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*Notes on Khiva.* By Major-General Sir H. C. RAWLINSON, K.C.B.,  
President.

[ABSTRACT.\*]

KHIVA, the tract of country south of Lake Aral, fertilized by the Delta channels of the Oxus, was probably one of the earliest settlements of the Aryan race. It seems also to have been the true cradle of Eastern Asiatic science, the date, 1304 B.C., claimed by a native scholar for the people of Kharism, according with the date of invention of the Median calendar. It is probable that the invention of a lunar as well as a solar zodiac arose in the same ancient country and passed thence to China and India. A curious feature in the physical geography of the region is the fluctuation which has taken place in the lower course of the Oxus, the river at one epoch flowing to the Caspian, and at another to the Aral. The stream was gradually deflected from the Caspian to the Aral during the fifth and sixth centuries of our era; and there exists an historical notice of the sea of Kardar, above Urganj, which was fed by the Caspian branch of the Oxus, drying up in the sixth century. From 500 to 1220 A.D., during which the river flowed, as now, into the Aral, the Caspian became, to some extent, desiccated, its waters retiring for a long distance on its eastern shore. After the latter date the river again changed its course into the Caspian, and several fertile districts on the eastern shore of the sea became thereupon submerged. This lasted for 350 years. Between 1575 and 1675 the river again reverted to the Aral, since which no similar alteration has occurred. Regarding the Russian project of again diverting the Oxus waters to the Caspian, and thus creating an uninterrupted water-navigation, *viâ* the Volga and its canals, the Caspian, and the Oxus, from St. Petersburg to Afghanistan, the author quoted passages from the work of a recent Russian engineer, showing that, though the diversion was practicable, it was impossible that the stream could be a navigable one. The Oxus is a rapidly-flowing stream (5 to 6 miles an hour), and silt rapidly accumulates in its canals and side-channels, needing an immense number of labourers to clear them annually. The present population is insufficient for these requirements, notwithstanding that the labour of Persian slaves is employed. In the event of her taking possession of the country, one of Russia's greatest difficulties would be the want of labouring population. The principal roads leading across the vast deserts which surround Khiva were, first, along the western side of the

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\* Of the geographical portion only, the political part is not here reported.

Ural; second, along the eastern side, from Fort No. 1 on the Jaxartes; third, another road a little further east; fourth, from Samarcand and Bokhara; fifth, from Merv; sixth, from the mouth of the Attrek; and, seventh, from Krasnovodsk, on the eastern shore of the Caspian.

Mr. R. MICHELL said if the Caspian was receding from the south-east it must be encroaching on the Astrakhan steppes to the north. The Volga in ancient times was a highway of commerce, but now its mouths were silting up—there was a bar at the entrance, and the navigation of the river was but indirectly connected with that of the Caspian. If it was true that the Oxus formerly came down by the southern channel into the Caspian, it would seem to bear out the theory of old writers that there were three rivers running parallel to the west, viz., the Jaxartes, the Kizil-Su, and the Oxus. If the central river was called Kizil-Su, or Red River, it would naturally fall into Red Water Bay. The only proof, however, of that was the bay itself, for the river had disappeared. The geography of the north of Khorassan and of the Turcoman country was tolerably well known, and maps such as those recently produced by the Topographical Department might have been constructed long ago, if the works of English and other travellers had been more thoroughly digested. Very little information concerning this region had been acquired since the days of Fraser, Conolly, Burns, Ferrier, and others, but the works of these supply a great deal. Now, however, that public interest had been aroused, maps were forthcoming. A good frontier for the Russians would be along the Chink. There were only one or two passes from the higher level into the deserts 600 or 700 feet below; it would form a capital "natural boundary," which was what the Russians had been seeking ever since they had been in Asia. Mr. Michell then announced that a plan of Khiva had been found, and read a description of that Khanate drawn up by a Russian topographer in 1858. The town is situated between two canals, and is surrounded by two walls. The inner one is about 1040 fathoms in length, the outer one 3100 fathoms. The configuration of the outer defences is pear-shaped, the inner town forming a parallelogram, of which the eastern and western fronts are 300 fathoms in length, and the northern and southern sides 230 fathoms. The Khan resides in the inner town, his palace being near the western gate: the suburbs of the outer town contain many residences and beautiful spots.

Mr. EASTWICK said he had travelled along the southern coast of the Caspian to Astrabad, and there was certainly no appearance of the sea receding there, for the line of sand between the high jungle and the sea itself was extremely narrow. He had, however, a rather disagreeable proof that it was receding on the eastern side, for the vessel on board of which he was ran ashore in rather too close proximity to the Turcoman tents. That recession might perhaps be owing to the diversion of the Oxus. Of course these inland seas, in a country where the heat during summer was so intense, were liable to be dried up, and no doubt the Caspian would dry up at a very rapid rate if it were not for the great rivers which ran into it. The territory immediately around Khiva was extremely rich, and produced some of the finest fruits in the world, the melons especially being superior even to those of Persia. The richness of the soil might therefore be some inducement to Russia to remain there, if she once occupied the country. During certain months of the year there was no climate in the world equal to that of Khiva. We must not, therefore, be too confident that Russia would easily relinquish what she might obtain.

Mr. R. B. SHAW said the loss of the Oxus in the Aral Sea was paralleled on the other side of the Pamir by the loss of the great rivers of Eastern Turkistan.

It was a very strange fact that the rivers which took their rise in and flowed eastward and westward from the great "Roof of the World" failed to reach the ocean in either direction. On the western side the Oxus and the Jaxartes died away in the Aral Sea (the Zarafshân being absorbed in the irrigation of Bokhara), whilst the rivers on the eastern side died away before reaching China, a fresh set of rivers starting up there and flowing into the ocean. The increase of cultivation, if such a thing were historically possible, might account for the termination of the Oxus in the Aral Sea. Cultivation would naturally drain the rivers to a great extent, and thus prevent their penetrating so far from their sources as they otherwise would. That irrigation was capable of draining a river dry in these regions was evidenced by the case of the Zarafshân and others. The inverse of this process, too, might account for the old tales of moving deserts, which were said to have invaded vast provinces and covered rich cities and fields. The stoppage of irrigation proceedings on the part of the cultivators, who were prevented by war or other circumstances from keeping the canals open, would of course leave land uncultivated which had formerly been cultivated; the soil would become (as it always does there when not irrigated) dry and friable like sand, and this, in the traditional language of the country would be spoken of as the desert encroaching on the cultivated land. The more he heard of the regions just described by Sir H. Rawlinson, of the wild state in which they were, and of the insecurity of life and property, the more he was struck with the contrast offered in Eastern Turkistan. In the country of the Atalik Ghazee there was the most perfect security; the richest caravans passed along the roads without any escort, and an armed man was never seen, unless he was a soldier on duty. This showed a degree of natural civilization in no way inferior to that which Russia seemed to introduce into the countries she had conquered at much cost to both parties, and he therefore hoped, whatever might be the fate of Khiva and the Turkoman countries, that Eastern Turkistan might escape the civilizing influences of Russia.

General STRACHEY said the evidence which Sir Henry Rawlinson had brought forward afforded reasonable proof of the curious circumstance that the course of the Jaxartes and the Oxus had been changed within the historical period. What is known of the geological formation of the tract of country extending from the Caspian to India seems to supply sufficient indication that the present state of Central Asia was the result of a very great change that had taken place in the form of the earth's surface in that part of the globe in comparatively—geologically speaking—modern times. The elevated tract between the Caspian and the Aral Seas was geologically of very much the same character as the hills which skirted the Indus, and ran from the Indian Ocean to the Punjab. It was probable that the elevation of the earth's crust, which had thrown up the plains of Turkistan from the bed of the ocean, left those two isolated seas, the Caspian and the Aral, and that a simultaneous or nearly simultaneous upheaval had affected the tract through which the Indus now ran, and that those desert plains were the remains of the old sea bottom, very similar to those of Turkistan. The abandoned river-beds of the Oxus which Sir Henry had described were altogether similar to those which might still be seen in Sindh, through which, no doubt, in years long gone by, the waters of the Indus were conveyed from Upper India to the sea. There was nothing improbable in the supposition that considerable movements of the surface, capable of changing the directions of these rivers, had continued into the historical period, and there was indeed direct proof of such movements in Sindh.

Sir RUTHERFORD ALCOCK said the historical and geographical facts which Sir Henry had referred to showed the important part which geography played in the political drama that was going on in Central Asia. Nothing

had tended so much to prove the utility, as well as the political and national importance, of the pursuit of geography than the discussions that had taken place during the last few years with regard to the progress of arms and diplomacy in Central Asia. The late agreement concerning the boundary of Afghanistan showed how desirable it was to have precise information with regard to the geographical features of a country. It was not many years ago that the Oregon boundary was almost a question of peace or war between this country and America; and if the distribution of the waters around San Juan had been properly known, the Treaty of Washington would probably have taken some other form than that which it had finally assumed. The study of Geography, then, was not a mere idle or dilettante pursuit, but one that had a direct and important bearing upon national interests. With reference to what had been taking place in Central Asia, so far as the "inevitable tendency," as it was called, of Russia to press down to southern seas was concerned—he admitted the tendency, but he did not think it possible that she could ever press through Persia, Turkistan, Afghanistan, and Beloochistan. Such a task seemed far beyond the power of any human combination that could be imagined. He was inclined to agree with Sir Henry Rawlinson that Russia, in endeavouring to penetrate by force of arms, and so to press her caravans of commerce across the whole breadth of Turkistan into China, had undertaken a most "Herculean" task, and she would find that the only way to open a way to China must be by peaceable means, by diplomacy and commerce, and not by war. So far from England showing any jealousy, or a disposition to take up arms against Russia to dispute with her the possession of these most intractable and dangerous regions, overrun by tribes of the most warlike character, it should be our policy to exercise diplomatic influence at Teheran, with the Yakoob Beg at Yarkand, and with the Emperor of China at Peking, in order to open up routes through Nepaul and Sikim to the countries north of India, and then the merchants of Liverpool and Manchester would do the rest.

THE PRESIDENT, in reply to a question from a member, said the best authority with regard to the fertility of Khiva was Arminius Vámbéry, who remained there for many months. He reported very highly of its productive powers. An abundance of cereal produce, however, or even melons, would not give political value to a country. Khiva might, no doubt, be made productive to any extent, if the population was large enough; but the evil was that there were no hands to carry on the cultivation. The original cultivators, the old Persians, had died out, and at present great part of the cultivation was carried on by means of Persian slaves; but that source of supply would also be cut off before long, and it was very unlikely that colonists from Germany or Russia, still less from England, would be induced to settle there. It was on these grounds that he foresaw much difficulty for Russia in making both ends meet if she occupied the country. This, however, was merely speculation. The object of the Society was to collect geographical data, and, if he had had more time, he should have been glad to have gone at much greater length into geographical details; for very extensive information was obtainable from Russian as well as British sources. He had, however, been obliged to pass over in a general way the great hydrographical features of the country. The Society might congratulate itself on the interest of the discussions which took place at its meetings—an interest so great that on the present occasion they were honoured with the presence of their Vice-Patron, His Royal Highness the Prince of Wales. He hoped that on future occasions subjects of equal interest might be discussed there, and that His Royal Highness might again favour them with his presence.

On the motion of Sir RUTHERFORD ALCOCK, seconded by His Royal Highness THE PRINCE OF WALES, a vote of thanks was accorded to Sir Henry Rawlinson.