

retain the names used in the countries they explored. Thus, the Jaxartes of the ancients was the Syr Daria of the Russians, and the Oxus of the ancients their Amu Daria.

The Rev. Mr. LLOYD said that the Russian navy and surveyors had gone very regularly over that portion of the coast which Mr. Saunders had referred to; and the Master of the *Scylla* was much indebted to the Russian officers while on his visit there, not only for the information they gave, but also for the admirably executed maps which they allowed him to see. A mistake in the English charts was detected and made good by comparison with the Russian charts. The Russian determinations had been made with great accuracy.

2. *On Communication between India and China by the line of the Burhampooter and Yang-tse.* By General Sir ARTHUR COTTON, R.E.

THE Author stated that orders had been lately issued to survey the line of country in Lower Burmah or Pegu as far as our own frontier, in the direction of the Chinese province of Yunan, with a view to the establishment of a line of route between our Indian possessions and China; but he thought it very strange that so important a question as internal communication between India and China, should be treated in such an imperfect way. No attempt had been made to consider the real question, which was, what would be the best line for such a communication. He conceived the question of throwing open all India, with its population of 200 millions, to all China and its 400 millions of people, was of such great importance that it required a much more serious consideration than had yet been given to it. There were three conclusive objections to the connection with Rangoon. 1st. It would lead the traffic to an insignificant port, instead of directing it to the great port of India and the seat of Government. 2nd. It would not connect the great body of India with China, but only an insignificant province containing two millions of people. 3rd. There were 900 miles of land-carriage between Rangoon and the Yang-tse; whereas it was essential to approach much nearer the great line of water-carriage in China, by which all the great traffic of the country was carried on.

The line which best fulfilled the necessary conditions of the shortest possible land-carriage was the direct one between the Burhampooter and the Yang-tse, the distance between the navigable parts of which was only about 250 miles. This was the only interruption in a prospective line of internal water-communication between Kurrachee and the whole interior and seaboard of China, for the Indus and the Ganges would be sooner or later connected by means of a canal between the Sutlej and the Jumna. The line thus suggested had the advantage of being not only the shortest,

but also that which would connect the heart of China with that of India, and would not require to be led through any foreign intermediate country, as was the case with the southerly line through Burmah. The great superiority of water over land transit for extensive trade was pointed out by the author, especially in countries where the distances were computed by hundreds of miles. The chief apparent difficulty in the line which he recommended was the elevated district of country which was recorded to exist between the Burhampooter and the Yang-tse. No exact information, however, had been published relative to this region, for no European had crossed it; and he concluded his paper by sketching out a plan of exploration which he considered ought to be at once commenced, and which might be carried on by parties ascending the Irrawaddy, the Burhampooter, the Salween, and the Yang-tse in steamers, and then examining the intermediate tracts.

The paper will be published entire in the 'Journal,' vol. xxxvii.

The PRESIDENT said that the project suggested in this paper reminded him of the vast undertaking of Peter the Great, when he devised the grand plan of uniting the rivers of Russia by means of canals. There was a great difference, however, in the nature of the two countries. In Russia the river basins were separated from each other only by districts of small elevation, while the region between the Yangtse-Kiang and the Burhampooter was apparently traversed by almost impassable mountains. The question was truly geographical; and as such well fitted for discussion by this Society. Some years ago a paper of a similar nature was read before the Society by Captain Sprye, who suggested a route much further to the south-east, from Burmah to the western provinces of China.

General G. BALFOUR said the question discussed in the paper was one of great geographical and commercial importance. Having served for many years in China, he had an opportunity of ascertaining the fact that there was not a province in that country more celebrated for its resources than the province of Se-chuen, with which Sir Arthur Cotton's line would connect our Indian possessions. Se-chuen was 1200 miles from the sea-coast, and hence, if a direct internal communication between that province and India could be established, it would be an immense advantage. Dr. Gutzlaf often insisted on the importance of opening a route between India and China, and he pointed out the line from Assam to Se-chuen as the most desirable. The information we had of the nearest approach to Se-chuen was derived from Captain Wilcox, and was now forty years old. The distance between the two extremities of the route between Assam and China was not more than 150 miles, and the barrier separating the two countries might yet be overcome. The project for opening such a communication was one highly deserving the encouragement of this Society. Se-chuen possessed mineral wealth of great extent. Its inhabitants were a hardy, brave race, and it was very fairly peopled, having more than 200 persons to the square mile. He saw no reason why we should not encourage explorations to discover a practicable route over the mountains which lay between the valley of the Burhampooter and that of the Yangtse-Kiang.

Dr. M'COSE was pleased to find so distinguished an officer as Sir Arthur Cotton lending his engineering talents to the question of opening a direct communication from Assam into China. Thirty years ago, in his 'Topo-

graphy of Assam,' he (Dr. McCosh) brought it to the notice of the Government of India; six years ago he read a paper on the same subject before this Society; but nothing had yet been done. He was in Assam when tea was first discovered, and foresaw the advantages of such a communication. Had a road practicable for beasts of burden been constructed thirty years ago, the ruin which has lately fallen upon the tea-plantations of Assam might have been averted. The readiest means of restoring them to prosperity was by establishing ready access to Chinese labourers from China. But he could not give his approbation to the route proposed by Sir Arthur Cotton due east from Sudiya into Se-chuen. This route had long been known as the Mishmee Pass. In 1826 Capt. Wilcox explored it as far as Dea-ling, and in 1844 Capt. Rowlatt explored it as far as Too-pang. In 1855, two missionaries, Krick and Mowey, attempted to cross it, but they were both murdered by the Mishmees. When Capt. Rowlatt was at Too-pang he met a party of Chinese traders, who were prevented by a fall of snow from returning home, and had to remain there till next summer. The country is full of difficulties and dangers; in fact, the main chain of the Himalaya here takes a bend to the south, and a great part of the year the passes are closed by snow. The rivers are tremendous torrents, passable only in baskets suspended from a rope stretching from side to side, the baskets being pulled over by ferry-men. In fact, the great rivers of Martaban, Siam, and Cambodia must be crossed, and, for anything we knew to the contrary, the mysterious river of Lah-sah. Moreover, the line is too far north for commerce. Bhamo, on the Irrawaddy, is the great entrepot of China trade, and any route must necessarily pass through it. A very good route could be constructed from Jorhath, in Upper Assam, over the Pat Koye Range to Mogaung and on to Bhamo. By this route the Burmese army invaded Assam. But the hill tribes on the route—the Singphos and Mat-tucks—would be very difficult to control. The route *viâ* Dacca, Sylhet, Banskundie, across Munnipoor, to the Ningtee or Kyen-duen River, thence across Upper Burmah to Bhamo, and thence on to Yunan, appeared to the speaker to have the advantage over every other route. Indeed, a footpath already exists, and it is necessary only to widen it and establish security by a police. A railway is now under construction from Calcutta to Dacca, and it might easily be carried on to Banskundie. Banskundie to Monfoo on the Ningtee River is distant 200 miles, and the country generally easy. From Monfoo to Bhamo the distance is about 150 miles. At present there is much intercourse between Munnipoor and Ava. He had no hesitation in pronouncing that line infinitely preferable to all others.*

Sir ARTHUR PHAYRE said that no project was better calculated to interest this Society or the world at large than that which had been brought forward by the author of the paper. The points selected for the connection of the Burhampooter and the Yangtse-Kiang were certainly those which would strike any one, on looking at the map, as the two points between which the line of communication should be made; but he was inclined to agree with the remarks of Dr. McCosh, in which he stated that a more southern line would be found the more practicable. His (Sir Arthur Phayre's) reason for this opinion was, that although there had been no survey and no reconnoitre between those two points by any European, still there existed a caravan-road from the province of Yunan to the town of Bhamo, which Dr. McCosh mentioned. *Prima facie*, therefore, that would seem to be the most probable route for an eventual communication between the rivers of the two countries.

* [Since the meeting I have been favoured by Sir Macdonald Stephenson with a copy of his magnificent map of railways projected upon the Indo-Chinese frontiers, and find he has selected the identical line I proposed in 1860. Already this line is finished as far as Khooshtea, *the first link between Calcutta and Canton.*—Dr. M'C.]

Mr. CRAWFURD said he heartily wished he could agree with the project of Sir Arthur Cotton, for he should be happy to coincide with a gentleman who had, to his (Mr. Crawford's) certain knowledge, rendered more substantial service to India than any other man he could name. It would be very desirable to establish a rapid water-communication between the 200 millions of British subjects in India and the 400 millions of Chinese. The line of communication proposed between the Burhampooter and the Yangtse-Kiang by Sir Arthur Cotton, was only 250 miles in length; but it lay through the worst country in the whole world,—a congeries of mountains, divided by very narrow valleys, which would hardly allow the sun to penetrate them, and covered with a deep jungle of forests abounding in leeches, so that a traveller could not pass through them without losing nearly half the blood in his body. The country was also inhabited by one of the most savage and warlike tribes in all the east. But, supposing the difficulties to be surmounted, the western province of China, to which the route conducted, was almost the worst and most unproductive province of that empire. The same objection might be urged against the route recommended by Captain Sprye, which terminated in the province of Yunan. Se-chuen was equal in extent to the United Kingdom, and contained a population of about 133 inhabitants to the square mile. Yunan was equal to twice the size of Great Britain, and its population was 55 inhabitants to the mile. It was not from such countries as those that we were to expect a profitable trade. Our real intercourse must be with the eastern provinces of China. The staple product of Se-chuen was rhubarb, and a little of that article would go a long way. The quantity imported into this country was 130,000 lbs. weight, of the value of 56,000*l.* That would afford no great trade, even supposing all our rhubarb came from Se-chuen. The Yangtse-Kiang was navigable for about 960 miles, and the distance not navigable was about 600 miles further. Du Halde stated that the territory of Ching-foo, the capital of Se-chuen, was the only level spot in the whole province. He believed that the route pointed out in the paper was impracticable and delusive.

Mr. G. CAMPBELL said that they must all feel that the very sanguine expectations expressed by Sir Arthur Cotton would not be realized in their own day or in that of their children; but, on the other hand, a direct line of communication for social intercourse and light traffic between the two countries of India and China might be established even in our own day. He regarded the immigration of Chinese into India as the most important point which had been mooted this evening. He believed that, if a route could be opened to Assam, that province would become one of the most productive in the world. It possessed tea-fields, and also produced coal. The Burmese route would probably be the easiest physically, but there were very great political difficulties, and the distance was much greater. Every effort should therefore be made to open the direct route by a mountain road similar to the Hindostan and Thibet road. If the Chinese Government could be induced to agree with the British Government for the establishment of such a route, enormous advantages might be obtained.

Mr. SAUNDERS said that the immediate proposition of Sir Arthur Cotton was not so impracticable as might be supposed from some of the remarks which had been made. The immediate proposition was to ascertain what was the nature of the difficulties which would have to be overcome in the establishment of a line of communication. The only generalization arrived at relating to the inhabitants of the district through which Sir Arthur Cotton's proposed route lay was that they were of the Shan race; and what we knew of that race farther south was highly favourable to them. It might, therefore, be expected that they would not present any formidable difficulties if they were approached cautiously. The evidence we possessed with regard to the mountains favoured the belief that they were considerably depressed below the

elevated mass which encircled Thibet. There was at the present time a great highway traversed by mules between Bhamo and the Yang-tse. There was some reason to believe that an English establishment existed at Bhamo in former days. He believed that the Chinese authorities would not oppose the removal of restrictions to intercourse across the Indian frontier, if it were urged by our own Government.

Sir ARTHUR COTTON said that it would be clearly seen that the principal objections which had been brought against his route were only *supposed* to exist. His proposition was to go and see whether they did exist. He hoped that persons would not be stopped by imaginary difficulties. It was a mistake to state that Se-chuen was a miserable province. On the contrary, it was a magnificent country, with a population of ten or twenty millions. If we could once enter the Yangtse-Kiang we should have all China at our feet. It conducted us into the very heart of the empire. He only proposed at present that we should explore the country between the Yang-tse and the Burham-pooter.

The PRESIDENT congratulated the Society on the discussion of this evening. Nearly all who had spoken acknowledged the importance of establishing, if practicable, a communication as had been indicated by the author of the paper, whilst all agreed in thinking that the suggestion for an exploration of the country between the great empires of India and China was worthy of encouragement.

3. *Notes of a Journey to the North-west of Peking.* By JONES LAMPREY, Esq., M.D., F.R.G.S.

THE northern provinces of China were not open to English travellers until the autumn after signing the Treaty of Peace in 1860, and the restrictions were removed gradually; permission to make excursions into Manchuria, Shansi, and Shantung, not being granted before the spring of 1862. The facilities for travelling are abundant; the country is everywhere traversed by tolerable roads, there are excellent Tartar ponies, an abundance of mule-carts, and innumerable inns, although these, in remote places, give sometimes very inferior accommodation. Dr. Lamprey left Peking on his journey to investigate the productions, methods of tillage, manufactures and customs of the country to the westward, on the 23rd October, 1861. In many of the towns and villages passed through, he was the first European that had been seen by the inhabitants. But he was generally treated with civility, and opportunities were afforded him of pursuing his investigations. Throughout the rural districts a small line of unploughed land, about a foot wide, was the only boundary between the properties of neighbours, so that the absence of conspicuous boundary lines was a peculiar feature of the landscape in the level country which extends from Peking to the Shi-Shan or Western Mountains. The road sometimes led through thick plantations of pear, apple, peach, poplar, and other large timber trees, all planted in regular rows; the villages were surrounded each by a mud wall and ditch, and some of the towns had well-built crenelated