the Blind Karun consequently achieved blindness. The canal is still navigable at seasons to Fellahieh.

Such is the position and, so far as I can ascertain, the origin and chronology of the various mouths, past and present, of the Karun. I pass to the second section, extending northwards to Ahwaz.

2. From Mohammerah to Ahwaz, i. e. upon the lower river, the distance by water is about 117 miles, by land it is less than 80—a difference which gives some idea of the extent to which the river twists and bends. Throughout this distance the Karun is a broad and stately river, commonly from 300 yards to a quarter of a mile in width, flowing between low banks, upon which little vegetation is visible except at the rare spots where Arab camps, moving upwards from the palm-groves of Mohammerah, plough and sow the fertile but neglected soil in the winter, and extract an ample harvest in the early spring. But for these fitful evidences of a spasmodic cultivation, the entire country, though of surpassing richness, is allowed to lie waste. The charts of Colonel Chesney and Lieut. Selby depict an abundance of timber upon the banks between Mohammerah and Ahwaz, and Sir H. Layard also testified to the same feature. Much of this appears since to have been destroyed by the Arabs, presumably for firewood; and whilst in most parts the banks are absolutely bare, elsewhere they support only a low scrub or jungle consisting of tamarisk and brushwood, which gives shelter to wild boar, jackal, lynx, hares, francolin, sandgrouse, and in the marshy places

to every variety of wild fowl. In this part of the river there is commonly from 12 to 14 feet of water at high water, and from six to seven feet at low water, a depth which sinks in the dry season to from three to four feet and less upon the shoals and sand-spits, which are always shifting and are a great obstacle to navigation. The native boats or *mehalas*, which, in the absence of wind, are towed up stream by trackers, continually run aground, and the entire cargo has frequently to be taken out and carried along the bank while the boat is being hauled off. These peculiarities render it desirable that vessels of very light draught, drawing i. e. not more than three feet when laden, like those which are employed on some of the Indian and Burmese rivers, and with a maximum length of 150 feet, should be specially constructed for the Karun navigation; and it is within my knowledge that plans of such a character have been specially prepared by Messrs. Lynch. Fifty years ago the only two places of any importance on the river-stretch between Mohammerah and Ahwaz appear to have been the small towns of Idrisieh and Ismailieh.

These riparian villages or camps enjoy a flickering and precarious existence. At present the chief settlements are those of Braichia, Kut Omeirah, and Kut Abdullah, where small camps of Ka'b Arabs reside under the rule of sheikhs who are subordinate to Sheikh Mizal Khan, the principal chieftain of the tribe, who lives near Mohammerah, and is also, by favour of the Shah, Persian Governor of the latter port. Lieut. Selby, in the *Assyria*, a paddle-wheel steamer 100 feet long, in 1842, ascended from Mohammerah to Ahwaz in 30 hours. In the *Shushan*, Messrs. Lynch's stern-wheel river-boat, I occupied 23 hours in the ascent, and $11\frac{1}{2}$ hours in the descent, there being a great deal of water in the river. The average time occupied by the *Blosse Lynch*, a much larger paddle-wheel vessel, with which the same firm commenced the navigation, was $16\frac{1}{2}$ hours in the ascent and $10\frac{1}{2}$ in the descent, in the high waters of last spring. The velocity of a full current is from four to five miles in the hour; of a low current from one to $1\frac{1}{2}$.

3. For miles before reaching Ahwaz, the red sandstone ridge that suddenly crops up from the level plain to the north-east of the town and stretches in a long and jagged line towards the east horizon, is visible from the river. That two independent travellers,* 60 years ago, should have mistaken this ridge for the ruins of a large city that is known to have once existed in these parts, and which one of them relates that he followed for over 30 miles, and subsequently again encountered on the shores of the Persian Gulf, would be surprising did it not appear that almost all early visitors to the Karun must have worn spectacles designed to invert the objects that came beneath their vision; further examples of which phenomenon I

* 'Travels in Chaldæa,' by Captain R. Mignan, p. 303; 'Fifteen Months' Pilgrimage through Khuzistan and Persia,' by J. H. Stocqueler, vol. i. pp. 62, 84.

have elsewhere supplied. To science and to commerce the main interest of this same ridge consists in the fact that just below the village of Ahwaz—a small cluster of mud-hovels with about 700 inhabitants, situated on the left bank—the sandstone obtrudes itself in the shape of a number of rocky ledges right across the river-bed. Of these reefs five are distinctly perceptible in low water; and it is the water eddying above their summits, or tearing between the gaps by which they are separated, that constitutes the famous rapids of Ahwaz, and creates that practical barrier to continuous navigation which has always impeded, and continues to impede, the mercantile development of the Karun route. Major Wells' survey and map of these rapids was published in the 'Proceedings' of this Society for March 1883, and I shall therefore refrain from any further description. That his chart does not quite accurately represent the river-bed and islands as I saw them, may be due to the fact that both are constantly changing, and that the islands, composed of silt and sand, have acquired quite different proportions in the passage of nine years. The sight and sound of the river at Ahwaz are both remarkable. For on the one hand the channel is swollen to nearly three times its ordinary width, and on the largest reef are visible the massive remains of the great *bund* or dam that was built across the river, probably in the Sassanian epoch, to hold up the waters for irrigation purposes. On the other hand, the noise of the waters hurtling over the ledges and through the gates, can be heard for some distance, and in the stillness of the night is always humming in the ear.

Steamboats have more than once (the *Assyria* in 1842, the *Susa* in 1889, and the *Shushan* in the present spring) been taken, partly by steam power, partly by tow-lines, up the main rapid; but this is an operation that can only be performed without considerable risk in certain seasons of the water. Consequently proposals have been made for blasting away the rocks in the river-bed—an idea which was favoured by Sir H. Layard; for constructing a canal with locks, as recommended by Major Wells; and for running a tram-line between the upper and lower river above and below the rapids. Anything so revolutionary as blasting or canal-cutting is not likely to commend itself to a people who have lost all taste for public works, and are only careful of those that exist in being careful that they should fall into decay. A tram-line may come in the future; but, even so, will only facilitate without obviating transshipment, which is the nuisance of the present situation. It is no doubt to meet the difficulty thus created that the new wagon road, a concession for which has lately been bought by the Imperial Bank of Persia from a Persian Minister who had obtained it from the Shah, and which will be constructed by an English company, will start upon its overland course to Teheran, a distance of 550 miles, from Ahwaz. Should a railroad at any time in the future be laid upon this line, it is a question whether it should not

be continued as far as Mohammerah, so as to prevent any break of bulk at all in transshipment at that port. In such a case, the navigation of the Karun would cease to be remunerative. But the railway scheme, though feasible, is still so much *in nubibus* that for the present we may discuss far less ambitious proposals, and even regard a tramway less than two miles in length as a covetable *desideratum*.

4. I now pass to the upper river and to the stretch, about 45 miles in length, that intervenes between Ahwaz and Bund-i-kir. Of this there is little to be said except that the Karun is here narrower in width, averaging from 200 to 350 yards; that it flows between loftier banks, rising from 10 to 20 and even 30 feet in height; that these sustain a thicker growth of scrub than on the lower river; and that the course of the stream is as sinuous as an impaled worm. Only one village of the slightest importance is passed, and this, whose name is Wais, is worthy of mention only as marking the northern limit of Sheikh Mizal's jurisdiction, which henceforward is succeeded by that of the Governor of Arabistan. Above Wais for about 12 miles the river is as straight as it was previously serpentine, until we come to Bund-i-kir (i. e. the dyke of bitumen, a dam so cemented having doubtless once existed at this spot), where three smaller streams converge to form the large river, of which we now take leave.

5. These streams are the Ab-i-diz, or river of Dizful, that runs from Dizful on the west; the Ab-i-shateit, or Karun proper, that runs from Shushter, in the centre; and the Ab-i-gargar, originally an artificial canal, that runs also from Shushter, on the east, and constitutes the eastern boundary of the island so formed. I will add a few words about each of these tributaries.

The Ab-i-diz descends from a distant source in the mighty Zagros range. What is really its parent stream I am quite unable to say, because no two maps give it anything like the same direction, some tracing it to Khoremabad, others to Kermanshah and even Hamadan. Here, however, I am only concerned with its lower course, when, after passing the town of Dizful, it meanders through a jungle-grown and untilled plain until its union with the Karun at Bund-i-kir. This river has only once been ascended in a steamer, namely, by Lieutenant Selby and Sir H. Layard in the *Assyria* in the late spring of 1842, after their successful ascents of the Shateit and the Gargar. Pursuing with some difficulty an exceedingly tortuous channel, they at length came to a spot called Kaleh Bunder, about 25 miles in a direct line, and a good deal more by water, from Bund-i-kir. There they found the river divided into two branches by an island, and a natural bund or rocky reef stretching across both. Penetrating by an opening in the right barrier, they continued their ascent for a few miles further, and then finding the stream very shallow and the current strong, turned round and steamed back to Bund-i-kir.

Layard in his report described Koleh Bunder as half-way to Dizful,* but in his book speaks of having ascended within 13 miles of the town †; calculations which cannot both be correct, if the entire distance by river between Bund-i-kir and Dizful be, as alleged, 70 miles, or as I incline to think, a good deal more. So far as I know, the Diz has never since been ascended or explored by an Englishman. The jungle on its banks is said to abound in lions, and I recommend it to any adventurous sportsman.

The second river of the trio that unite at Bund-i-kir, though locally known below Shushter as the Ab-i-shateit, is in reality the main channel of the Karun. It was the first of the channels navigated by Selby in the *Assyria* in 1842. He ascended it to within six miles of Valerian's bridge at Shushter, where the boat ran aground, and was only got off by a lucky freshet of water descending from the hills. Both he and Layard described it as admirably adapted for steam communication, and as having a deep channel; but I fancy that the bed must have altered a good deal in the last fifty years, as it is now deserted by native craft, and about half-way to Shushter, was reported to me as being broken up into numerous shallow channels, separated by shoals or islets, and impassable to navigation. In my march to Shushter, I struck it at a point about 12 miles above Bund-i-kir, and there I found it a fine river about 250 yards in width.

River traffic to Shushter is now conducted, and the main interest is therefore centred, upon the third of the confluent streams, i.e. the Abi-i-gargar, which was originally an artificial canal. This stream may be ascended by a steamboat drawing three feet of water, to a point known as Shelailieh, between six and seven miles below the town of Shushter. There, owing to the presence of semi-natural, semi-artificial, barriers in the remaining section of the canal, it is customary to cast anchor, and thence all merchandise is at present carried on donkeys or mules to the city. I descended the Abi-i-gargar from Shelailieh to Bund-i-kir in the Persian steam launch the *Susa*, and calculated the distance as about 45 miles. The present channel is a much narrower one than that of either of the two other rivers, covering only from 50 to 75 yards in width. But it is evident from the configuration of the surrounding country that it once occupied a much wider bed; as the ancient banks are still visible, standing up like clay ramparts at a distance of from a quarter to one mile apart. I have elsewhere explained the cause, both of the original expansion and of the subsequent contraction, and have adduced reasons for believing that the entire body of the Karun was once temporarily diverted into this canal, which was therefore swollen to quite abnormal proportions, but which, upon the restoration of the river to its proper bed, assumed the more modest dimensions which it now displays. It is by this canal, or by a land march of

* 'Journal of the R.G.S.,' vol. xvi. p. 59. † 'Early Adventures,' vol. ii. p. 362.

32 miles from Bund-i-kir, that the traveller approaches the interesting but unutterably dilapidated town of Shushter, the capital and seat of government of Arabistan.

I have, in the 'Fortnightly Review' for May, given so minute and exhaustive a description of Shushter, its external features, population, and celebrated works of ancient hydraulic or engineering skill, commonly, but, as I think, erroneously, connected with the name of the captive Roman Emperor Valerian, that I will not here recapitulate my own remarks. I will merely summarise them by saying that the town of Shushter occupies a commanding position on a rock in the angle between the two streams which we have observed to reunite at Bund-i-kir; that it is the most decayed and melancholy among considerable centres of human habitation that I have ever seen; that it contains a population of about 8000 persons, distinguished for alleged descent from the Prophet, and for a swagger and superstition quite in keeping with that illustrious origin; that its trade, which might be great, is comparatively insignificant; that its surrounding cultivation, which possesses incomparable advantages of soil and climate, has lapsed into shocking neglect; and that at present it only retains its prestige because of its commanding natural position, its selection as the seat of provincial government, and the magnificent waterworks which were constructed here by the Sassanian monarch Shapur, 1600 years ago, to supply the city and its suburbs and gardens with water, and to economise the superfluous extravagance of the Karun. For a discussion of the character and object of those stupendous undertakings may I refer my hearers to the pages of the 'Review' which I have already mentioned?

6. Here I will resume the interrupted ascent of the river, and proceed to a brief *résumé* of the final section of the Karun from above Shushter to its source in the Zardah Kuh mountains to the west of Ispahan. In this part of its course I am not concerned on the present occasion to follow it with minuteness; since, the channel not being navigable in these regions, its importance as a trade route ceases here, and passes to the overland mule-tracks by which at present communication is kept up with Khoremabad, Burujird, and other larger towns further north.

In its upper course, however, the Karun, which flows alternately through precipitous gorges and elevated plains, traverses a country that is interesting both from its inhabitants and from the ancient ruins that exist upon its banks and in the neighbourhood.

The rugged mountain system here encountered, which presents a succession of lofty, snow-capped ridges and craggy defiles, extending eastwards from Shushter to the neighbourhood of Ispahan, is the home of the Bakhtiari subdivision of the great tribe of nomad Lurs, occupying the province of Luri Buzurg or Greater Luristan. Their history in the first half of the present century, which was one of romantic incident and

heroic struggle for the preservation of an immemorial freedom, has been related by Rawlinson and Layard, the latter of whom was on terms of intimacy with the tribal chieftains, rarely permitted to a stranger and an Englishman. I hope that there may sometime be presented to this Society an account of the subsequent history and present condition of these celebrated highland clans, before the encroachments of the Persian Government, which has for long devoted itself to the extinction of the independence and authority of their principal chiefs, have finally crushed them into the dull mould of uniform subjection.

The ruins which are visible on the upper course of the Karun, or upon the banks of its tributaries, include the relics of the prosperous and princely rule of the Atabegs in the Middle Ages, which are themselves, in many cases, restorations of the far earlier structures of the Sassanian or of the Kaianian kings. Here are visible a second Susan, and a second tomb of Daniel, which led Sir H. Rawlinson to conjecture that they must mark the site of the royal Susa of the ancients, and of "Shushan the palace" of the prophet Daniel—a hypothesis which has been invalidated by later explorations. In an adjoining plain are the far more considerable remains of Mal Amir, consisting of four groups of rock-sculptures, which were first visited and described by Layard, and found to belong, three to the Kaianian, and one to the Sassanian epoch. These, viz. the people and the ruins, are, along with the fine forests of oak, beech, and plane there met with, the chief features of interest upon the upper waters of the Karun.

Till quite recently this belt of country has possessed an independent interest, connected with the opening of the Karun trade route, inasmuch as through it runs the shortest mule track from Shushter to Ispahan, by which, if safeguarded and improved, it was hoped that a new and speedier overland route might be found to Ispahan from the sea. Slightly different tracks have been followed across this region by the various travellers, including in recent years Mr. G. Mackenzie, Major Wells and Mr. W. Baring, General Schindler, and private friends whose itineraries I have seen; but they unite in calculating the distance as about 260 miles. Their versions of the difficulties, physical and otherwise, encountered, differ somewhat, according to the temperament of the traveller, the season of the year selected, and the professional interests concerned. There can be no doubt, however, that though this road is secure, the Bakhtiaris being favourably disposed and peaceful, a good deal of road repair, and of bridge and caravanserai building, would have been required to render it passable for caravans, while it would have been liable to be closed by snow in the depth of winter. It is probably owing to these considerations that the large scheme of road construction, of which I have previously spoken as about to be undertaken by an English company, includes a branch road to Ispahan, not along this route, although it is considerably the shortest from the sea, but farther

north from Burujird, whence there already exists a well-worn mule track by Khonsar to Ispahan, a distance of 210 miles.

While writing this paper, I have heard from Ispahan that the merchants of that place are looking forward with sanguine anticipation to the completion of this new road. I do not see that, as regards distance, it will help them much for merchandise coming from the sea, as the distance from Ahwaz by road to Burujird and thence to Ispahan will be about the same as, if not a little more than, the present distance *viâ* Shiraz from the Gulf, viz. 500 miles; although being, according to present intentions, a wheeled track, the Burujird road ought to provide both a speedier and safer transit than do the horrible *kotals* or rock-ladders between Bushire and Shiraz. In any case it must facilitate trade distribution in the interior, and, as a branch of a great system, will contribute to the success of the whole; whilst, in later days, a Bakhtiari caravan road may perhaps follow.

Returning to Shushter, I will now trace the main line of through communication to the western and northern provinces which will shortly be opened out in connection with the traffic on the Karun. The only publication, in English, available to the general reader, in which this route is explained and described by a competent authority, is the series of admirable articles contributed by Colonel Bell to 'Blackwood's Magazine,' in April, June, and July, 1889. To them may safely be referred any student of the question, or even any would-be shareholder in the new venture that will shortly be submitted to the public. The information therein contained, dating from the year 1884, I am able to supplement by details communicated to me when in Persia by travellers who had themselves made the journey in the past year!

From Shushter the road, crossing the Karun—or rather, at the present moment, not crossing it, for the famous Bridge of Valerian is broken down—runs over a level plain for 36 miles to the important town of Dizful, which is situated on the left bank of the river, already alluded to as bearing the same name. Dizful resembles Shushter in many respects; in its architecture, its population, its possession of a fine ancient bridge, its general neglect of trade and tillage, and its universal and incorrigible decay. As an illustration of what the new route by the Karun may here be expected to do, I may mention a fact, which I have nowhere seen stated, viz., that the import and export trade of Dizful, which might easily be doubled or trebled in volume, is at present conducted by an overland track from the Turkish landing-place of Amarah, on the Tigris, merchandise being brought up the river from Busrah, and despatched by mule caravans starting twice a month for Dizful. Now, all goods passing this way have to pay customs dues to Turkey as well as to Persia; from which may be inferred the advantages of a new route which shall avoid both Ottoman territory and Ottoman officials—a tribe whose victim is of all men the most

to be pitied—and which shall traverse Persian soil and Persian waters alone.

After leaving Dizful, the next section of the road, 156 miles in length, to Khoremad, is both the roughest and hitherto the least safe. It crosses a steep and mountainous region, rising from 580 feet above the sea at Dizful to 5500 feet on the highest pass. Colonel Bell classified 50 miles of it as bad; and here some blasting will be required, and a good deal of boulder-lifting from the road. I have often wondered, when riding in Persia, at the apathy with which tracks that are used daily by hundreds of camels, horses, and mules, are left as thickly covered with huge jagged rocks, that could be removed by the expenditure of a few shillings, as a porcupine is with quills. No one ever takes them away; and a workman with pick or shovel is a phenomenon that you will not stumble upon in the whole of Persia.

The insecurity of the Dizful-Khoremad road is due to the lawless vagaries of the Ilyat or nomad tribes in this quarter. They recognise no authority, are always fighting among themselves, and subsist when they can upon pillage. In January of the present year the Derikwand tribe were out plundering, and cutting the telegraph wires, and I heard of a caravan for Dizful that had been stopped for two months at Khoremad before it dared to start. Guard-houses will require to be built, and guards to be stationed upon this section of the road, which should then be traversable by mules without difficulty in six or seven days. Khoremad, though the seat of government of the province of Luristan, and surrounded by a fertile valley, is at present a small and decaying place, its decline being due to bad government and to the local conditions which I have just described. It is, however, the first of the cluster of inland cities and centres of manufacture or cultivation, hitherto isolated from the sea, which the new route aspires to open up and develop.

Of these the next in order is Burujird, 63 miles from Khoremad—a large and thriving town of 17,000 inhabitants, situated at a height of 5400 feet above the sea, in an extensive and well-watered plain, in which are grown vines and cereals of every description, and whose productiveness might be indefinitely multiplied. I have already mentioned Burujird as the starting-point of the projected branch road to Ispahan, and its position marks it out as the natural centre whence other roads will radiate forth to the not less important cities of Kermanshah and Hamadan, at present served only by the caravan-line that runs from Baghdad to Teheran. Kermanshah, said to have 60,000 inhabitants, is distant 130 miles from Burujird; Hamadan, with 15,000, only 90 miles; and both are places of great trade and greater possibilities.

From Burujird, the main road which I have been following, will, I presume, be continued eastwards, 60 miles to Sultanabad, a very prosperous place in a district rich in pastures and grain, and celebrated

as the centre of the Persian carpet manufacture in the west provinces. Thence it will be produced for 80 miles to Kum, the well-known sacred city, on the main postal-line from the south to Teheran. Kum is only 100 miles distant from the capital, and is already connected with it by one of the two made roads which are all that the kingdom of the Shah can at present boast of.

I have thus conducted my hearers from the mouth of the Karun river to the Persian capital, and have shown the points and places between, which the utilisation of the river channel in the first place, and of the land roads about to be constructed in the second, will bring into novel communication both with each other and with the Persian Gulf. Let me state the case, and the advantages possessed by the proposed over the existing system, in terms of miles, regarding Ahwaz as the new maritime base, just as Bushire and Baghdad are the old. Burujird is distant from Baghdad 350 miles, and from Bushire 700 miles. From Ahwaz it is distant 310 miles. Sultanabad is distant from Bushire 700 miles, from Ahwaz 370 miles. Hamadan is distant from Baghdad 320 miles, from Ahwaz 400 miles; but Turkish river, territory, and custom-houses have not in the latter case to be passed between. Kum is 700 miles from Bushire, 450 miles from Ahwaz. Kashan is 640 miles from Bushire, 510 miles viâ Kum from Ahwaz.

These figures serve to show the greater expeditiousness of the new route; but it should further be remembered that the gain is not to be estimated in mileage only, but that the contrast will be between narrow and sometimes perilous mule-tracks upon the old line, and a cart-road with a probable wagon service upon the new.

If I be asked what is the particular use that is likely to be made of the Karun and inland route, and what are the prospects of mercantile return in the shape of traffic, customs, and tolls, I answer that under proper management it ought to result in a fourfold development, each pregnant with future wealth.

In the first place, a great impetus will be given to local production and manufacture. In traversing the Karun country, whether by river or on horseback, I passed through thousands of acres of splendid soil, capable of producing wheat, barley, cotton, rice, maize, tobacco, indigo, opium, sugar-cane, and with every facility for abundant irrigation, but lying naked and desolate, or else encumbered with tangled undergrowth and marshy pools. Further north, vines and fruit of every description can be grown with ease, and medicinal plants of considerable value. There also are to be found pastures for large flocks of sheep and goats, producing wool that fetches a high price; whilst the Bakhtiari country is celebrated for its breed of horses and mules, hundreds of which are even now brought down to the coast and shipped for sale to Bombay. Mineral resources are believed to exist in considerable extent in the provinces thus opened up; and naphtha springs are well known

in the neighbourhood of Shushter and Ram Hormuz. All these products are only at present turned out in scanty volume, and there is not one among them whose annual output might not be many times multiplied were communication rendered simultaneously more easy and more secure.

Secondly: there would in time be a large increase of population in the districts affected. The population of Persia has been woefully diminished by the neglect and breakdown of the water-system upon which it depended. But in this corner of the Shah's dominions, and in this alone, nature has not stinted the most generous supplies; and the plains over which the traveller may now roam for hours without encountering a single human soul, ought under altered conditions to teem with busy life and industry.

Thirdly—and this is a consideration which specially affects ourselves—the opening of this route, if vigorously carried out, should result in an enormously increased import into Persia of British and Anglo-Indian goods. As it is, the import trade of the whole of Southern Persia is almost exclusively in British hands. Steamers of two British or Indian companies run weekly from Bombay to Busrah, and there is also a direct though irregular service between Busrah and London. The cities of Southern and Central Persia, as far north as Ispahan, already derive the bulk of their luxuries, and almost the whole of their clothing, from Manchester or Bombay; and each fresh town, we may even say each new village, that is brought into communication with the Persian Gulf, will thereby be drawn into the mesh of the Lancashire cotton spinner or the Hindu artisan.

Fourthly: should the line thus opened be succeeded at any time by a railway, the returns from passenger traffic would constitute no mean item. Asiatics generally are childishly fond of railway travelling; and the Asiatics of Persia, in particular, are addicted to immense journeys, extending over months of time, in order to gratify their pious desire to gaze upon the last resting-place of some departed saint. When they have reached the holy spot and have paid the becoming devotions, they enjoy what in England is vulgarly described as a spree; after which they return home in the odour of accomplished sanctity, and are known ever after as Hajis if they have been to Mecca, as Meshedis if to Meshed, or as Kerbelais if to Kerbela. I am a Meshedi and a Kerbelai myself, though I confess to being still a stranger both to the turbulent sweets of initiation and to the consecrated joys of reminiscence. A railway running between the Karun and Teheran would carry many thousands of such pilgrims to Kum, to Kerbela, to Najaf, to Kazimein, to Samara, and even in the direction of Mecca itself—all of them shrines of extreme sanctity and popularity. It would thus in time be supported by the superstition against which it might at first have to contend.

Such is the commercial geography of south-west Persia, and such are the advantages, both to Persia and to Great Britain, that may be

expected to result from the active development of the Karun trade route. If it be asked why I have not laid greater stress upon or devoted more space to railways, I reply that sufficient for the day is the good thereof. There is a natural sequence of events which no diplomatist can revolutionise or invert. Mule-tracks must precede cart-roads; cart-roads must precede railroads. We shall not conquer Persia by lightning, or convert her by steam. It will be time to discuss a Karun railway when we have seen what becomes of a Karun road. In the meantime it rests with British enterprise to make worthy use of an opportunity which we owe to the successful efforts of British diplomacy and to the friendly disposition of an allied sovereign.

Mr. H. F. B. LYNCH asked permission to make a few remarks, in order that he might lay before the Society some of the information which he was able to collect during a journey last summer, from the mouth of the Karun to the furthest mountains in which it took its source, and also because he felt he might have gained some useful knowledge on the general question during a three months' sojourn in Teheran, devoted to an attempt—in some measure, he hoped, successful—to remove those obstacles under which the navigation of that fine river had hitherto seemed a vain labour to those who had conducted it. Many of those present knew the terms on which the Karun river to Ahwaz was thrown open to general commerce in November 1888. The present was not the occasion to dwell on those subsequent restrictions and rescissions which, in the eyes of many, long held the balance doubtful between progress and abandonment. But they must not forget that whatever progress might have been achieved, and whatever results were likely to ensue, were due to the enlightened, if perhaps over-cautious, policy of his Majesty the Shah, and to the energetic initiative of the British Minister in Teheran, Sir Henry Drummond Wolff. The medieval gate which severed Persia, weak in her isolation, from the busy expansion of the modern world, had been thrown ajar, and they might attribute many of the difficulties which had been met with to the protracted absence of his Majesty the Shah from his dominions. He was thankful to be able to inform the meeting that many of those difficulties had now been removed. He had heard by telegraph that a steamer belonging to the company navigating the Lower Karun had been successfully taken above the rapids, and was about to commence, in the service of the Persian Government, to ply continuously between Ahwaz and Shushter, in conjunction with the company's steamers below Ahwaz. Shushter, the point from which the trade routes to the interior would naturally commence, was thus brought into immediate contact with the commerce of India and of Europe. If the goodwill of the Persian Government continued; if the British Government would support, as they had already supported, the interests of general commerce on those waters, and enable those to continue the navigation who had striven their utmost to establish it; then the tracks which Mr. Curzon had described were likely to be beaten by the tread of caravans, or furrowed by the novel roll of wheels.

From a short sketch of the progress and the actual position of commerce, which, it seemed to him, it was important to state in connection with a paper dealing largely with commercial geography, he passed to a very brief examination of the ground which Mr. Curzon's paper had traversed. He felt that the thanks of all those who were interested in the East were due to Mr. Curzon, for the diligent research and the intelligent observation which he had brought to bear on these subjects. Following his general division, he would attempt to offer a few brief

remarks by way of supplement or suggestion. Mr. Curzon had dwelt on the importance of the Bahmeshir Channel as an alternative entrance to the Karun. It was the opinion of those who had recently explored that channel that it was navigable for a distance of 30 miles by the large ocean steamers which now plied to Busrah. At that point the river steamers could meet the ocean steamers, and although the banks were low and muddy he was informed that it would be possible to erect a *depôt* upon them. At Bund-i-Kir, as Mr. Curzon had told them, the two branches of the Karun and the river of Dizful converged and met. With regard to the river of Dizful, he had found it in August exceedingly shallow, and a long bank of sand extended almost across its entrance. In the month of May it was a river of broad and ample volume, and he noticed the contrast between its red and loam-charged stream and the white waters of the Karun. While on the subject of the Dizful river, he might mention that he saw no reason why, as had been suggested to him by an Indian officer last summer, who had carefully travelled through the country between the Kerkhah and Diz, the Kerkhah should not be turned into the Diz, and so give a good navigable channel. The river Kerkhah lost itself in a marsh. But such schemes belonged to a future which might be distant, and those who in spring and after rain had traversed those tracks, when from the rich soil a fairy growth of grass and flower tinged the white flanks of the rider's Arab, and again in summer, beneath the fierce sun, had struggled over the bleak expanse of endless desert, with noble rivers everywhere and a parched plain around, could best realise what this wonderful country might produce, what blessings it might enjoy, were only an ordered system of irrigation and navigation introduced—or, in honour of the great past, he would say restored. He had followed the Karun proper for many miles on horseback from Shushter. He thought the river might be rendered navigable by opening up the main channel, and conveying smaller channels into it. With regard to the Ab-i-Gargar, it might be navigated with luxury to $2\frac{1}{2}$ miles from Shushter and beyond Shelailieh. He had followed the river from Shelailieh to Shushter, and found no obstacle of any importance, and his little had party marked a place $2\frac{1}{2}$ miles from Shushter, which would, he hoped, be the terminus of the new line. He would now pass on to a consideration of the trade routes which led from Shushter into the interior. He was glad to see present Mr. George de Reuter, to whose energy and success in Teheran the Imperial Bank of Persia mainly owed its origin. It might be within the knowledge of those present that a group connected with that bank was now engaged in making a road from Shushter to Teheran. The main obstacle they would have to contend with was the ruinous condition of the noble bridge of Shushter. The Sassanian builders had no successors in Persia. A well-ordered ferry would, he had no doubt, soon be made, but while he sincerely admired that great project which brought many towns of Persia into direct contact with the Persian Gulf, he must express surprise that nothing had yet been projected to improve and develop the direct road from Shushter to Ispahan. There they had no broad river to cross, and at their limit they had the populous town of Ispahan, the former capital of Persia; there they were in touch with the fertile districts of Yezd and Kerman, and some present might live to see the day when Ispahan might be restored to her former condition and her walls and avenues to their ancient beauty. The modern Ispahan was a considerable city, whose population numbered some 80,000 souls. He had traversed the mountainous country from Shushter to Ispahan *viâ* Malamir, but by a short route, and he estimated the total distance as under 250 miles. The ascent to the Persian plateau, wherever it was commenced, was arduous, and any one who in midwinter had seen the caravans plodding their way through the deep snow over the Kharzan Pass on the best known road in Persia, would not be inclined to overestimate the difficulties which those high altitudes undoubtedly presented. His

little party consisted of two, with a guide and a few muleteers, and yet they had felt themselves as safe as in Switzerland or the Cevennes. The Prince of the Bakhtiari, Isfendiar Khan, their friend and afterwards their kind host, during a pleasant sojourn in his mountains, was, with his uncle the Ilkhani, supreme and respected throughout the country he had traversed. To indulge the thought of a cart road through those mountains might perhaps be luxurious, but he might mention that on portions of the journey he had enjoyed the well-paved ancient road which led from Elymais to the Persian plateau. A little removal of the boulders, and a few boats at the first passage of the Karun river, would render those routes passable for a more extended commerce. In winter the people returned from their summer pastures to the villages along it, and in summer there were always a few left to supply provisions. He crossed one pass 7420 feet high, and on the high uplands before Dopulun his aneroid registered 6070 feet.

Mr. GEORGE DE REUTER said that unfortunately he had had no personal presentation to the Karun. He had only been within 400 miles of it; but he had known the river more or less for the last eighteen years, and it was a subject of very great interest to him. With regard to the trade route from Ispahan to Mohammerah, the shortest route would be straight to Shushter, but the engineering difficulties were very great. With regard to the new road from Teheran to Mohammerah, it was proposed to have a branch at Burujird, joining that city with Ispahan. Of course that was a long way, but by avoiding the almost impassable mountains between Shiraz and Bushire, although the distance was greater, there would be actually a gain in point of time. The Shah was quite alive to the importance of having roads through his dominions, and he had granted a concession for making one which should join Teheran with Tabriz, the great north-western capital of Persia. Tabriz was at present the second if not the first commercial centre of Persia. That road, from a commercial point of view, would be a great advantage, but not so good as the one from Tabriz to Bushire. When that was made one might go straight from England to the interior of Persia, and British trade would go to the furthest removed parts of that country. He also hoped that roads would be extended still further to the Russian and Turkish frontiers, because what Englishmen desired was not what they were now and then accused of, namely, everything for themselves. Of course, like most people, they wished to benefit themselves, but they also wanted to see Persia a flourishing country. They did not want to do anything with a rotten, decayed, or corrupt State. The greater the advantage to Persia, the greater would be the reward to Englishmen, and by extending roads in all directions in Persia, England would get enormous advantage to her commerce, and before very long he hoped to see Cook's excursions to Teheran, along roads not infested with brigands, and where it was not necessary to go all the way on horseback.

Mr. WILFRID BLUNT congratulated Mr. Curzon on his very lucid and admirable paper. He wished to ask him a question about the Kerkhah river, which he believed was an affluent of the Karun. Mr. Lynch thought it went into the Shat-el-Arab, but ten years ago he (Mr. Blunt) was informed that it went into the Karun. No doubt it fell into a series of marshes. He also wished to ask a question about the state of the country in the neighbourhood of Shushter. When he travelled through it about ten years ago there was really no safety at all except just in that part which was under the protection of the Bakhtiari chief. He travelled from Baghdad to Shushter, and thence to Behbahan and Bushire. That included pretty nearly the whole of the country the commerce of which would be affected by the new enterprise, and certainly at that time the communications were very little safe, and the villages were so devastated by robbers, that unless something were done to improve the state of affairs, it would be very difficult indeed to open up

commerce. No doubt things had improved during the last ten years, and he believed that the Shah was doing all he could in that direction, but he would like to know from Mr. Curzon what the present state of the country was about there, as it was a very important factor in the question of whether the commerce of the country could be opened up.

Mr. CURZON said he was much obliged to Mr. Blunt for having raised those two points. With regard to the Kerkhah river, Mr. Lynch was certainly correct in saying that it did not flow into the Karun. It ended in swamps, near a town which was now in ruins, known as Hawizah, from which the overflow once ran into the Shat-el-Arab. It ran at one point close to another stream known as the Shaour, which flowed into the Ab-i-Diz, but in recorded times he did not think there had been any connection with the Karun. To his mind it was extremely doubtful whether, if it could be turned into the Karun, any advantage could be derived therefrom, the course being so tortuous. Under any conditions he thought that the caravan traffic would be found the cheaper of the two. With regard to the danger of the country, Mr. Lynch had spoken of the district between Shushter and Ispahan, and Mr. Blunt bore him out in saying that years ago, owing to the greater public spirit of the Bakhtiari chieftians, it was safe, but it was quite true that that could not be always predicted on the northern road. The Feili division of the Lur tribe were more turbulent and lawless than the Bakhtiari. Only a week before he was there, in January, the caravan road had been blocked by a section of the tribe. It was true that this difficulty had to be confronted, and the roads, if opened up, would require to be provided with guard-houses and guards; but in granting the concession, the Shah had guaranteed the safety of merchandise travelling on that route, by which of course was meant that he would provide guards. It was only recently that robbers were found on the Shiraz roads, but all goods stolen there were made up for to the full value by the Persian Government, whose method was simple and efficacious. For instance, if goods to the value of 400*l.* were stolen, 600*l.* would at once be levied from the nearest villages, 400*l.* of which would go to the injured merchant, and 200*l.* to the Government. The unhappy people who had to pay the price were in many cases the friends and neighbours of the robbers, and in some cases the actual robbers themselves. There was, therefore, a likelihood that under the guarantee of his Majesty, sufficient safety might be secured to enable caravans to pass along.

Sir FREDERIC GOLDSMID, as an old Persian traveller, wished to express his very great satisfaction at the work done in Persia and the neighbouring regions by the present generation of explorers, of whom Mr. Curzon was so able a representative. He thought the meeting should express their special thanks to him for bringing forward, in the manner he had done, the subject of a country the people of which were by no means effete, but capable of high intellectual and material development. Although he himself had entered and quitted Persia on the north, east, south, and west, it had never been his lot to light on the Karun river; and therefore he approached that particular question with diffidence. He was, moreover, afraid that if he were to talk about roads he should revert to the old question of railways; for although he acknowledged that there had been good road-making in the north of Persia, he was not sure that the operation was a sufficient one for actual requirements. He was of opinion that a stronger treatment was desirable, and that the railway would, in this case, prove a great civilising agent. It was impossible for him to look at the map before his eyes without observing the splendid possible line of railway from Constantinople to Baghdad and Karachi, or another one from Port Said, in Egypt, running across the Arabian continent, and down the coast to Persia. Perhaps Mr. Curzon could tell them whether he knew of any practicable route by which a railway might pass from Khuzistan to Shiraz, from which city it would take an oblique direction to the coast.

From Shiraz it would be a simple matter to reach Bunder Abbas, whence they could continue the route through maritime Beluchistan to India.

Mr. CURZON said it was undoubtedly true that a track led from Shiraz via Behbahan to Shushter, and that route had been explored by Colonel Bell. He believed that the physical difficulties of that portion of the route were not great. They, of course, entered a different region when they came to the main trunk railway approaching Persia, and Sir Frederic Goldsmid was inviting him to enter on very thorny ground indeed when he suggested a discussion of the Euphrates Valley Railway, a railway through Asia Minor, or a railway from Port Said across Arabia. It appeared to him that the difficulties in carrying out any of those schemes were, in the present condition of the countries, and still more of the Governments, so great as to render it almost impossible that either Sir Frederic Goldsmid or himself would ever see them fulfilled. He would not banish the idea of connecting India with England by railway, but the immediate prospects were small. Certainly they would be improved by getting railways introduced into Persia and Turkey.

The PRESIDENT said he did not think it had often happened in the history of the Royal Geographical Society that in two successive years they had had communications, both excellent, from one of the most active, most rising, and he would add, because it was not a matter about which there was any difference among parties, one of the most deservedly rising Members of the House of Commons. It was to be observed that both the papers had required a great amount of arduous trouble and of personal observation given during the time which most persons gave to recreation after the arduous labours of modern sessions. He had regretted that a previous engagement prevented Sir Henry Layard from being present, for he entirely agreed with the writer of the paper in thinking that many of his countrymen had not sufficiently appreciated the prescience of that distinguished public servant; too many of them, in fact, were like the great lady in London who, when Sir Henry Layard first appeared upon the political scene, said she should never forgive Nineveh for discovering that Layard. They had, however, been favoured by the presence of several gentlemen who had addressed them with very great care and considerable authority. He thought he might especially congratulate Mr. Lynch on account of the very valuable observations he had made, which were couched in a form that showed no small amount of study, and gave no small amount of promise of success in public speaking. They had also had some excellent observations from Mr. de Reuter, interesting questions asked by Mr. Wilfrid Blunt, and some valuable observations from their old and tried friend and colleague, Sir Frederic Goldsmid. He was sure that the meeting would instruct him to give the best thanks of the Society to the writer of the paper, and to all the gentlemen who had taken part in the discussion.