LETTERS

FROM

INDIA AND CEYLON

INCLUDING

THE MANCHESTER OF INDIA,

THE INDIAN DUNDEE,

AND

CALCUTTA JUTE MILLS.

BY

SIR JOHN LENG, M.P.

1895-96.

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IN compliance with many requests, my Letters from India and Ceylon are reprinted in this form. I desire here to acknowledge my obligations to my fellow-traveller, Provost Stewart, of Monifieth; to Mr G. N. Nairn, President of the Indian Jute Manufactures Association; and Mr Tremearne, the able editor of *Capital*, for their special assistance during my visit to Calcutta; as well as to the numerous friends and officials who gave me facilities and contributed information utilised in these hastily-written Letters.

JOHN LENG.

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INDIA AND CEYLON.

BY THE RED SEA TO INDIA.

The Land of Goshen, through which we pass on our way from Cairo to Ismailia, is certainly the most fertile piece of country I have ever seen. I wished that I could have had an intelligent native agriculturist with me to explain the nature of the crops, some of which differ in appearance from any I have previously seen. Although the end of November is with us the beginning of winter, it is here the beginning of spring. For several miles near Cairo we pass through what may be described as market gardens. Every inch of ground is cultivated. Many of the young crops are just springing from the soil. Some of the vegetables have already made considerable growth. All have a most healthy and flourishing appearance. As we proceed we come to extensive fields of sugar-cane, maize, wheat, and, most of all, cotton. At the railway stations long piles of bales of cotton are ready for transportation. The towns have all a busy and prosperous appearance, and there is unusual smartness among the railway attendants. It is a thriving and goodly land. Inundation, irrigation, and sunshine make it prolific to a degree that would gladden the heart of the starving farmer in Essex. But what is this? While admiring the abounding fertility of the region the sky in the north becomes densely and darkly cloudy. In a few minutes vivid flashes of lightning are followed by a tremendous downpour of rain, which finds its way through the lamp-ring in the roof, and compels us to shift out of the compartment into the corridor. A railway inspector in the carriage somewhat alarms us by saying if the rain continues it may prevent the train reaching Suez, as when the line was built such rains as have recently occurred were not calculated upon, but fortunately in half an hour the rain abated, although heavy showers continued till midnight.

Reaching Ismailia, we find that the Victoria Hotel there, like the railway, had not been built in contemplation of rain. The main passage and central corridor were running with water, which came through the roof of the latter like a sieve, and the native servants were busy endeavouring to make it passable as far as the dining-room. In this region rain was formerly almost unknown. It is now becoming more and more frequent. The pilot who went off with us to the P. and O. steamer Caledonia told us that during the 12 years he has piloted vessels through the Canal he has seen a remarkable increase in the rainfall, which he attributed to the construction of the Canal, and a steady increase in the vegetation of the district on the Egyptian side. Passengers to India who have gone backwards and forwards for 30 or 40 years all give similar testimony. In their early days rain was never expected in the Isthmus of Suez. On this occasion they had it in torrents between Port Said and Ismailia, and it continued for some hours after we went on board, with the result that we saw very little of the Canal, which, however, did not concern us, as we shall have another opportunity on our return.

Early in the morning we passed Suez, leaving the rain and the Canal behind us. The sun shone brightly on the waters of the Gulf of Suez, which is comparatively narrow, precipitous hills rising on both sides. The

Sinaitic range comes into view, and the manner in which at several points mountains that seem to be 6000 or 7000 feet in height rise almost perpendicularly is very striking. The mountains of Arabia are on the east, and those of Nubia are on the west. We hoped also to see "the mountains of Rasselas" in Abyssinia, but after entering the Red Sea proper the ship's course is directly through the centre, and we rarely see land. At first we have a strong breeze from the north, then little wind, and then half a gale from the south. The number of large passenger and trading steamers we pass, some going the same way and others meeting us, show what an important maritime highway the Red Sea has become since the opening of the Canal. Now and again there is a little excitement on passing a lighthouse or a vessel that exchanges signals. At Perim we are told of the smartness of the British Admiral who, having learned from the Captain of a French man-of-war he was entertaining that he was instructed to seize that barren but formidable rock, quickly instructed one of his staff to anticipate the Frenchman by hoisting the Union Jack, which was found flying when the latter arrived. As we progress through the Red Sea we pass a curious group of islands known as the Twelve Apostles, and then on the following morning we cast anchor off Aden.

The scenes at Aden have been frequently described. Besides the steam launches, tugs, and lighters which come off with mail bags, passengers, and luggage, the ship is quickly surrounded by a flotilla of small rowing boats containing Arab boys and youths, eager to show how they will dive after the smallest silver coins and bring them up between their teeth, or dive from the ship's taffrail, a height of between 20 and 30 feet. These dark-skinned swimmers seem quite amphibious, and great fun is caused by the splashing a dozen of them make whenever a coin is thrown to them. Native merchants come on board with feathers, baskets curiously wrought, antelope horns, and for two or three hours the deck is a busy scene. A number of Mahomedans, with wives and children, also came on board here, and it is curious to watch them huddling on deck—the women and children seldom moving from the mattresses on which they sleep and squat, while the only exercise the men take is in playing cards.

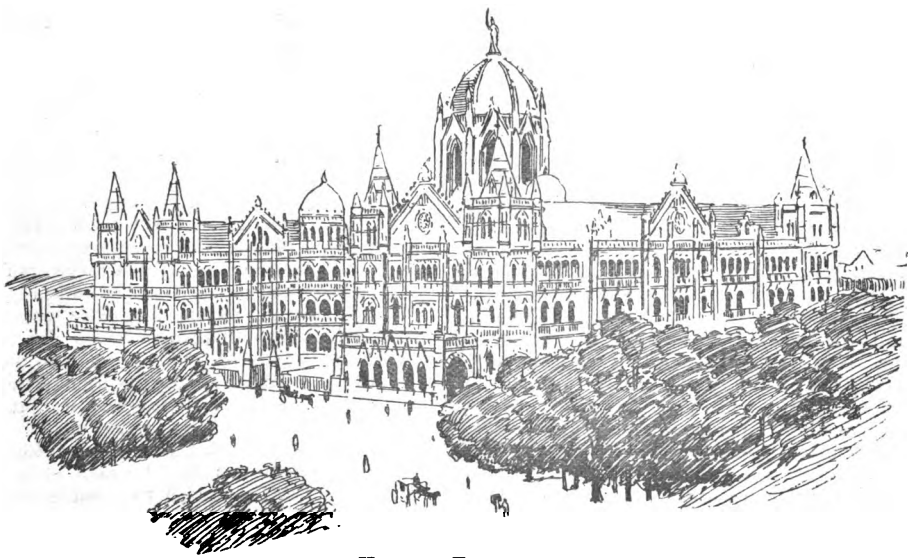
The great speed of the Caledonia makes her the foremost passenger boat of the Peninsular and Oriental Line. She does her 18 to 18½ knots—about 22 miles an hour—steadily. In the Red Sea especially this is a great advantage. Leaving Suez on Thursday, we were at Aden on Sunday morning, having passed all the vessels we sighted that were ahead of us when we started. Her own speed gives us a lively breeze when slower vessels would have a dead calm. Built and engined by Caird, of Greenock, 486 feet in length, 54 feet beam, and 11,000 indicated horse-power, the Caledonia is one of the finest specimens of marine architecture that the Clyde has produced. She is a three-decker—hurricane, spar, and main deck—with the wheelhouse and captain's cabin, the latter a spacious apartment, above all. The music room—we ought to call it a music hall, it is so large—like the main cabin, is most tastefully decorated in white and gold, the stanchions which carry the upper deck being concealed by ornate pillars. A magnificent grand piano, also in white and gold, attracts the amateur musicians and vocalists, among whom there are some of the first class amongst the passengers. In the dining saloon there is an American organ, used at the Sunday services. This saloon is 65 feet long and 54 feet wide, extending right across the ship. It is splendidly ventilated, being 25 feet high in the centre, and the punkahs are always in motion during meals. The stewards are very active young fellows, well organised, and the waiting is exceptionally good, it being a constant theme of admiration how well the meals are served, how fresh everything is, how abundant the supply of rice, and what a variety there is in the *menus*. Besides attending carefully to the passengers, the stewards also provide a pianist, cornet player, and violinists for the concerts and dances which are given every second night on the hurricane deck, and which present very picturesque scenes, especially on the nights when there are Fancy Balls, when Oriental Costumes are much in vogue.

The scenes on the various decks are very animated. At sunrise, and sometimes before, the early risers betake themselves in their pyjamas to the baths, of which there is a good supply. In the Red Sea and Indian Ocean the cold (almost tepid) salt bath is a most grateful institution, quite setting up the bather after a perspiring night in his cabin. At half-past eight the cornet player summons the lazy to rise for the nine o'clock breakfast. During the morning the hurricane deck is crowded with ladies reading on their chairs, children playing with bricks and toys, babies carried by their patient ayahs, men playing at quoits, chess, draughts, and other games. The Smoking-Room, large and lofty, was also the card-room, and has its regular habitués, but there does not seem to be the gambling so much complained of on Atlantic liners. The cost of the passage to India excludes the ordinary "bagman" type of gambler. There may be a few not altogether desirable persons even amongst the first class passengers here, but they are very few. In addition to wealthy tourists travelling for pleasure, the passengers consist of Military and Civil Service officials, Generals, Captains, Judges, clergymen, retired army surgeons—returning to visit members of their families married and resident in India—tea and coffee planters, Bombay and Calcutta merchants and brokers, bankers, managers of Insurance Companies, &c., with their wives and daughters, and due regard is paid to all the proprieties of life. The Captain and officers of the ship are a superior set of men. Captain Andrews, the Commodore of the P. and O. fleet, is a fine specimen of the old salt—very genial when properly approached, when off duty quite humorous, when on duty reserved, cautious, and a firm disciplinarian. He is the sort of skipper to whom nearly a thousand passengers and crew can implicitly trust themselves, assured that he will be always at his post when required, and not only ready for, but skilful and decided in dealing with, any emergency.

Few people have any idea of the space required on board for storing and sorting the mails. We carried 821 bags of letters and papers. These receive a general sorting on board at the hands of a large staff of sorters, who accompany the ship and prepare the letters and papers for more detailed sorting in the mail train for the different Provinces of India. The sorters work steadily day after day during the passage, and they state that the size and weight of the mails are continually increasing.

St Andrew's Night was not forgotton by the Caledonians on board the Caledonia. The writer was requested to preside over a meeting of the Scottish passengers, at which two other members of Parliament from Scotland were present, being the first occasion on which so many Parliamentary representatives had joined in such a festivity on the passage to India. The toast of the evening was drunk with enthusiasm, and the cheering did no discredit to the lungs of those who took part in it.

THE MANCHESTER OF INDIA.



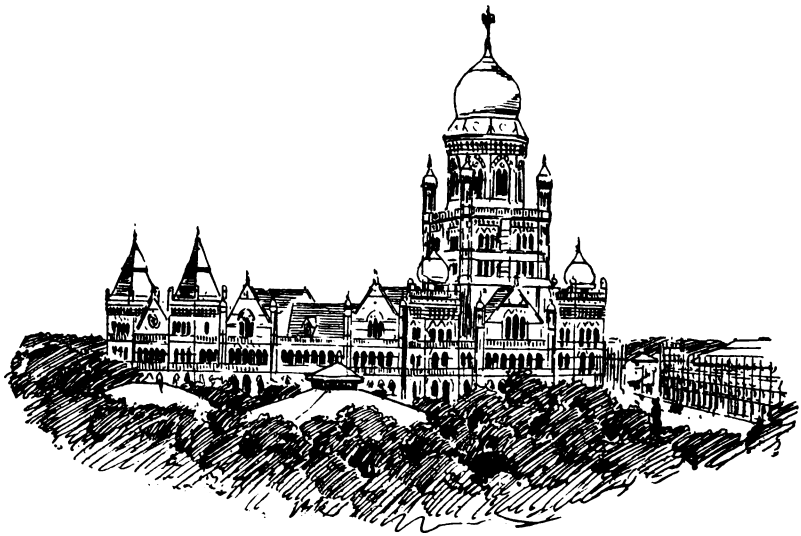
VICTORIA TERMINUS.

Imagine a great manufacturing city of between 800,000 and 900,000 inhabitants, not heavily beclouded with smoke, but under a bright Italian sky; not on a narrow inky river, but on an island promontory, with the ocean washing it on one side, and a picturesque bay on the other studded with islets and girdled with hills—such in a sentence is Bombay, the Manchester of India. But it is also Liverpool combined with Manchester. The bay is becoming more and more the western port of India for the arrival and departure of passengers coming from or sailing for the West. Here converge the great trunk railway lines extending over the Indian Peninsula, north, south, and east. Several days are saved by the homeward mails coming overland from Calcutta by Bombay, and passengers prefer the shortest mail routes. Hence the traffic by the P. and O. and other services by Bombay is always increasing. After passing Colaba Point, therefore, we speedily sight a large fleet of ocean and coasting steamers, with innumerable local sailing craft. The harbour is extensive enough to accommodate an immense quantity of shipping, in addition to which there are the large and admirably constructed Victoria and Princess Docks, with railway siding, wharves, and warehouses.

The landing of the passengers from the Caledonia was an animated scene, and I mention it because the arrangements are vastly better than were those at Liverpool when I landed from America in 1876. Two large double-decked steamers come off for the passengers and luggage. The luggage is got on shore very expeditiously and placed on long tables at a new Custom House landing, where very little trouble is given. Kind

friends had sent off a private launch and native servants to land me, and I was met by an exceedingly intelligent and courteous Parsi gentleman, who made the whole of my stay in Bombay most agreeable, smoothing away all difficulties, enabling me to see the best people, institutions, and places in the city.

As a city Bombay far surpassed my anticipations. It is a brilliant city, finely situated, with magnificent buildings, crowded streets, men, women, and children of all shades of complexion in garments of all varieties of form and colour — and all seen in the strong light of a tropical sun and unclouded sky. Although it is decidedly warm, not to say hot, even in December, the temperature in the shade during the day being 80 degrees, there is generally a pleasant breeze, and the evenings are exquisitely fine. It has the great advantage of impressing you by the excellence of its streets and buildings immediately on landing. You do not pass through the low surroundings of ordinary docks or slummy regions like those near Wapping, but at once drive through spacious boulevarded roads, made smooth and well kept, and are delighted by the beauty and extent of the palatial edifices recently erected on the ground formerly occupied by the Fort. Bombay is now protected by two modern war vessels and several land fortifications, while what was the Fort has given place to groups of public buildings, which in their general effect are scarcely equalled in any of the many cities I have seen. Would any ordinary reader, for instance, suppose that the building of which only a very rough idea is given by the sketch at the head of this letter is a railway terminus?—that of the Great Indian Peninsular line. What would the Joint Railway Company think of erecting such a station in Dundee? Its external is quite equalled by its internal splendour. The ticket office is a lofty, spacious Hall, whose roof is supported by high plated pillars of various coloured marbles, the walls and ceiling brightly tinted in blue and gold, and the pavement in tesselated flagstones. The porticos and staircases are all in a palatial style, while the docks and platforms in the station beyond are equally long and spacious. Such a terminus is worthy of the Great Indian Peninsular

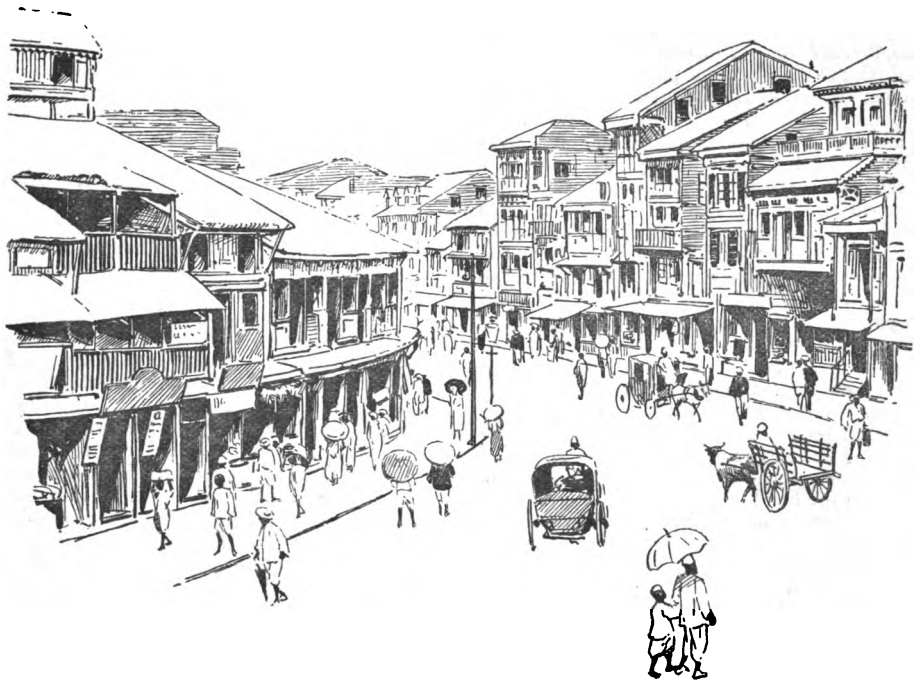


THE MUNICIPAL HALL.

Railway, and the cost—£300,000—certainly much less than it would have been in Manchester or London, while the advantage of climate is that, like the other public buildings, it will long retain its freshness of colour and not become soot-begrimed like our buildings at home.

Across the wide carriageway from the Terminus are the Municipal Buildings, the interior and exterior of which are both very tastefully planned, and built in excellent materials in what may be termed Oriental Gothic. A little further, and we come to a splendid group of buildings near a fine set of hotels. Any sketch would give a very imperfect idea of them. They include the Government Secretariat, University Hall, Clock Tower, High Court, Public Works, Post Office, and Telegraph Office. These are placed in park-like grounds, and admirably grouped. Through the avenues which separate them may be seen the Esplanade drive and the calm blue Indian Ocean. Architects in the old country may envy such opportunities as Mr Stevens, Mr Adams, and others have enjoyed in such "ample scope and verge" as have been given them for the exercise of their genius in Bombay. With the subjoined sketch of two corners of the Esplanade Road I must for the moment conclude. In my next I shall have something to say of the cotton, silk, and other industries of Bombay.

Esplanade Road.



ABENDI BAZAAR ROAD, BOMBAY.

It is obvious that Bombay has certain great advantages for carrying on the cotton manufacturing trade, but these are conditioned and limited by some serious disadvantages. Its chief advantages are an abundant supply of cheap native cotton and of very cheap native labour. The engines and machinery being imported from Lancashire are necessarily costly. The coal, too, imported from Cardiff, costs fully double that in Lancashire. The quality of the cotton is only suitable for the lower numbers of yarn and inferior qualities of cloth. The Bombay cotton spinners hitherto have been content to spin Indian cotton for the Indian and Eastern markets, but it would be foolish for the Lancashire manufacturers to shut their eyes to the possibility of Lancashire agitation in favour of imposing duties on Indian manufactured goods, inducing the Bombay spinners to enter into competition with Lancashire by importing American cotton and making the finer classes of goods now only made in England and Europe. The Bombay cotton

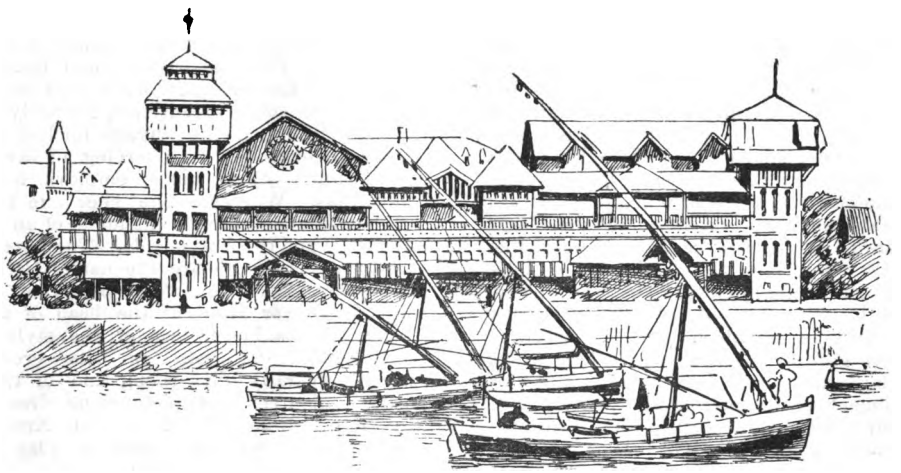
manufacturers are an intelligent and enterprising class of men. They have also been very successful. Twenty years ago there were only 10 mills in Bombay, employing about 8000 hands; now there are upwards of 70, employing fully 60,000. Beside what were sold for the home (Indian) market they exported in 1893-4 no less than 125,467,827 lbs. of cotton twist and yarn and 53,984,920 yards of piece goods! Those appear large figures, but it is more important still to note that the merchants of Bombay imported the enormous quantity of 2,366,278,619 yards of cotton piece goods chiefly from Lancashire—more than 40 times the export of Indian piece goods. The Bombay production is relatively small to the Lancashire production; the Bombay exports very small compared to the imports. Is it wise by artificial legislation to jeopardise the continuance of this state of things? There has been a rapid growth in the number of Indian cotton mills, in the hands employed, and in the production during the last 30 years, which, it must be remembered, are practically the first 30 years of the introduction of steam spinning and weaving into India, and the substitution of steam for hand spun and woven goods for the teeming millions of the Indian population. The growth has been large, but it has been quite natural. The material has been grown in India; the goods have been chiefly consumed in India. The cotton manufacturers in Bombay, unlike the jute spinners at Calcutta, have not coveted or obtained possession of large markets like those of the East, of Australia, of the West Coast, and to a considerable extent of the East Coast of America. I shall not presume because I have spent a few days in Bombay to discuss the vexed question of import duties on cotton goods from Europe, but I believe that the Bombay manufacturers neither suggested nor desired such duties. They simply wish to be let alone, just as the Lancashire people wish to be let alone. The financial requirements of the Government of India—the serious deficit of revenue caused by the loss of exchange—compelled the proposal of a moderate tariff on all goods imported. It is remarkable that of the estimated tariff revenue of 290 lakhs of rupees the cotton duties would have yielded 147 lakhs, or more than one-half. As English cottons are only worn by the wealthier classes, it is alleged that 5 per cent. would not have been felt by them. It is certain that the Government in India were strongly opposed to the exemption of cotton goods from the tariff, and in this they had the almost unanimous support of the best commercial as well as general Indian opinions. The merchants of India are a larger class than the Bombay millowners, and would have resented anything likely to injure the trade of India, but they hold that the intervention of the Home Government, both with regard to this subject and the closing of the mints, was a great mistake.

I was taken to see the largest and finest cotton mills in Bombay—the Manockjee Petit Mills—by Mr Dinshawjee, grandson and heir of Sir Dinshawjee M. Petit, Bart., one of the two great Indian Baronets. We were met at the entrance by the Managers of the several departments, amongst whom I soon discovered a "canny Scot," in the person of Mr Barclay, a native, I believe of Errol, and brother of Mr Barclay, of the Caledonian Railway in Dundee, who supplied me with much interesting information. The engine at these works was, until lately, the largest in the world, having been specially built by Messrs Hicks & Hargreaves, of Bolton. The fly-wheel is 30 feet in diameter and 14 feet wide; its weight 170 tons; its velocity one mile per minute. The consumption of coal imported from Cardiff, and costing about £1 per ton, is 5500 tons per year. The mill has 65,000 spindles and 1252 looms. The production of yarn is 32,000 lbs. and of cloth 12,000 lbs. per day. The number of hands employed is 4200, and the wages paid are 55,000 rupees per month. Considering the heat of the climate, I was surprised at the comparative coolness of the spinning and weaving sheds. Not an inch of the space is lost. The spinning-frames and looms are closely placed, and one is struck by the multitude of spinners and weavers. Each loom has its own attendant, and at the frames there are many more than with us. The weavers are Hindoo women. Many of them show that out of their wages of 10 to 12 rupees, or from 12 to 14 shillings, per month, they can save money, which they invest in

gold rings for their noses. Some women we saw had quite a little fortune in their nose rings, but the scantiness of their clothing and the cheapness of their food in a hot climate explain how they can live and save out of from 3s to 3s 6d per week. Wages like these applied to spinning and weaving finer counts of cotton would tell a similar tale to what they are doing in the jute trade.

The Sassoons have a name, like that of the Jejeeboys and Pelits, known all over the commercial world. The Bombay business of the Sassoons is at present under the charge of Mrs D. S. Sassoon, a lady of remarkable ability, who since the death of her husband has superintended the working of several mills, one of which is the only silk mill in Bombay. Its products go almost entirely to Burmah, where there is a large and steady demand for cheap silks An ingenious designer is kept, who adapts favourite Burmese designs, hitherto wrought by hand, to the Jacquard loom. Floral patterns are preferred, and are worked with great success. Here, too, large numbers of Hindoo women are employed in selecting, preparing, and weaving the silk, the spinning being almost entirely done by men. One advantage of the Hindoo system of early marriages is that the females are almost all married women, and there are no troublesome cases of illegitimacy. Although scantily clothed, the women are very quiet and modest in their demeanour. In one room where there were a number of young girls they seemed to be making play of their work, and were chattering like birds. In a pleasant interview I had with Mrs Sassoon, I found she took an eager personal interest in the silk mill, and she gave directions which ensured me every possible attention in inspecting it, as well as the Victoria Gardens, which are in the neighbourhood.

It must not be supposed that Cotton and Silk are the sole manufactures of Bombay. They are the principal manufactures by steam power, but the City abounds in handicrafts, the chief of which deal with copper and brass. The coppersmiths and braziers are large fraternities. Gold and silver threads are made extensively, not only for weaving into garments, but also for lace and other decorations. The carving of sandal wood and other boxes employs many thousands. Wherever one goes one sees evidence that we are in the midst of an industrious and thriving people. The bazaars are busy scenes. So are the native Cotton and Stock Exchanges. The sketch of the Abendi Bazaar Road at the head of this letter gives a better idea of the style of street buildings than of the crowds which generally fill them, and of their many-coloured and picturesque dresses. In the words of Sir Edwin Arnold, "Nowhere can be seen a play of livelier lines, a busier and brighter city life. Besides the endless crowds of Hindu, Guzerati, and Maratha people coming and going—some in gay dresses, but many with next to nothing at all—between rows of grotesquely-painted houses and temples, there are to be studied here specimens of every race and nation of the East. Arabs from Muscat, Persians from the Gulf, Afghans from the Northern frontier, black shaggy Beluchis, negroes of Zanzibar, islanders from the Maldives and Laccadives, Malagashes, Malays, and Chinese throng and jostle with Parsees in their sloping hats, with Jews, Lascars, fishermen, Rajpoots, Fakirs, Europeans, Sepoys, and Sahibs." It is indeed a wonderful kaleidoscopic scene of varied humanity, in which the pieces and the colours seem to be never two moments alike.



ROYAL BOMBAY YACHT CLUB.

One of the most striking characteristics of Bombay is the prominent position of the relatively small number of Parsis. They are scarcely 50,000 all told in a population of nearly 900,000, yet they are conspicuous amongst the principal millowners, merchants, and Exchange operators. Many of them are men of handsome features, acute intellects, and great information. They live in first-class style, and have elegant equipages. Better still, they are renowned for their generosity. The Parsis never allow their poor to become chargeable to others. They generally head the subscription lists for public and charitable objects with large sums, besides which they have established and endowed for the benefit of their own community a number of excellent educational and benevolent institutions. Bombay is not inferior in these respects to any city in Christendom. Sir Jamshidji Jijibhais set a noble example in erecting a general Hospital, in which there are wards not only for the Parsis, but Brahmins, Mahommedans, and Dherlis, each having their food cooked according to their own religious observances. It is near to the Grant Medical College, where there are upwards of 100 students, who have nine Professors and a number of scholarships. This College is steadily supplying well-qualified native surgeons and physicians, not only for Bombay, but the adjoining States, and their services are highly valued. We visited Sir Jamshidji Jijibhais' Benevolent Institution for the Parsis. It contains a first-class school for young Parsis of both sexes. We had the pleasure of conversing with the Principal and one of his assistants, and seeing the examination of a class of girls, and hearing them sing a hymn. Besides the schools, there are various charities connected with the Institution, which was founded in 1840 by the first Sir Jamshidji, and endowed by him and Lady Avabai, his wife, with three lakhs of rupees and a number of shares in the Bank of Bengal. Besides this there are several Dharmsalas, or houses, where food and lodgings are given to the poor.

Bombay has a peculiar establishment known as the Pinjra Pol, or Infirmary for Animals. It is not a small one either, but covers several acres. Its noisiest occupants are the dogs, which, although aged and mangy, have not lost the use of their lungs.

There are other sections for aged cattle, for buffaloes, and for goats, sheep, and donkeys. It is called Bholeshwar, from the deity who is worshipped under that name, and who is a form of Shiva. It may be noted that Oriental races generally have far more regard for animals, birds, and fishes, as in a sense fellow-creatures drawing their life and being from the Great Creator, than have Christians. They treat them more affectionately, and in many of their representations of the Deity animal figures form a part. This Infirmary for Animals in Bombay is an illustration of the difference between Eastern and Western ideas.

The most characteristic of the Parsi institutions are the Towers of Silence, where their dead are eaten by vultures; but I must reserve some notice of them for a subsequent letter, simply remarking that the Parsis expose the corpses of the dead to be devoured by birds, the Hindoos burn them, and the Mahommedans—like ourselves—bury them in the earth, and these distinctions prevail all through the East.

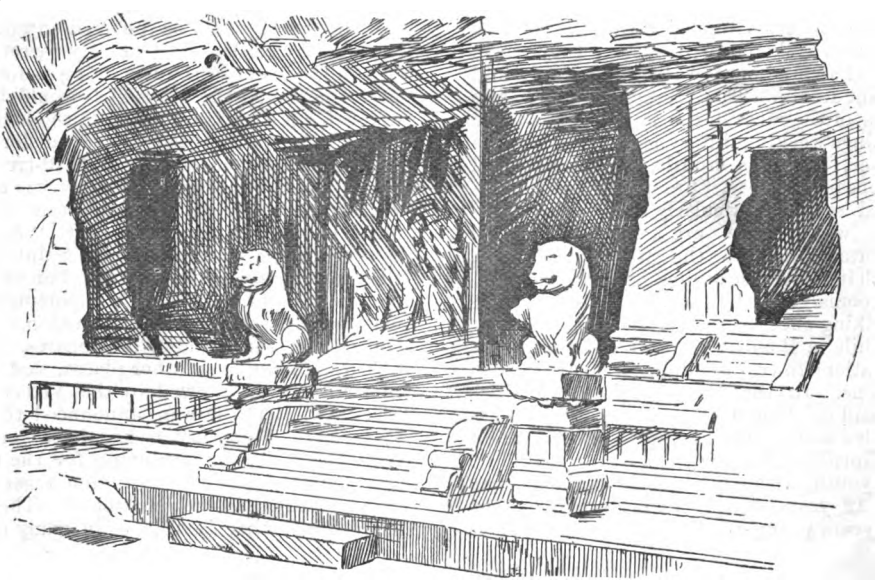
The most popular of the social institutions in Bombay is the Yacht Club, The Bay, with its well-wooded islands and far reaching inlets, is very favourable for yachting, which affords the young English and Scotchmen a very healthy sport. They have frequent regattas for sailing yachts, and, as the above sketch will show, they have erected a club-house of large dimensions and elegant design. The verandahs afford fine views of the races in the Bay, and on three evenings weekly military bands play on the terrace, which is crowded by Bombay and European society, presenting an animated scene, particularly on Friday evenings, when there are special musical performances. As the whole building—which includes fine dining, billiard, and reading rooms—is lit by the electric light, it has a striking effect as seen from the harbour.

While in Bombay we were entertained by invitations to two weddings of distinguished persons. In the East marriage festivities are still celebrated on an elaborate and expensive scale. The first was that of a son of Mr Goruldas Madhowjee, a wealthy Hindoo. The youth, with whom we shook hands, was only 12 years of age, the bride being about two years younger. The ceremony is practically only one of betrothal, the actual marriage depending upon the health of the bride, but the tie is indissoluble except by death. The rejoicings were held in large public rooms. The exterior of the building was splendidly illuminated, and was quite a blaze of light. By a curious coincidence, as we entered the band played "Up with the Bonnets of Bonnie Dundee." We were most courteously received by the father, uncles, and brother of the bridegroom, and conducted to a seat of honour, having a bouquet of roses placed in our hands and a garland of chrysanthemums round our necks. This was done to all the male guests as they arrived, giving them an exceedingly "gay and festive" appearance. The ladies were also very brightly arrayed. Part of the entertainment was singing and dancing by Nautch girls, which soon became monotonous. Then a skilful conjurer played a series of tricks, and after a time we were invited to a lower room, where light refreshments were served very much in the style of those at a London evening reception. This was one of several nights of similar festivity to which invitations are issued on an extensive scale. The expense must be very considerable; in this case it was estimated at several thousands of pounds, the major part of which, we were told, however, would be incurred in gifts to less wealthy relations. Our only regret was that in the event of the boy dying before or after marriage, the poor girl would be a widow for life, and, according to the ideas of the Hindoos, regarded as a misfortune to the family, despised, and ill-treated. I am glad, however, to observe since writing these lines a very important statement in the Indian papers that, "A high caste Hindu, at Lahore, Dewan Saint Ram Chopra, has given his widowed daughter in marriage, and also taken the opportunity of making a speech defending his action. He stated that the Pundits of Benares, Allahabad, Jammu, and other places, said that remarriage was allowed by the Vedas and Shastras. The Dewan announced that a Committee of gentlemen had been formed with the object of arranging for the marriage of child-widows, with due regard to caste, family, and such matters." There is little doubt that in this, as in many other

matters, the Hindus, like the Parsis, will gradually adopt Western usages.

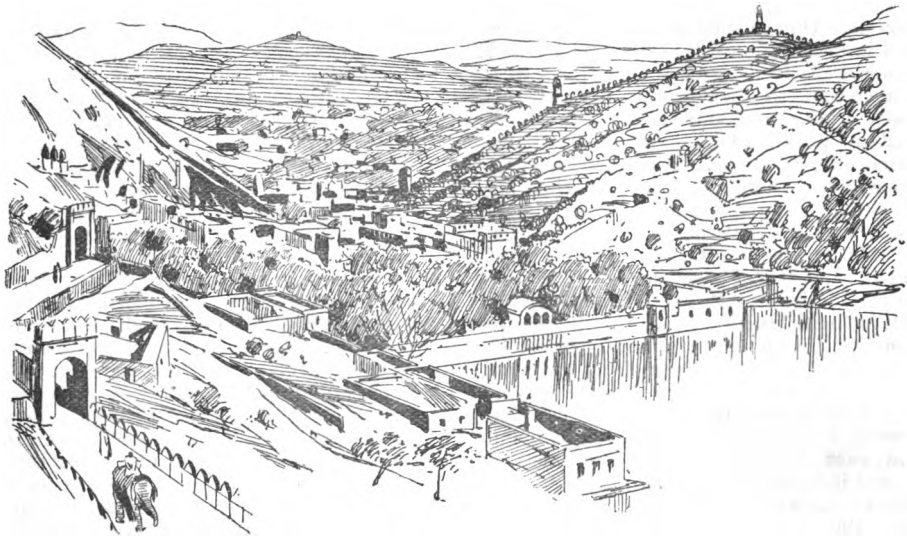
The second wedding was that of two young but comparatively mature Parsis. The bridegroom in this instance was 26, and the bride upwards of 20. The Parsis are rapidly adopting enlightened Western ideas with regard to marriage as well as other affairs. They have a large and beautiful hall, specially erected and endowed by one of their community, for the celebration of weddings. Its exterior was gay with illuminations; its interior was impressively beautiful. It is the custom of the Parsi ladies always to wear silks. On this occasion their upper garments were beautifully white—as for their skirts, only "Marguerite" could aptly describe them. As they sat in three or four long rows on each side of the Hall—many of them having features and complexions of remarkable beauty—the spectacle was most fascinating. We arrived just as the officiating priest was giving the bride and groom a religious exhortation. Then they received the congratulations of their nearest relations and friends, during which we were introduced to the High Priest and several members of the family, and only a pressing engagement compelled us to leave.

Bombay is a place at which a considerable time could be pleasantly spent, there being much to see in so large and interesting a city, and many attractions—including the Ghauts, Karli, Khandalla, the Kenharra Caves, and the Velar Lake. We had to content ourselves with an excursion to the Caves of Elephanta, on a well-wooded island in the Bay, easily reached by a steam launch. These Caves are remarkable for the depth they have been cut out of the solid rock into the heart of the hill; for the pillars in monolith which remain after the attempt of the Portuguese to blow them all down with shot and shell; and, above all, for the variety, size, and animation of the scenes, sculptured in the rock, illustrating the leading traditions of Hindu mythology. As we left the Caves marvelling at the work of workmen who lived at a time when Britain was still in a state of barbarism, a lovely view of the picturesque Bay broke on our vision through the foliage, in the brief but rich twilight which followed the setting of the sun. When we reached the Apollo Bunder—the name of the landing place—the promenade of the Yacht Club was brilliantly lighted up, and for many miles the Bay was gemmed with lamps.



ENTRANCE TO LION'S CAVE ELEPHANTA.

JEYPOOR AND AMBER.



THE CITY OF AMBER.

Our first experienee of railway travelling in India was on the Bombay and Baroda Line and Central India Line to Jeypoor—a distance of 700 miles. The first 300 miles were on a broad gauge—5 feet 6 inches—and the remaining 400 on a narrow gauge line. The Bombay and suburban stations are of a light and elegant design, and are crowded by friends of the passengers. The semi-circle of lights round the vast Back Bay remind us of Naples. Beginning our journey at night for the sake of coolness, we soon find it cold enough, and have to add an ulster to the coverlet. The railway compartments are arranged in small saloons, each having a lavatory. The cushions are wide, and are drawn out at night still wider so as to make a comfortable bed. Each traveller provides himself with a *resai*, or thick coverlet, and a pillow, which are spread for him by his bearer or personal attendant. My friends had secured for me an intelligent and experienced man named Angelo, who proved exceedingly useful. Without such a servant the newcomer would find travelling in India very perplexing, and would have continual anxiety and annoyance respecting meals, change of luggage where the gauges alter, the finding of Dak bungalows, hotels, &c. Such a man only costs 40 rupees, or about £2 5s, per month, while he is practically invaluable.

Waking at daylight, in the morning the aspect of the country is not unlike that of the Great Northern Railway at home minus the villages and church steeples or spires. Instead of large tracts of arid, yellow uncultivated land we see only green fields with hedge-rows, and even more studded with trees than in England. The trees too, although of different varieties, are of a less tropical character than looked for. And so we go on for hundreds of miles from sunrise to sunset over a great well cultivated, populous plain. Now and again we cross over rivers comparatively dry, but which when in flood must be

considerable streams. In Egypt we saw the sowing of crops: here they are ripening for harvest. Near some of the towns are extensive herds of cattle. On the trees monkeys begin to take the place of squirrels. On the station platforms natives stand in picturesque dress and undress and in noisy, chattering groups. In the afternoon we come to a wide valley between two ranges of lofty hills, almost mountains, with serrated peaks. Occasionally minor insulated hills intervene. At one time we pass through groves of trees: at another the railway seems a narrow line running almost within touch of the crops on both sides. The Abu range of hills resemble those of the Nile, but are of a darker hue. Irrigation is practised in the valley, and women work in the fields covered with dark crimson garments. Lodges made of bamboo branches and leaves shelter the weary from the heat. The houses, like those in Upper Egypt, have dome-shaped roofs. The general impression is one of abundance for man and beast, rewarding the toil of a simple, peaceful, and industrious people.

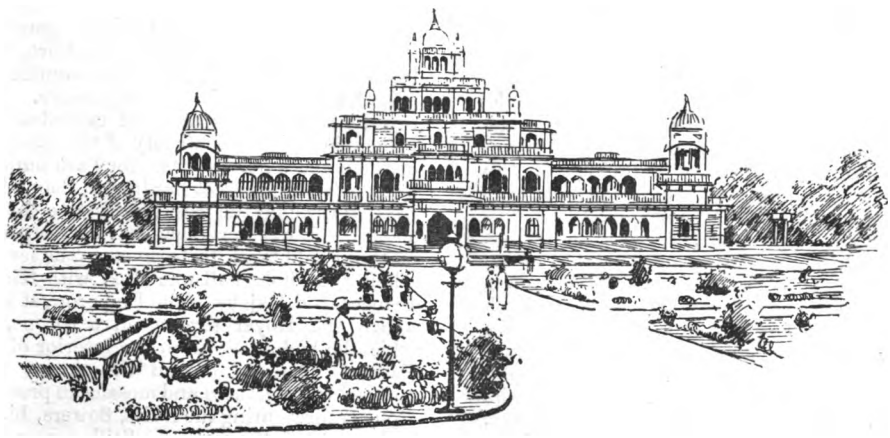
The roadside stations are bright and neatly kept; the refreshment rooms remarkably good; the attendants very smart and civil; and the railway officials courteous and obliging. Everything is done to lessen the tedium of the very long journeys in alternating heat and cold. It is curious also to note that not only do the native attendants speak and understand English, but all the directions on the railway goods waggons, even to what they can carry, are also in English, such as the weight of goods, the number of horses or ponies to be carried. It should also be noticed that railway locomotion is greatly appreciated by all classes of the natives. For every Englishman in the trains there are a score, sometimes a hundred, of Hindoos and Mahomedans, some of whom travel long distances.

Arriving at Jeypoor, we take up delightful quarters at the Kaiser-I-Hind, a pleasant little Hotel built in Oriental style, with pillared central hall and verandahs, into which open large, lofty, and cool bedrooms, with a servants' room behind, and a bathroom behind that. Sitting down to breakfast, we hear a band playing "God Save the Queen," and are told that it is in the gardens of the Maharajah's Palace, which adjoin the hotel. The Maharajah had arrived only an hour before us from one of his Palaces in the country. He is the Sovereign of a large, independent State in Rajpootana, but is bound by treaty to consult the British Resident, and be guided by him in his relations with all other States. From the British Resident we easily obtain an order which admits us to the Palace, in which the Maharajah holds his Durbars, and at certain seasons lives with his four wives and numerous relations, a building of great extent, with large gardens, in which oranges, mangoes, bananas, and other fruits are growing in the middle of December. These gardens are intersected by long marble basins for water, falling from all kinds of fountains, and when illuminated at night by thousands of coloured lanterns must present a fairy scene. Walking through the gardens, we meet a brother of the Prince, a man of pleasant and intelligent aspect, accompanied by about a dozen attendants. Respectfully saluting him, he very affably converses with us through an interpreter, making inquiries respecting two members of Parliament with whom he was acquainted, and also with regard to a former Resident. After an exchange of civilities we passed on to see the grand Durbar Halls and Palace Stables, the latter containing 350 horses and 100 elephants. The present Maharajah is very fond of sport, and spends much of his time in the country on shooting expeditions, one part of the Palace being carpeted with the skins of tigers and other animals shot by him. Some fine tigers, leopards, and wild beasts of various kinds caught by him alive are shown in the menagerie and in buildings in different parts of the city. His predecessor, however, did more valuable service by introducing good supplies of water and gas. The best work of the Maharajah has been the erection of the Albert Hall, a very handsome Oriental museum, full of interesting specimens of local and Eastern art, and of curious models of the many castes of native races, with others illustrating their trades, occupations, and amusements. This Hall is in the centre of the Victoria Park or Gardens, extending over 70 acres of ground, containing all

kinds of trees, and many flowers, plants, and shrubs of luxurious growth, which with us can only be reared under glass.

Jeypoor is a comparatively modern city, and has quite modern arrangements. In 1728 the King of Delhi ordered the Maharajah of that time to remove from Amber, a Highland fortress about five miles up in the hills, and bring the city in front of the hill range. Whether this was done for military or sanitary reasons is not known, but Serwai Jai Sing II. carried out the order in a manner showing he had very advanced ideas for the times in which he lived. The plan of the city is perfect. The streets are all placed at right angles, and are 111 feet wide, with broad raised foot-paths in front of the houses and shops. These are all of pleasing style, but the demand upon the architect to erect many miles of buildings at once seems to have overtaxed his power, and the general effect is monotonous. This is partly consequent on their all being coloured a light Pompeiian tint, and the decorations in white being reproduced over and over again. The prevalence of stucco also gives the idea of the place being got up on the cheap. This applies even to the Hall of the Wind, a very fantastic erection.

The great attraction to Jeypoor is the excursion to the old city of Amber—pronounced Ambur—which had a grand situation in a valley between two lofty and picturesque ranges of hills, through which there is a splendid vista. It is not unlike some of the valleys or dales in Norway, if they can be conceived studded over with Oriental buildings and under an Oriental sky. The ridges of the hills are all strongly fortified, and in old times the place must have been extremely difficult to capture. We have never seen a more picturesque position for a city. It will be memorable in the experience of our party for our first elephant ride. The Maharajah generously provided an elephant, which we found awaiting us about two miles before reaching Amber. It had on its back a well-padded seat holding four, and being a very large brute, although it went down on its haunches, we had to get up to the seat by the aid of a ladder. When it rose we had to hold on very tightly. When it began to walk the motion, or rather cross motions, were not unlike the pitching and rolling of a ship combined. The elephant, except once or twice when it took a little trot, went very deliberately, and as it ascended a narrow, steep, and winding, indeed a very crooked, road, it showed such caution as to maintain the elephantine reputation for sagacity. The old Palace at Amber contains much more costly work than the new one on the plain below Tiger Hill. Its situation is also



THE ALBERT MUSEUM.

infinitely finer, but it is rarely used by the Maharajah, being much less convenient now than the Palaces in the City. Altogether the excursion to Amber is exceedingly enjoyable.

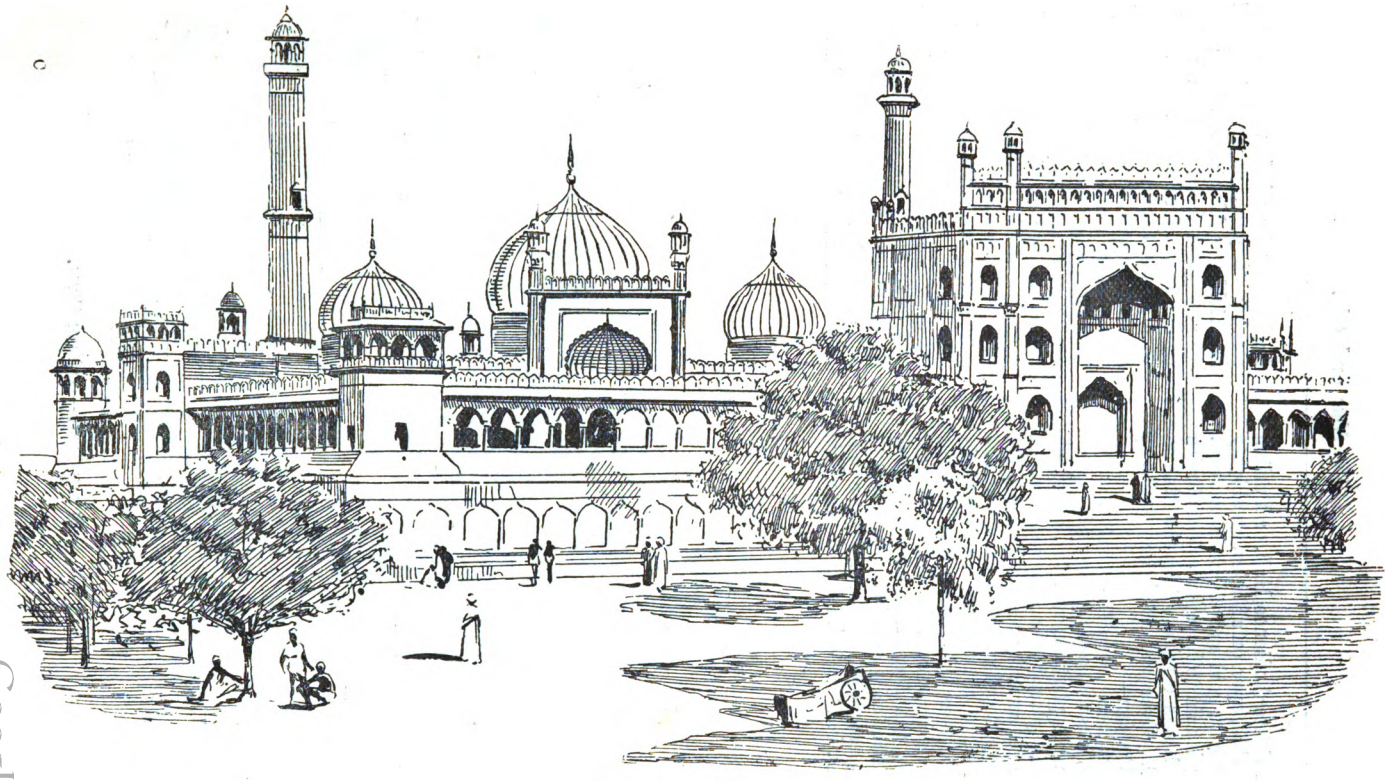
Travelling by a night train from Jeypoor to Delhi, we were much struck by the excellence of the refreshment rooms at comparatively small roadside stations. Bandikui, for instance, in India, will correspond to stations where there are junctions in Scotland, like Dunblane, Ballinluig, or Bridge of Dun. It was the only station where we could dine or sup at half-past nine. One of the train conductors, ascertaining at Jeypoor that we would dine there, telegraphed on that dinner was wanted, and although there were only two of us we found a table very prettily set out, and were served with an excellent dinner of fish, cutlets, roast beef, chickens, omelette, cheese, fruit, and coffee, the charge for all which was rather less than 2s each. Our railway managers might learn much that would be beneficial to passengers if their Directors would give them a trip to India.

DELHI NEW AND OLD.

To military men Delhi is one of the most interesting places in India. It was here that Hodson and Nicholson struck the death blows of the Mutiny. With the aid of a local map the incidents of the ever memorable siege can be followed. However little a man may know of the art of war, no one can remember or read the history of the siege without being proud of his countrymen, who—a mere handful compared with the host of mutineers—succeeded, against dreadful odds and after the sacrifice of many brave lives, in bringing the rebels into subjection and terminating the revolt. I shall not attempt to describe what would most interest military men, but simply what will strike the ordinary tourist.

Coming from Bombay and Jeypoor, the principal business street in modern Delhi is disappointing. It has a comparatively dull and shabby appearance, there being a lack both of bright colouring and human activity. The same may be said of the narrower bazaars. The new streets and roads are much livelier. Many of the new bungalows are in excellent style, and have the advantage of abundant foliage. Both in Delhi and the environs the trees are plentiful, the leaves bright, and the shade extensive. Besides the Queen's Gardens there is an extensive park leading to what is known as the Ridge. In this park there are a golf course, cricket ground, and football field. The young natives are taking to these games with great keenness. The first afternoon of our visit we were taken to a racecourse, and found the road crowded by vehicles containing natives eager to watch the races, which they followed with as much apparent interest as the attendants of racecourses in England.

Any defect in the business part of the city is more than compensated by the grandeur of the historical buildings. The Fort, both from within and without, is magnificent. The Lahore Gate is very impressive. The interior of the gateway is of cathedral-like proportions. A peculiarity of the exteriors of the edifices here is that they are built of red sandstone of great hardness. Soon after passing through the gate we come to the old Palace. It was here that former Emperors of Delhi held their durbars or grand levees, when the whole hall was filled with Kings, Princes, and Rajahs. The Emperor sat high above the Royal throng on a throne, to which he had access from the interior of the Palace. The wall behind the throne was covered with pictures and mosaics in precious stones representing the fruits, flowers, birds, and beasts of Hindustan. Still more splen-

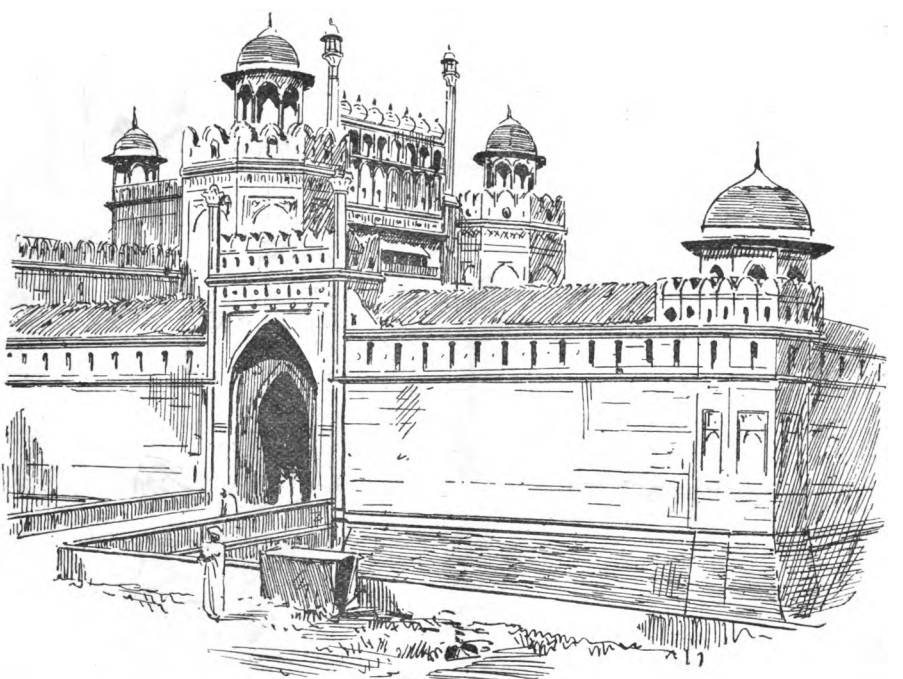


THE JUMMA MUSJID.

did is the Private Audience Hall, or Purihm of white marble, open on all sides, and highly ornamented with gold and pistra-dura work. The ceiling is said to have been plated with silver, which was carried off by the Mahratas in 1760. Over the north and south is written in Persian—

If on earth there be an Eden of bliss,
It is this, it is this, and none but this.

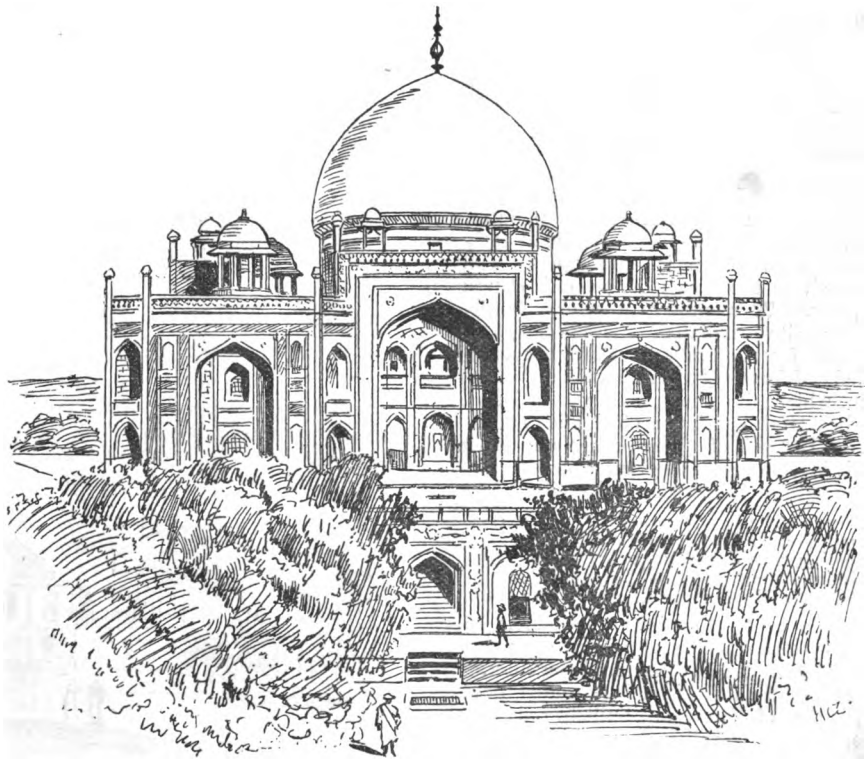
A white marble platform remains, on which formerly was placed the famous Peacock Throne, carried away by Nadir Shah in 1739, and now in the Royal Palace of Teheran. The body and feet of the throne, which was six feet long and four wide, were of solid gold, inlaid with rubies, emeralds, and diamonds. Behind were the figures of two peacocks, whose expanded tails were inlaid with sapphires, rubies, emeralds, pearls, and other precious stones, in close imitation of peacock's feathers. The whole was surmounted by a canopy of gold, supported by 12 pillars, all richly emblazoned with costly gems. The great umbrellas on each side of the throne were of crimson velvet, embroidered with pearls, the handles being of solid gold, 8 feet in length, and studded with diamonds. Such are the statements in the Guide Books —Murray's being especially indispensable in viewing all such buildings in India. At a little distance from the Emperor's Palace was that of his ladies with their baths, all of which remain in excellent preservation. The floors and fountains are of white marble, the walls and ceilings are beautifully decorated in various styles, and the windows in the roofs are of stained glass. Written descriptions of even the finest buildings become tedious. I am glad, therefore, that these letters will be illustrated with sketches,



DELHI FORT—LAHORE GATE.

which, however imperfect, will convey a better idea of the style of the buildings than any verbal account of them. For external effect there is no Mosque in India to compare with the Jumma Musjid. According to Murray—"The gateways are surmounted with galleries, on the roofs of which are fifteen marble domes, with spires tipped with gold. Above these are six fluted marble minarets, with open arched chambers at the top, and surmounted with gilt pinnacles. These three noble gateways are approached by grand flights of steps, unrivalled in Delhi or elsewhere, adding materially to the grandeur of the whole effect. The doors are massive and overlaid with brass arabesques half an inch thick, giving access to a stately quadrangle 325 feet square, in the centre of which are a marble basin and fountain." Tradition has it that 5000 workmen were employed for six years in building this wonderful edifice. Although there are several other remarkable mosques in Delhi, it is useless to refer to them, as none of them equal the Jumma Musjid.

It is characteristic of all the large cities in Central India that there is a new city and an old one. Various considerations have led to the desertion of the old cities. Sometimes, having no systems of drainage, they became in the course of centuries hotbeds of disease. Sometimes the caprice of the rulers or military masters caused the new cities to be built; sometimes the water supply was the main consideration. In the case of Delhi the remains of the old city,



THE HUMAYUN TOMB.

which extend over eleven miles, are of a very remarkable, and in some cases stupendous, character. There is the ruined fort of Ferozobad, not far from the Delhi gate. There is the pillar of Atoka, brought from a long distance, a monolith of pink sandstone, 42 feet high and nearly 11 in circumference, with a Pali inscription forbidding the taking of life. Further on is the old Fort of Indrapal, a very ancient, and in its time very strong, citadel. There is the Kilji Konal Mosque, commended by Ferguson as a noble specimen of a perfect architectural style, in which every detail was fitted to its place and its purpose. The exterior is grand in its proportions, the interior beautiful in its delicacy. Another mile and we come to the tomb of Nizam-ud-din, in which is the Hall of 64 Pillars, the resting place of a foster brother of the Emperor Akbar, all of white marble, and exquisitely finished. Then there is the tomb of the poet Amir Khusran, whom the natives revere as "the Parrot of Hindustan," from the sweetness of his style, although we do not consider the parrot a sweet-voiced bird. Sadi, the celebrated Persian poet, is said to have visited India expressly to meet Khusran, whose songs still remain popular, and are often sung, although he died nearly 600 years ago. Near it, and equally well preserved, is the tomb of an old Hindu saint, some 70 members of whose family live near as its guardians. There is close to it the tomb of "the truly pious and heavenly-minded *Jehanara*," daughter of Shah Jehan, which, like those already mentioned, is a beautiful specimen of inlaid marble work. Instead of there being an upper slab, it is left open, and grass grows in compliance with an inscription in Persian—

Save the green herb, place naught above my head,
Such pall alone befits the lowly dead.
The fleeting, poor Jehanara lies here—
Her sire was Shah Jehan and Chist her Pir.
May God the Ghasi monarch's proof make clear.

The whole of this ancient sanctuary is occupied with the tombs of Chisti saints, of whom Nizamu-din is considered the chief.

Grandest of all those ancient tombs, however, is that of *Humayun*, built in red sandstone, artistically relieved by white marble. Its design is believed to have suggested that of the celebrated Taj at Agra. It is historically memorable on account of Bahadur Shah having fled to it for refuge after the storming of Delhi. Hodson, on the following day, accompanied by only 17 of his horsemen, called on Bahadur to surrender, which he did before a threatening crowd of natives, whom Hodson terrified by shooting the sons of Bahadur before their eyes. It was by deeds like this that a few of our countrymen made millions submit to their command.

The furthest point of our day's journey through Old Delhi, which really extends far beyond, is Kutb Minar, with a great fort and mosque. It would require a long letter to fully describe these works, suffice it to say that the Kutb is a grand fluted tower 240 feet high. It is built with corbelled balconies in five stages. There were originally two higher, but these were destroyed by lightning. It has also suffered by earthquake, Two younger friends ascended the tower, which I was content to admire from the ground. The adjacent mosque was previously a Hindu Temple, and is remarkable for the multitude of the pillars at the sides of a large

THE KUTB MINAR.

quadrangle. These pillars seem small and feeble after those we were accustomed to see in the Egyptian Temples, but they have more variety in design, some being very fantastic. Amongst the other objects of interest here is a curious solid iron pillar, about four feet in circumference and 22 feet above ground, bearing a Sanscrit inscription that it is the Arm of Fame of Rajah Dava.

There are many curiosities at Kutb, but after a long drive and much sight-seeing, we were greatly refreshed by rest and luncheon in the Dak Bungalow. These bungalows are resting places which the Government maintain for travellers, letting them to keepers who are bound to provide refreshments at moderate charges. We had a luncheon which, with that "hunger which is good kitchen," we enjoyed more than many a costly dinner. The charge was only one rupee, or less than 1s 3d, besides which we had to pay half a rupee to the Government for the use of the bungalow. Very neat, clean, and well kept, these Dak Bungalows are an excellent institution. It may also be mentioned that there is another Bungalow more frequented by the people of Delhi. It was built for the tomb of Adham Khan, but Adham was not buried in it, and it is now used for the enjoyment of the living. It is very spacious, and well arranged for the visits of pic-nickers, and during the hot weather it must be of great advantage to Europeans resident of Delhi, who have the privilege of using it.

CAWNPORE—ITS COMMERCIAL DEVELOPMENT.

One of the saddest places in India in connection with the great Mutiny of 1857 is Cawnpore, where the horrid massacre occurred—with most atrocious cruelty—of so many British, not only men, but women and children. It is commonly visited simply to see the beautiful Memorial erected over the well into which the bodies were thrown. We had a further purpose—to learn something of the remarkable development of manufacturing industry in cotton, wool, jute, and sugar which has taken place during the last few years, which, through the kindness of Mr Atherton West, we had excellent opportunities of witnessing.

Dundee had a melancholy interest in the Cawnpore massacre. I remember well how local feeling was excited by the narratives of the terrible scenes at Cawnpore consequent on so many of the old Dundee family of Lindsay being amongst the sufferers. In the Memorial Church of All Souls, a handsome building, the interior walls of which are almost covered with In Memoriam tablets—many of them very affecting—there is a general memorial round the apse near the Communion table, of which I copied the beginning, as follows :—

To
THE GLORY OF GOD
and
IN MEMORY OF
MORE THAN A THOUSAND
CHRISTIAN PEOPLE,
Who met their Deaths Hard By
Between 6th June and 15th July
1857,
THESE TABLETS
are placed in the
MEMORIAL CHURCH,
ALL SOULS,
CAWNPORE,
by the
GOVERNMENT, N.W.P.

STAFF :—

Major-General Sir H. WHEELER, K.C.B.
Lady WHEELER and Daughter.
Lieutenant G. R. WHEELER, 1st N.I., A.D.C.
Lieut-Col. L. WIGGENS, 52d NI.., D.A.D.C.
Mrs WIGGENS.
Major W. LINDSAY, A.A.G.
Mrs LINDSAY and Daughters.
Ensign G. and Mrs LINDSAY.

CAWNPORE MEMORIAL.

Brigadier-General JACK, C.B.
Mrs JACK.
Captain Sir G. PARKER, 74th N.I.
Captain WILLIAMSON, 71st N.I., D.H.C.G.
Mrs WILLIAMSON and Child.

The memorial over the well was one of Marochetti's best works, and its effect is excellent. The following inscription is placed round the large vase or basin under the central figure :—

SACRED TO THE PERPETUAL MEMORY
OF A GREAT COMPANY OF CHRISTIAN PEOPLE,
CHIEFLY WOMEN AND CHILDREN,
who near this spot were cruelly massacred by the followers of the Rebel, Nana Dhoonpunt, of Bithoor, and cast, the dying with the dead, into the well below on the 15th day of July.
MDCCCLVII.

The adjacent garden where the massacre occurred, and where there are many graves with pathetic inscriptions, is beautifully kept, and we gathered some exquisite roses, of which there were many blooming in the open air within a few days of Christmas.

Mr and Mrs Atherton West drove us round the whole of Cawnpore, and we were much struck by its admirable roads and park-like environs. The abundant foliage of the trees in India, and the amplitude of the grounds, or "compounds," of the residences near the large cities are a surprise to the European visitor. In the course of our drive we visited a model farm, conducted for the instruction of the natives, where, besides a number of native plants and trees which were new to us, we also saw different varieties of cotton, which are being grown experimentally, including Egyptian, American, and Sea Island. This points to the future peril of the Lancashire cotton spinners, if, as time goes on, they succeed in growing the finer qualities of cotton in India. In this connection I heard when in Cawnpore one explanation of recently diminished orders from India for Manchester piece goods. A wealthy native merchant, who formerly sent orders for two, three, or five lakhs of rupees worth of goods to Manchester, said he had ceased doing so until he knew what the end of the agitation against the cotton duties was to be, for if he ordered a large quantity of goods and the duties were suddenly taken off, he would be at a serious disadvantage compared with a buyer after the duties ceased. The native merchants are far-seeing, and will not run risks of this kind, and whatever is done or decided should be done or decided with the least possible delay.

Cawnpore is rapidly becoming a centre of business activity in the North-West. It has excellent railway connections, is a good point for distribution, and labour is abundant and cheap. The erection of cotton mills at Cawnpore has been followed by a considerable extension of the growth of cotton. The spinning and weaving of cotton by hand have long existed in the district, and the Victoria Cotton Mills are simply spinning mills to supply the local demand for yarns, which the natives weave by their handlooms. The yarns are made up in neat square parcels of 10 lbs., which are sent to a distance in bales of 500 lbs. each. Going through the Victoria Mills, we learned that they began on a very small scale in an old building. The capital at the beginning was only 5 lakhs of rupees, then it was increased to 7 lakhs, and now it is 12 lakhs. A lakh, it may be explained, is 100,000. The precise amount in sterling depends on the value of the rupee, which at present is about 1s 2d. The great trouble is the rate of exchange. All the machinery has to be bought in England. It is obvious that many more rupees have to be paid for every £1000 when the rupee is at 1s 2d than when it is at 2s, and the dread of the millowners is that the rupee may go up again to 2s, and new mills be erected to compete with them, costing little more than one-half what is now being paid. On the other hand, the rise in the rupee would be of great advantage to every one who wishes to realise the value of his profits or remit his savings or part of his salary home. It is a very complicated question, with numerous disturbing elements, and some very intelligent men here confess they do not see daylight as to how it is to be solved.

The Victoria Mills consist at present of two on the single flat plan, and a third, in course of erection, of three storeys of the regular Lancashire type, except that each storey is 18 feet in height, nearly double those in Lancashire, so as to secure perfect ventilation. The three mills will contain 60,000 spindles. The one in course of erection

will have an engine of 500 H.P. by J. & R. Shorrock, of Darwen; the boilers by Beeley, Hyde Bridge; and the card-room and spinning frames by Howard & Bullow, Accrington—all of the most improved type. In India, it may be remarked, all new mills are required to have separate latrines for males and females at least 150 feet from the main building. Although the new mill was only begun two months ago, it is expected to be in operation next August.

Mr West, who is a thoroughly practical man, has directed his attention to reducing the excessive number of hands formerly employed in Indian Cotton Mills. A few years ago there were generally two men to one frame; now he has only a man and a boy to two frames. The man earns from 14 to 15 rupees per month, out of which he gives the boy five. His net earnings, therefore, are about twelve shillings per month, out of which he can save money. The hands are chiefly Hindoos, of the Weaver Caste, their fathers having been spinners and weavers from time immemorial, so that they have hereditary aptitude for the work. Mr West pointed out two brothers, Mahomedans, who, he said, were capital hands, as good as could be found anywhere. and who he was sure were each saving 5 rupees, or about 6s, per month. They were steady and always at their work. Another, a Hindoo, was a splendid worker, who when at work kept everything going in a clean and tidy way, but every month he took three or four days off, drinking bad native spirits, and never stopped till he had spent all his money. One thing we saw which is never seen in the old country—half a dozen men outside of one of the doors enjoying a smoke, the employers supplying both pipes and tobacco and having an old woman to fill them. Mr West says this indulgence costs little, and it does much to keep the men happy and contented. He has very little trouble with them, and the fines in the whole establishment do not amount to 10 rupees a month, nor is there any occasion to punish any of the hands. If firmly but considerately dealt with they listen to reason and willingly obey. In the reeling department the hands are chiefly women. By preference Mr West would run all the mills with men and boys, but the reeling finds employment for the wives and daughters of men in the other rooms. Altogether the Victoria Mills appear to be in a thriving and prosperous condition.

Besides the Victoria there are three other large Cotton Mills, a large Woollen Establishment which weaves both cloth and hosiery, suitable for soldiers and policemen; two flour mills working with chilled rollers, according to the latest improvements; a new Sugar Refinery; and a Boot and Shoe Factory, also on the most modern principles. The factories altogether find steady employment for about 20,000 hands. The wages paid are considerably higher than the same hands could earn before; nevertheless, although the population of Cawnpore and the district reaches 200,000, there is sometimes difficulty in finding hands for the mills, the reason being that steady work, from sunrise to sunset, is just what the natives don't like. They prefer light, irregular jobs, and the higher wages are not a sufficient inducement to remain steadily employed. Some of them go off for months together, and only return when they have exhausted their savings.

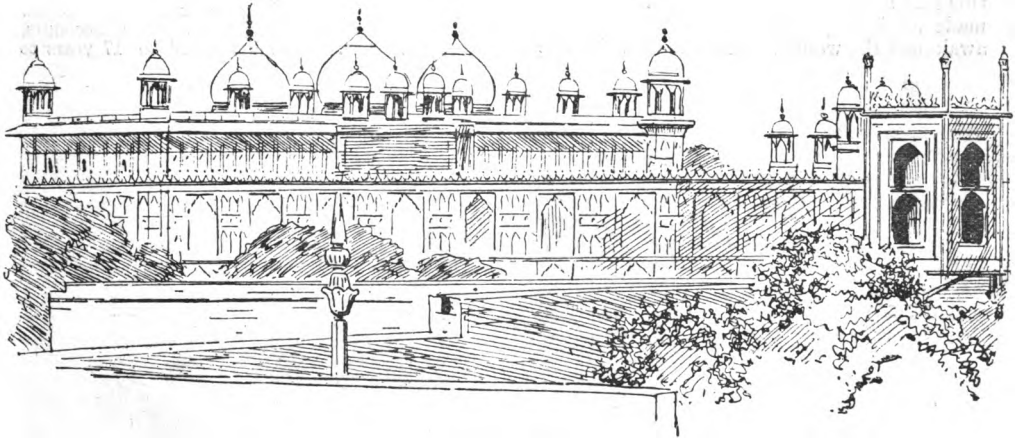
Of course we called at the Cawnpore Jute Works, the only establishment of the kind in the North-West. It is only a small concern, and was till lately in the hands of a Company, which went into liquidation, but it has been taken up by a few wealthy natives and others, who are doubling the buildings and machinery. There are now 75 looms, with proportionate preparing and spinning machinery of an old type, and considerably run down. The new engine, of 500 H.P., and new looms and frames will all be up to date. We are assured that there is an ample local demand for whatever these works will be able to produce. The rates of wages here again are marvellous:—Boys, from about 2s 6d to 6s per month; men, from 9s to 18s per month. The only European in the establishment is the working manager—Mr Thompson, from Lochee, who has only been out a short time. He is a bright and evidently capable young man, but has not been sitting on a bed of roses since he came to Cawnpore, having found everything in great disorder. He is, however, rapidly bringing things into

shape. The hours are terribly long—from six in the morning till eight at night every day of the week, while Sunday mornings are used for cleaning up and repairs. When the new mill and factory are started the concern may be expected to do better than it has yet done.

The cotton, grain, and other markets in Cawnpore present very animated scenes, and wherever we go there is great life and activity. Some of the native merchants are very wealthy and enterprising, and they carry on business in a very honourable manner. Their large resources enable them often to compete successfully with the Indian Banks in financial operations desired by the manufacturing firms.

It may be added that there is a considerable volunteer corps, of which the largest British employers are officers, and their identification with it—which they consider a duty—adds greatly to its prestige and success.

AGRA—THE TAJ MAHAL AND FATEHPUR SIKRI.

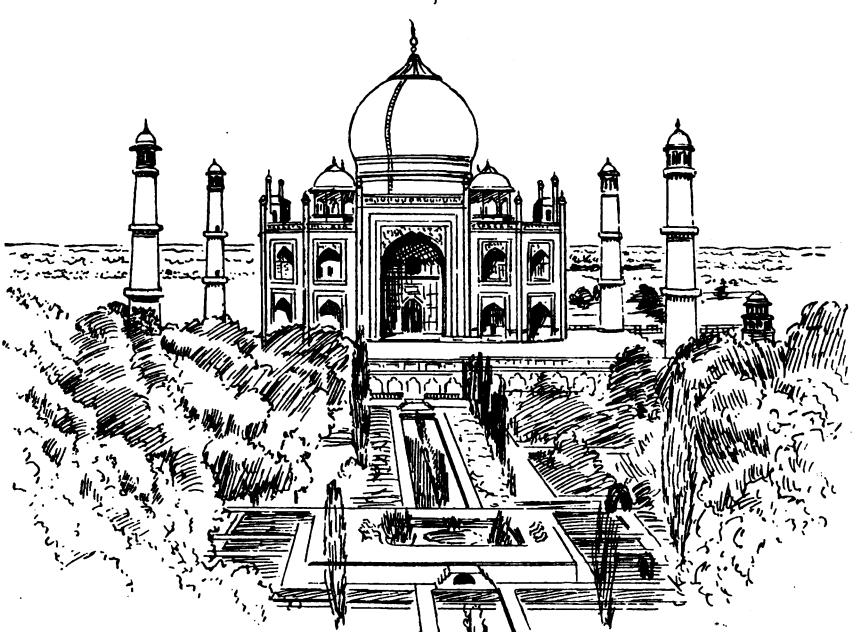


MOTI MUSJID—THE PEARL MOSQUE.

If any one could only spend one or two days in India, and descend from a balloon or a flying machine wherever he pleased, he should select Agra. In historical interest it is inferior to Delhi, Cawnpore, Lucknow, or Benares, but it far transcends them all in the beauty of its buildings. Akbar built the Fort so recently in Indian history as 1568. Like all that Akbar did, it testifies to the grandeur of his ideas and his practical sagacity. But the ruler whose edifices have made Agra famous throughout the world was Shah Jehan, who seems to have had a genius for building, as he erected not only the Taj—generally reputed the most beautiful marble erection in the world—but also the Pearl and the Cathedral Mosques. His taste in architecture and love of fine workmanship seem to have been perfect. He had the wisdom to adopt the best designs that had been previously executed, and then to combine the

best features of them, and to use a material which made them "things of beauty and joys for ever." It was approaching sunset when we paid our first visit to the Taj, and we shall never forget the changing hues of the beautiful white marble domes and minarets, issuing from the lovely foliage of the large garden between the Gate and the Tomb. The roseate tint imperceptibly cooled down until it became an almost snowy dimness, and we could readily conceive the peaceful moonlight effect which, following the advice respecting Melrose Abbey, all travellers are recommended to witness. There was no moonlight available, unfortunately, at the time of our visit, and so we waited until it was nearly dark to impress on our minds the various tones of light and shade. So delighted were we that we returned and paid a second visit, somewhat earlier on the following afternoon, to repeat this rare and intense gratification. We then made a leisurely survey of the interior, and awakened the wonderful echoes of which the building is capable—certainly more sustained and prolonged than in any other building we have ever visited. It being impossible for me in the limited time at my disposal even to attempt a description of the Taj, I do not apologise for quoting the following from Murray :—

The *Taj Mahal* stands on the brink of the Jumna, a little more 1 m. E. of the Fort. The building is properly named *Taj bibi Ke Roza*, or "The Crown Lady's Tomb." The Taj with its surroundings is a spot of unequalled beauty. The heroic size, the wonderful contrast of colours in the materials employed, the setting of noble trees, sweet shrubs, and clear water form a combination that we seek in vain elsewhere. This mausoleum was commenced in 1040 A.H., or 1630 A.D., by the Emperor Shah Jehan as a tomb for his favourite Queen, Arjmand Banu, entitled Mumtaz Mahal, literally the "Chosen of the Palace," or more freely "Pride of the Palace." Her body was brought to Agra, and laid in the garden where the Taj stands until the mausoleum was built. The Taj cost, according to some accounts, Rs. 18,465,186, and according to other accounts, Rs. 31,748,026. It took upwards of 17 years to



TAJ MAHAL FROM THE GATE.

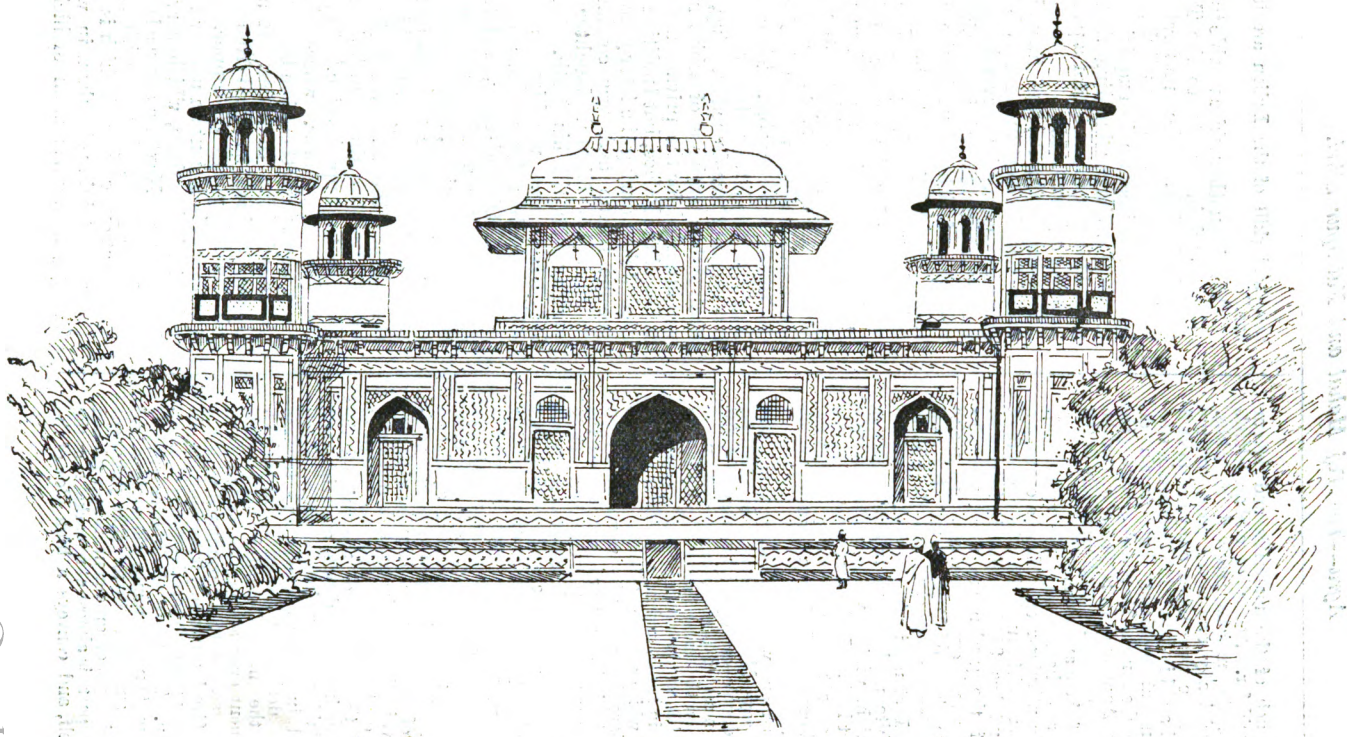
build, and much of the materials and labour remained unpaid for. According to Shah Jehan's own memoirs, the masons received 30 lakhs. There were originally two silver doors and the entrance, but these were taken away and melted by Suraj Mall and his Juts. It is uncertain who was the principal architect, but Austin de Bordeaux was then in the Emperor's service. He was buried at Agra, and it is probable that he took part in the decoration, and especially in the inlaid work, of the mausoleum.

Having passed the gateway, the visitor finds himself in a beautiful garden. In the centre is a stream of water which runs the whole length of the garden, and has 23 fountains in its course. The beds of the garden are filled with the choicest shrubs and cypress trees, equal in size and beauty to those of Mezandarun. It is now that the mausoleum presents itself to the gaze in all its glory. It stands in the centre of a platform faced with white marble, exactly 313 feet square and 18 feet high, with a white minaret at each corner 133 feet high. It is a square of 186 feet, with the corners cut off to the extent of 33½ feet. The principal dome is 58 feet in diameter and 80 feet in height.

In the apartment where the show tombs are, "the light," says Mr Fergusson, "is admitted only through double screens of white marble trellis work of the most exquisite design—one on the outer and one on the inner face of the walls. In our climate this would produce nearly complete darkness, but in India, and in a building wholly composed of white marble, this was required to temper the glare that otherwise would have been intolerable. As it is, no words can express the chastened beauty of that central chamber, seen in the soft gloom of the subdued light that reaches it through the distant and half-closed openings that surround it. When used as a Barahdari, or pleasure-palace, it must always have been the coolest and the loveliest of garden retreats; and now that it is sacred to the dead, it is the most graceful and the most impressive of sepulchres in the world. This building, too, is an exquisite example of that system of inlaying with precious stones which became the great characteristic of the style of the Moguls after the death of Akbar. All the spandrils of the Taj, all the angles and more important details, are heightened by being inlaid with precious stones. These are combined in wreaths, scrolls, and frets as exquisite in design as beautiful in colour. They form the most beautiful and precious style of ornament ever adopted in architecture. Though, of course, not to be compared with the beauty of the Greek ornament, it certainly stands first among the purely decorative forms of architectural design. This mode of ornamentation is lavishly bestowed on the tombs themselves and the screen that surrounds them. The judgment with which this style of ornament is apportioned to the various parts is almost as remarkable as the ornament itself, and conveys a high idea of the taste and skill of the Indian architects of the age."

There is another white marble tomb in Agra only second in beauty to the Taj—that of I'tmadu-danlah. The perforated marble lattice work of this beautiful specimen of Indian architecture is exquisitely delicate. It was of a similar building that a French wit said it was too small for a palace and too large for a jewel-box.

Not only is the Taj the finest building in India, but the Fort in Agra is built on the grandest scale, its several gates being remarkably noble and impressive. A hard redstone of rich colour is the material of which the lofty walls and gateways are built, but the beautiful palaces and mosques within are of white marble. Of the whole it has been said the Moguls designed like Titans and finished like jewellers. The Moti Musjid is called the Pearl Mosque, because no other mosque is lined as it is throughout with marble. Then there is the Naginah Musjid, or Gem Mosque, a small but elegant three-domed building, erected by Shah Jehan entirely of white marble. It was intended for the private mosque of the ladies of the Palace, but tradition has it that Shah Jehan during the later years of his life became insane and was confined in this mosque, his faithful daughter Jehanara nursing him till his death. She was the lady who is now worshipped as a saint, to whose tomb reference has already been made. The Diwan-i-Khas, or Hall of Private Audience, "is a miracle of beauty. The carving is exquisite, and flowers are inlaid on the white marble with red cornelian and other precious stones. From his throne on the terrace the Emperor looked over the broad river to the beautiful gardens and rivers on the opposite side." Then there are the Jasmine Tower, where the Sultana lived, and where there is a beautiful pavilion also overlooking the river. It adjoins the Golden Pavilion, so called from being roofed with gilded plates of copper. The ladies' apartments in it contain narrow holes in the walls, 14 inches deep, which served as their jewel boxes. Next we enter a large garden, 280 feet square, planted with flowers and shrubs, at one corner of which is the Mirror Palace, containing chambers in which were formerly fountains and an artificial cascade

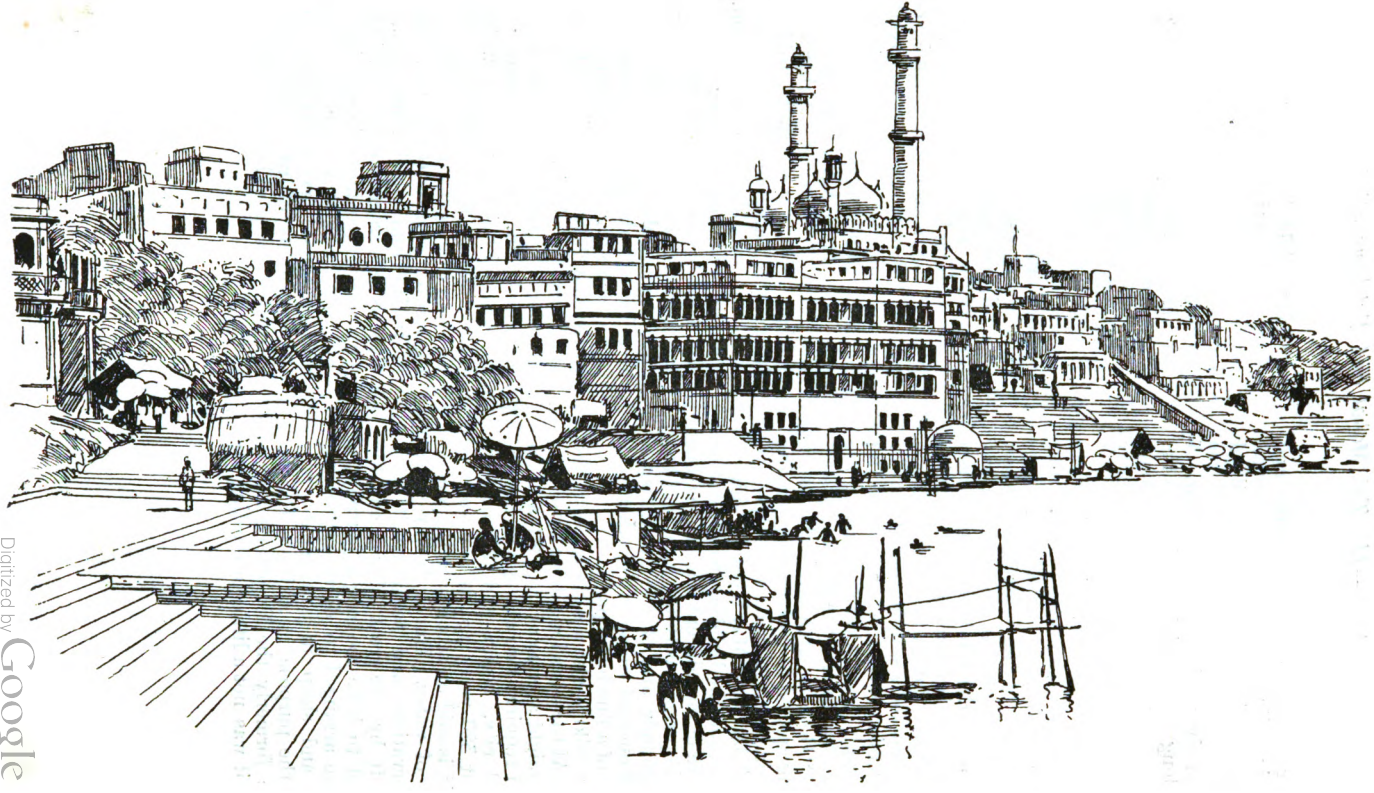


TOMB OF SHAH JEHAN.

falling over lighted lamps, the walls and ceiling being lined with countless small mirrors. At another corner is a hall gilded and illuminated with colour, and three rooms formerly used by Shah Jehan. I might prolong these brief allusions to the wonderful series of buildings, but will only say that it is impossible in words to convey any adequate idea of them.

There are two places beyond Agra to which visits are always made. The nearest, about five miles away, is Sikandarah, where is the grand tomb of the illustrious Akbar. It may be noted that in this, as in many other instances, the tombs of famous men and women in India do not, as with us, give their names and the dates of their births and deaths, but some simple words from the Koran or Persian Scriptures on the splendid white cenotaph over Akbar's remains are simply the mottoes, "Allahu Akbar," signifying "God is greatest," the word Akbar being applied to its bearer, importing "Great," as in case of Alexander or Napoleon, and "Jalla Jalahu"—"May His glory shine." The gateway and the building which covers the Tomb are of magnificent dimensions, but I am more impressed with the beauty of the adjacent grounds and of the large, wide-spreading Tamarind trees, giving them the appearance of a fine home park.

Fatehpur Sikri—also associated with the memory of Akbar—is a long drive through a perfectly straight avenue of trees 22 miles in length, and requires two changes of horses. This Royal city, begun and finished by Akbar about 320 years ago, is now entirely deserted, it is said on account of the defective supply of water. But it is in remarkable preservation, and seems as if only recently left by the great Mogul and his Court. Not to have too long a journey in one day, we arranged to drive out in the afternoon, and sleep in apartments provided for the purpose in Akbar's Palace. They were formerly the Emperor's record office, and it was not a little interesting to spend a night in such spacious quarters. Soon after sunrise we explored the whole of the ancient Palace or rather Palaces, for Akbar had three principal wives, each of whom had her own Palace. One of them—Miriam—is said to have been a Portuguese Christian, and some confirmation is given to this by a picture of the Annunciation still remaining in one of the verandahs of her Palace, which, however, is of Hindoo architecture. The buildings as a whole are curious rather than beautiful, the Hindoo pillars and carvings being as usual very fanciful, but lacking in any expression of strength or power. The most unique and notable thing here, perhaps, is the Tomb of Shaik Salim, a saint and prophet, on whose advice Akbar seems to have greatly relied for his guidance. It was at his suggestion he first built Fatehpur Sikri, and then left it for Agra, where he built the Fort. Two of Akbar's children having died, the saint told him if he went to Fatehpur Sikri he would have a son who would reign after him. This actually occurred, and hence the Tomb of the Saint became a shrine much frequented by childless women. It is pathetic to see the innumerable strings attached to a screen round the tomb on which women had hung their offerings. When Akbar proposed to fortify the Palace the Saint told him—"No, you must not do it. Keep this place for devotion. I need peace for worship and contemplation. You are a man of war. Go to Agra and build your Fort," which he did. Such at least was the tradition narrated to us by an intelligent native guide. Next to the tomb the great Gate, one of the highest in India, from which there is a splendid view, is most remarkable. All that we saw here was exceedingly interesting, and the long drive back to Agra enabled us to realise somewhat more than we had previously done the conditions of rural life of the native peasantry whose villages we passed on the journey.



BENARES FROM THE RIVER.

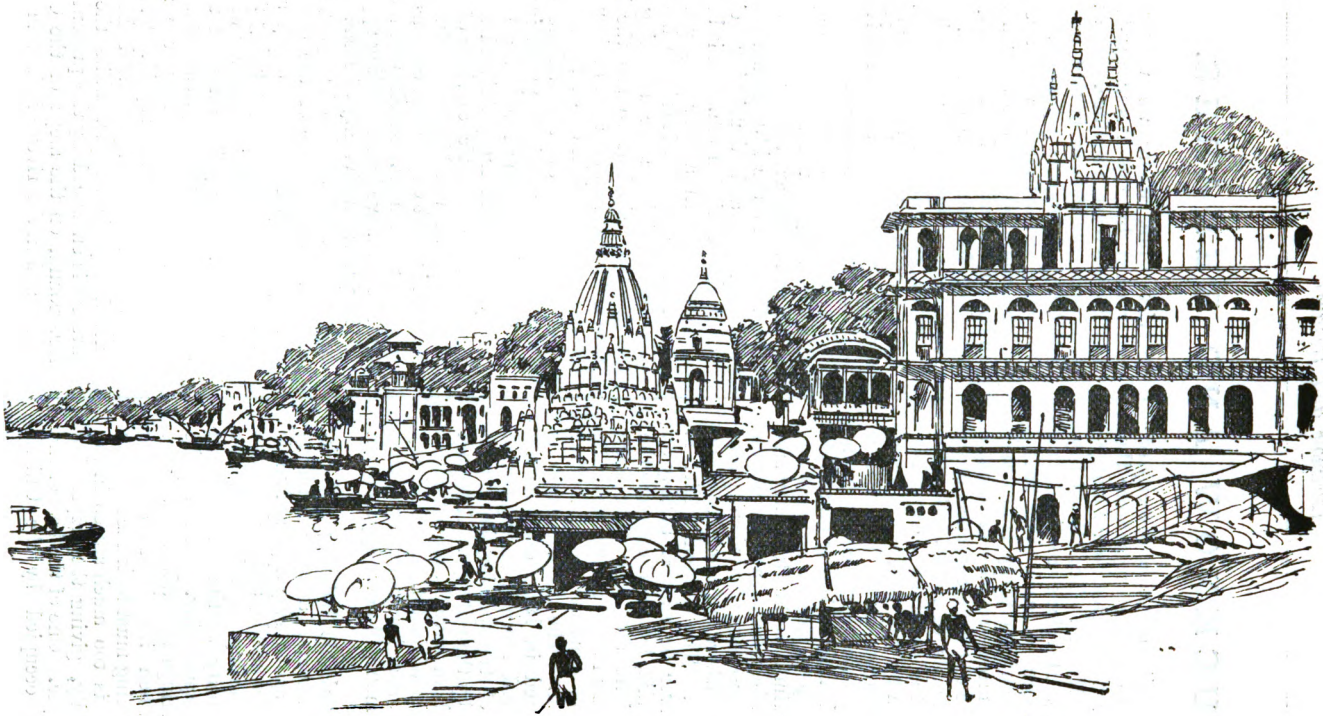
LUCKNOW AND BENARES.

Lucknow, the capital of Oude, is a city of painful memories to all who remember the heroic life-and-death struggles of our countrymen during the Mutiny. The Residency where Sir Henry Havelock received his fatal injuries—where so many other brave men succumbed, and so many ladies and children were immured—remains in ruins, a monument of some of the fiercest encounters recorded in the annals of revolt. But the great majority of the buildings occupied in the neighbourhood by the rebels, and from which they long harassed and poured in a deadly fire on our beleaguered countrymen, have been cleared away. Acting on a wise policy, the densely populated quarters adjacent in former times to the Residency and forts have all been demolished, and large open spaces, where only trees are planted and parks formed, now exist where an enemy could be quickly dislodged. The general belief is that there will never be another mutiny on a large scale in India, but if there were the military dispositions are such that large bodies of troops from one Province could be quickly moved and concentrated in another wherever required. The Indian Army is carefully distributed in large cantonments on a well-considered footing, having regard to the facilities of transporting both men and ammunition by the railways. A second Nana Sahib could not have the opportunities of cruelty and bloodshed that sanguinary monster enjoyed, and it may be hoped that such a human demon will never appear again in India.

The most remarkable building in Lucknow is the Imambara, a huge building erected a century ago during a great famine to give relief to the people, and said to have cost a million sterling. Its interior, like that of the majority of the buildings in Lucknow, is disappointing. One of the Palaces of the Kings of Oude has a large garden, which when illuminated and the fountains are playing must look exceedingly well; but there is too much stucco in the buildings generally, giving the impression of second-rate style. One of the best of the Palaces is now occupied by the United Service Club, where we were pleasantly entertained by the Postmaster-General of the North-West Province. The most extensive of the Palaces is that in which the last King of Oude is reported to have had 400 wives at the time he was expelled from it, and compelled to remove with them and an immense number of attendants to a Palace provided for him near Calcutta. The best features of modern Lucknow are its magnificent Parks and Gardens, the home-like aspect of which is very striking—except that the weather at Christmas is like the best of ours at midsummer.

Far more interesting than Lucknow is Benares, which is to the Hindoos what Jerusalem and Rome are to Jews and Christians and Mecca to the Mussulmans. Benares was a large and flourishing city long before the Christian era. It is believed to have stood then at Sarnath, some miles away, where Buddha is said to have taught his five disciples after attaining Buddahood. We visited it to see the immense tower, 93 feet in diameter, of iron-clamped stones to the height of 40 feet, and above that of brick to the height of 120 feet. There are eight projecting panels of large dimensions round the base, with very curious and finely-finished sculptured figures and geometric carvings of peculiar designs. The worshippers of Buddha both from China and Ceylon still come as pilgrims to this monument, which when formerly gilded must have had a dazzling appearance.

The present native city of Benares is said to contain 5000 Hindoo Temples, many of which are on the side of the Ganges. It has also nearly 50 Ghats, which are wide and high flights of steps rising from the river to the Temples and Palaces with which it is lined. Our guide arranged to have a boat waiting for us early, so that we might see the city illuminated by the morning sun, and we were well repaid. The grouping of Ghats, Temples, and Palaces is exceedingly picturesque, while the human interest is enhanced by the presence in the foreground, on the steps of the Ghats, in boats, and in the river of thousands of pil-

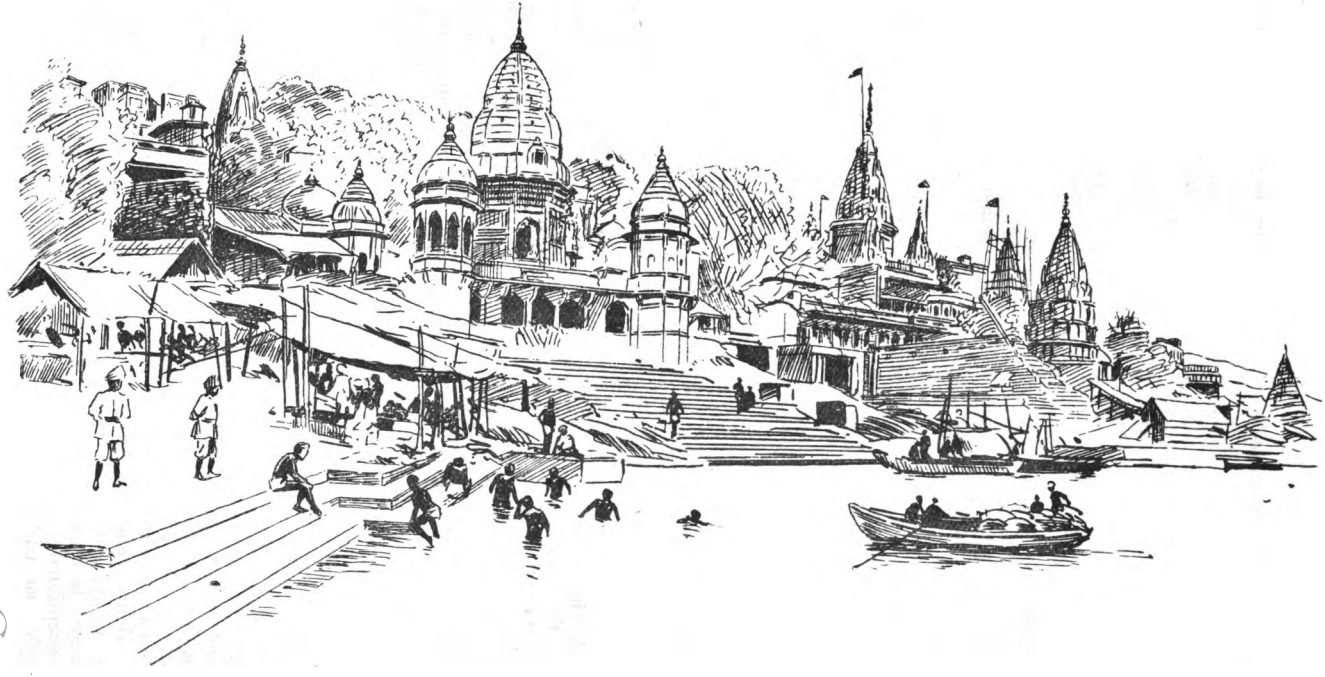


BENARES FROM THE BATHING GHAT.

grims, "holy men," and natives bathing, washing themselves and their clothes, and drying both themselves and their garments by sitting in the sunshine. The Hindoos regard the Ganges as a sacred stream, and believe that bathing in it washes all their sins away. Many come to die on its banks, assured that their doing so opens for them the gates of Paradise. Hence the Burning Ghats are placed on the banks of the river. The corpses of those who have not actually died near to it are brought down, merely covered over with a thin cloth, so that the form of the body can be seen, and carried without any coffin by four men on a light bamboo frame. The corpse is first laid down, partially immersed in the river, then the body is placed in the centre of an oblong pile of wood, to which fire is applied until nothing remains but a heap of ashes, which are thrown into the stream. We saw each stage of the process at one of the Burning Ghats—(1) a body laid in the stream; (2) a pile being prepared; and (3) a body being burnt. The nearest friend of the dead who attends the cremation has to live alone, shave his head, fast, and wash himself in the river for fourteen days. Sometimes it is said, where there is no one to care for the dead, or the relatives are too poor to pay for sufficient wood, the bodies are only partially burnt, and then thrown into the river. This seems to require the attention of the municipalities, who, in the case of paupers, should see that cremation is properly completed, and that the river is not polluted by the bodies of the dead. The natives, however, have no qualms in the matter, as they do not hesitate to drink the water in the very neighbourhood of the Burning Ghats.

The sketches we reproduce will give a better idea than written descriptions of the general style of the Temples and Palaces at Benares. The former, it may be stated, however, are best seen at a distance. They are not sweet places. They are the habitations of unclean things—birds and beasts held sacred by the Hindoos, and wherever you go you are in danger of being defiled, while the odours are almost sickening. The Monkey Temple, in which there is a crowd of monkeys, is by no means the filthiest, being exceptionally well kept. The Golden Temple, so called from its gilded tower, is perhaps the most interesting, and when we saw it it was crowded with worshippers. Several other Temples have also gilded domes. There is one erected by the Nepaulese where the wood carving is wonderfully fine. It is a kind of Hindoo Temple of Venus, and some of the carvings are very obscene. These the priest thought to please us by pointing out, instead of which we told the guide that a priest should be ashamed to show anything of the kind, and we refused to give him the usual backsheesh. Many of the Hindoo idols are of the most hideous forms, and any mythology connected with them must be a "doctrine of devils," and one cannot but deplore the degrading influence of such superstitions. Almost the only wholesome part of Oriental religion is the necessity of frequent bathing and ablutions.

There is a peculiar "Holy Man" in Benares, the only one we have met in our journeyings who would not accept backsheesh. His name is Saraswate. He has so great a reputation as a Saint that thousands crowd to see him and receive his blessing. A wealthy Maharajah has raised him from the state of mendicancy in which he long lived, by allowing him 2000 rupees a year, and he now lives in a hermitage in a well-cultured garden, and has several attendants, who keep a Visitors' Book. He seems about 70 years of age, appears almost nude, but is very intelligent, communicative, and cheerful. He said he felt honoured by a visit from a member of Parliament, and mentioned some noblemen and others who had called upon him. We expressed our pleasure at seeing that his religion appeared to have made him happy, whereupon he sent for a copy of a small account of his life and statement of his belief, which takes no account of the superstitious practices of the common Hindoos, but regards the souls of men simply as temporary embodiments and manifestations of the Universal Spirit from which all life proceeds. Some of his expressions with respect to the objective and subjective, the esoteric, and so on are obviously taken from the philosophies of Europe. At the close of our interview the Holy Man gave us a benediction, which we accepted in the same spirit as it was offered.



TEMPLE AT BENARES.

DARJEELING AND THE HIMALAYAS.

Having twice crossed the Rocky Mountains on a cow-catcher, rounded "Cape Horn" in the Nevadas, stood on the North Cape, driven over the Stalheim Pass in Norway, walked and driven twice over the Simplon, passed through the St Gothard Tunnel, traversed the corkscrew line in the Black Forest, and travelled by the Semmering Railway from Vienna to Trieste, I have had a fair experience of mountain-climbing by railway and otherwise. None of these ascents, however, were to be compared with that by the railway to Darjeeling.

We awoke soon after sunrise, to find ourselves not far from Hilbari, in a vast plain, where much of the best quality of jute is grown. The country resembled that between York and Darlington soon after harvest. The bright yellow stubble of last year's jute and rice crops still remained, except in a few places where ploughing with oxen had begun. There were no hedgerows, but, instead of them, low earthen divisions between the holdings, most of which are quite small—from a few poles to a quarter or half an acre. Small plantations of bamboo and various trees agreeably diversify the landscape. Here and there patches of last year's crop remain uncut for the purpose of maturing the seed. Alongside of the railway we saw many of the setting ponds where the stalks of jute are placed to soften the bark so that the jute may be pulled from the inner core. Sheaves of the dry jute stalks are heaped up to be used in place of firewood. The jute ryots with their families live in decent and comfortable looking huts made chiefly of bamboo. These are grouped together in clusters like hamlets, some of them reaching to fair-sized villages. Occasionally a house has a neat garden, and some of them are large enough to be called bungalows. The appearance of the district differs considerably from what we expected. Jute is not grown in large unbroken plains, but in comparatively small although numerous patches, and in a country well varied with trees and foliage. The first pleasure of the day was that of seeing a good specimen of a jute growing district.

Soon the lofty spurs of the Himalayas begin to loom through the haze of the morning, and ere long we come to the station, where we alight for breakfast, and change into the narrow gauge Darjeeling-Himalayan Railway. This line is the most curious in India, if not in the world. It was engineered and constructed by a man of great practical genius—Mr Prestage, previously an assistant of Mr Brunel, a very interesting person, full of enthusiasm yet for railway enterprise, although crippled by rheumatics, which prevents him being as active as formerly. The happy thought occurred to Mr Prestage of widening the military road so as to permit a two-feet gauge railway to run alongside and in several places across it. The Government readily assented, as such a railway would in an emergency be available for military purposes. Darjeeling was known to the British in India as a favourite health resort. Considering its length, the cost of construction was comparatively small, and the capital was quickly subscribed in India.

The passenger trains are made up in a peculiar way. There is a powerful little tank engine and one or two framed carriages, but all the rest are trollies, each with chairs for six or eight passengers, with canvas awnings and sides if desired. The advantage of these trollies is that there is nothing to obstruct the view of the scenery. And such scenery! of its kind unrivalled in the world. But of this more later on. It was found that the gradients of the old road were in several places unworkable for railway traffic, and Mr Prestage devised a remarkable series of reverses up which the trains are backed for some distance till they come to points, when they move forward again, thus actually zig-zagging up the steep ascent. Another skilful engineering device is seen in several instances in the form of loops, and the cork-

screw arrangement is quite common, making it very interesting to watch how the train several times rounds almost the same points. Owing to the shortness of the curves, the train seems often to double on itself, and not infrequently it is on three bends at once, and twists like a monster snake.

Darjeeling differs greatly from the Alpine towns in Switzerland. They are generally situated on plateaus in the valleys, or on the borders of the lakes. There is no natural plateau at Darjeeling. Any level ground is artificial, so much so that at the back of the railway station you look a long way down into the valley below, whose sides are covered by foliage. The numerous houses, very white and fresh-looking, are all perched in lines on the sides of the mountains, rising hundreds of feet above each other, and approached by narrow, well-kept, zig-

Bit of the Railway.

zag roads. From our corner rooms in Woodland's Hotel we have a fine view of so much of the town as is below and to the right of us, but there is as much more embedded in the trees above us. There are no carriages at Darjeeling, and when we wish to perambulate the place we indulge ourselves with a rickshaw—from which our children's mail carts at home have been copied—drawn by two and pushed behind by another stout fellow of Mongol breed, having very broad shoulders and beefy calves. On our first arrival we were carried up from the station in a chair on the shoulders of four similar men. Whenever you wish to go any considerable distance horses or ponies must be used.

The view from the hotel is itself worth the journey to see. In what is really the far distant, but from the clearness of the atmosphere seems comparatively near, foreground you have distinctly in view a range of snowclad mountains of extraordinary height, broken into a great variety of forms and peaks, and reflecting all day the bright light of the sun, and, when it sets, covered with beautiful roseate tints. Then the bright villas of Darjeeling come in the middle distance, and below are the green foliaged steeps of the ever-winding valleys. Many have seen sunrise from the Rigi Kulm, where Alpine travellers now ascend by railway and sleep comfortably in a large hotel until a horn is sounded, when, wrapping their ulsters or blankets around them, they sally out to watch the effects of the first rays of the sun on the mountain tops. No such conveniences tempt the traveller to see the break of day from Mount Senchal and obtain a view of Mount Everest —the highest mountain in the world. Senchal itself is 8610 feet high, 1610 feet above Darjeeling, and reached by a circuitous road of five miles. To see the highest peak on this planet is an achievement worth some effort. My two Dundee friends and myself accordingly arranged to be called at half-past four in the morning and to start at five. Our ponies and attendants were ready punctually at the hour. The thermometer outside my window was down to 34°, and away from the Hotel it was below the freezing point. The air was intensely keen and rare, but there was no wind. The waning half-moon seemed to give nearly as much light as the full moon

with us. The morning star was piercingly bright. Everything was placidly cold, and not a sound to be heard except the occasional bark of a distant watch dog. Slowly we ascended through the beautiful paths which have been skilfully laid out for miles on the hillsides around Darjeeling, passing numerous villas and a military station considerably above the town. Now and again we come to places where the ponies are in danger of slipping on frozen snow. Then we descend for some time into a valley, where Senchal joins the Darjeeling Hills. Here dawn begins to break. We now wind our way upwards through the natural forest by a not difficult road till we come to what looks like an Indian Stonehenge—a number of pillars, some of which have grotesque resemblances to human beings. They are the chimney-stalks and all that remain of a now deserted military station—deserted, it is said, because of the frequent suicides of the soldiers, who could not endure the lonely position and cold mists which prevailed there for months at a time. The daylight steadily increases till we near the summit, when the sun shines out, and the warmth is welcome as we alight from our ponies, and gladly stamp our feet to renew some warmth in them. Happily the highest peak of Mount Everest is distinctly visible, and we are repaid for our early and cold morning ride by a sight which many visitors to Darjeeling are disappointed by the mists preventing them seeing. The most remarkable thing is that, although clearly seen, Everest is 120 miles away. It is the centre of three peaks, the two others being those of different and nearer mountains, all covered with snow or ice. The height of Mount Everest is 29,100 feet—nearly double that of Mount Blanc, and somewhat higher than the highest mountain in the Andes. At such a distance, however, it does not compare in scenic effect with that of the nearer Kinchinjanga range, which attains a height of 28,156 feet, and other ranges all considerably above 20,000 feet. The bright light of the early morning sun striking on these stupendous snow-clad mountains was at once beautiful and sublime. We remained admiring the spectacle until it was indelibly photographed on our memories. The descent to Darjeeling was exceedingly pleasant. The bright sunshine enabled us to distinguish the wonderful varieties of trees and plants which grow on the slopes of the Himalayas, and which make them the happy hunting grounds of the botanists and horticulturists of Europe.

Through the great kindness of Mr W. B. Gladstone, of Messrs Gillanders, Arbuthnot, & Co., the Calcutta agents of the Darjeeling-Himalayan Railway, it was specially arranged that we should be trollied down the railway from the summit station at Ghoom, which is 7400 ft. high. Mr Cary, the Manager, and Mr Barnard, the Engineer-Superintendent, two able and experienced gentlemen, kindly accompanied us down to the finely-situated residence of the latter, more than half-way to the plains. With them in the trolly we had no such apprehensions as we might otherwise have had of what at times seems a risky and perilous mode of locomotion. The trolly is a small square waggon, low set on four wheels of about 16 inches diamater. The two seats were occupied by the Manager, Superintendent, self, and my Dundee friends. Two native attendants behind acted as makeweights and guards. As there is a continuous decline, varying from 1 in 23 to 1 in 26, the trolly runs down entirely by gravitation. Mr Barnard himself worked the brake, regulating the speed from three or four to not more than twelve miles an hour. The run surpassed our memorable rides through the Rockies on the cow-catcher. There we passed through scenery mountainous and grand, but bare. Here we are everywhere in sight of wonderful trees and foliage, the works of God, and wonderful tea gardens planted by man on the steep slopes of the mountains. The views from the open trolly, uninterrupted by preceding engine and carriages, are utterly indescribable. The railway seldom runs straight for even 20 yards at a time. It consists of innumerable curves, some of very small radius, passing round the bends of the mountains. Very often the line runs within a foot or two of the edge of precipices varying from 500 to 700 and 1000 feet. Below are all the trees of the Himalayan forests—some trees of magnificent height, others of curious foliage, occasionally fern trees of splendid size, and all the varieties of the jungle. Above, too, the forest rises

1000, 2000, and 3000 feet. Then on the sunny sides of the hills ever and again we see beautiful tea gardens of great extent, every inch of them apparently cultivated, the tea plants ranging in multitudinous striated rows. These gardens add a beautiful feature to the grandeur of the surrounding scenery. On we go, mile after mile gliding and curving in a continuous and sometimes rapid descent. One member of the party after another irresistibly breaks out into exclamations of surprise and delight at the wonderful prospects which open out one after another in swift succession of stupendous precipices and ravines, curious formations of hills, remarkable trees, native temples with prayer flags fluttering in the breeze, and monuments commemorating their worthy, illustrious dead. The grandeur and beauty of the Himalayan scenery, of which for three days we had what can only be called a glimpse, were simply indescribable. What must they be in the month of May, when some of the mountain sides are ablaze with masses of rhododendra and other brilliant flowering plants, which here attain the dimensions of trees?

THE INDIAN DUNDEE.

RESEMBLANCES AND CONTRASTS.

BURRA BAZAAR, CALCUTTA.

Calcutta resembles Dundee in having become a great centre of the Jute Manufacturing Industry. That resemblance is the more complete from the fact that the great majority of those who have charge of the Jute Mills and Factories on the Hooghly are Dundee men. With some exceptions, the mill managers, the engineers, the foremen,

and heads of departments are men who have learned their business and gained their experience in Dundee or the district, and a remarkably intelligent, hard-headed, hard-working set of men they are. Those who have invested in Jute Mills in India recognise that their success largely, if not entirely, depends upon having first-class managers and assistants. Hence they have not grudged offering great inducements, not only in the way of remuneration, but of accommodation, which have tempted many of the most intelligent and capable young men connected with the mills and factories in Dundee and the neighbourhood to seek their fortunes in Calcutta and its neighbourhood.

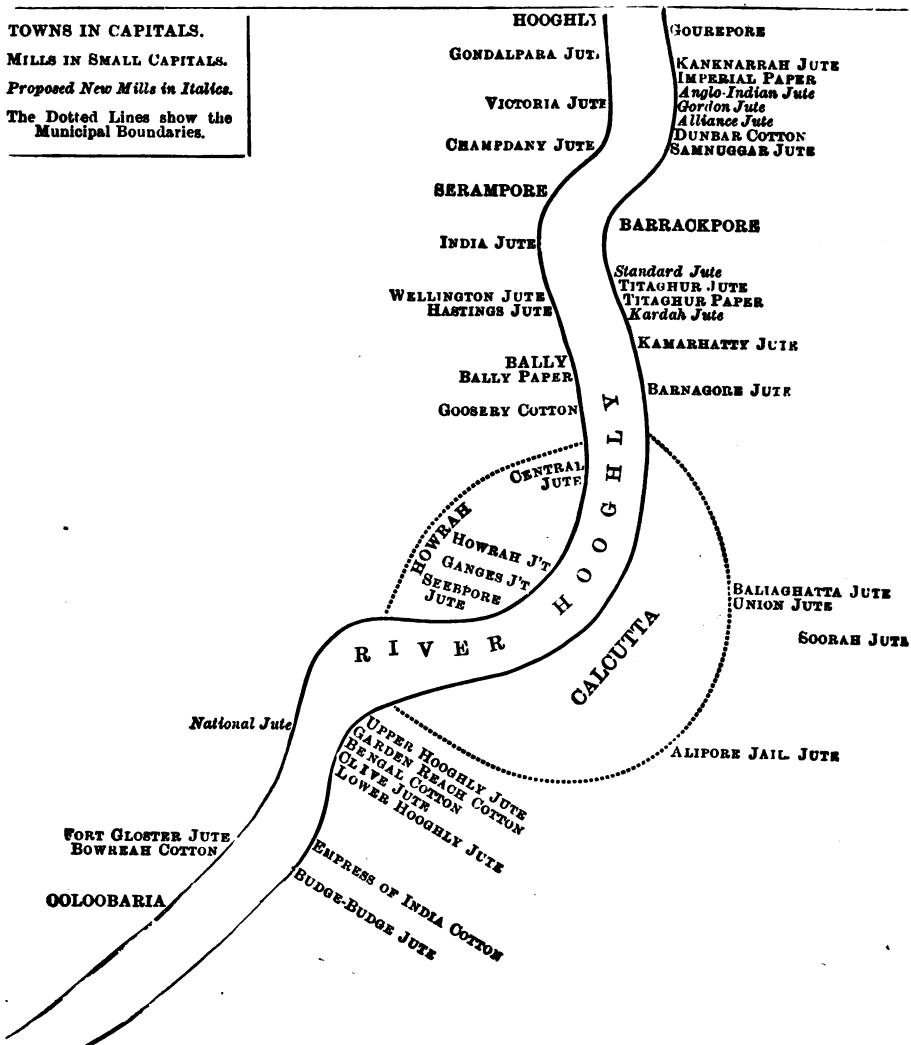
In almost every other respect there is little resemblance, but many points of contrast, between Calcutta and Dundee. Take first the situation. Dundee is only 12 miles from the North Sea, on the banks of a river two miles in width, with a picturesque background on each side of lofty hills. Calcutta is 90 miles from the Sand Heads in the Bay of Bengal, on the banks of a comparatively narrow and treacherous branch of the Ganges, running through a dead level delta, and no hill visible in any direction. In Dundee, where there is little level ground, the Law Hill rising steeply behind it, the mills are crowded together, the dearness of the land requiring the utmost economy of areas. In Dundee and Lochee all the mills and factories are within a radius of three miles, and the workpeople live all the year round near to the works. At Calcutta, while there are three mills near the municipal boundary and four in Howrah, which, although really a part of Calcutta, has a separate municipality, all the rest are planted on the banks of the Hooghly, extending 24 miles above and 14 miles below the bridge at Calcutta, the workpeople living for the most part in the neighbouring jungles, and a considerable number of them going back to their homes for months together every year.

The contrasts in the climatic conditions are peculiarly striking. I landed in India on the 5th December, and sailed from Calcutta on 17th January. Home readers know what kind of weather they had during that time—tremendous gales of wind; falls of rain, snow, and sleet; cold, disagreeable days and nights. During my stay in India there has never been anything but a gentle breeze, and very often not even that; not a single drop of rain, and very seldom the slightest cloud; except in Calcutta itself, nothing approaching to fog or mist. Mosquito curtains have been required every night. I have never gone out during the day without feeling it necessary to wear a white helmet to protect the head, and, except at Darjeeling, 7000 feet on the Himalayan range, I have never felt any cold till after sunset. What are known as the winter months in India far surpass the summer months at home in equality of temperature, unclouded sunshine, and freedom from rains and storms of thunder and hail. It must not be supposed that this continues all the year round. During our comparatively pleasant spring months the heat in India is excessive, and during the autumn the steamy moisture from the surrounding jungles, often full of malaria, is very trying. All the chief Government House officials are compelled to leave Calcutta from the middle of March till the beginning of the cold season and go up to Simla, which is several thousand feet above the plains. Unfortunately the Jute wallahs cannot accompany them.

To realise the difference between the Jute Mills in Calcutta and Dundee the home reader may conceive a muddy stream, rather lighter coloured than the Humber, about half a mile wide, with banks composed of marly sand, permitting a rise and fall of nearly 30 feet. The ground between is generally lower than the banks. Every few miles on each side you come to a mill or group of mills, with long rows of spinning and weaving sheds, built of brick. The engine-houses are the loftiest erections, except the chimney-stalks, which are generally square and comparatively low. Some new extensions are already in progress, the chimneys having thin scaffoldings of bamboo, which look very slight to European eyes. Not unfrequently the managers' and assistants' bungalows, neat and tasteful buildings, with large verandahs, containing tables, lounging chairs, and flower stands, face the river. In some cases these are shaded by handsome trees—the mangoe,

tamarind, and others—with wide-spreading branches and standing in well-kept grounds. Sitting under these trees or a verandah a strong reflection of the sunshine comes from the unruffled surface of the river. On it will be seen in swift succession native skiffs rowing across the river; up-country boats of curious construction, the fore part very low and the stern very high, piled up with jute, and moving almost imperceptibly, their single square sails made of jute, often torn, and letting as much wind through as they hold; next comes a steam launch, breaking the silence with the thud of its engine and the swish of its screw; then two very long jute barges lashed to a tug placed between them, coming to one of the iron jetties in front of the mill. The river is commonly lively with various kinds of craft, amongst which may occasionally be seen the Viceroy's launch going up to or returning from Barrackpore, the smartest boat on the Hooghly. Immediately opposite may be an old Colonial settlement like Serampore; or a Hindoo temple, with its side retreats, whither the sick come to die; or a burning ghat, where they are burned after death; while down in the river are natives bathing, or standing on the brink and drying their swarthy skins.

The atmosphere and whole surroundings of mill life in India differ from our own. It is a heated atmosphere, except that in November, December, and January the nights are cool enough to require a summer overcoat, or, if driving in the open air, something even warmer. Except during the rainy season, it is a brilliant atmosphere, the sun rising, shining, and setting without a cloud. The glare of the sun becomes trying to the eyes, which sometimes need the protection of coloured spectacles. The weather, from its monotonous regularity, ceases to be a topic. No one thinks of saying "It is a fine morning" when every morning is fine, or complaining of heat when every day is hot. Then to people accustomed to see mills in the middle of large towns, and surrounded by workmen's houses, it is curious to see them on the banks of a river embedded on each side, and in a background of the trees of the jungle — bamboos, plantains, mangoes, &c.; and curious when sitting at dinner in the evening to hear the yelping of a pack of jackals in full cry. All these differences are added to by the continued presence of dark-skinned Bengalis and other native tribes, with some educated and complaisant Baboos, and some masterful and contemptuous, but to the British, respectful Mahomedans. At first every sight and sound seems strange, and it takes some time for them to become perfectly familiar—certainly more time than we were able to give.



CALCUTTA AS A COMMERCIAL CITY AND SHIPPING PORT.

SHIPPING IN THE HOOGHLY.

Extensive and of rapidly growing importance as is the Jute industry, it is only one of the many important interests of Calcutta, which was a great city before a single jute mill was erected on the Hooghly. Its population is now between 800,000 and 900,000, of whom less than 20,000 are British and European. It is the seat of the British Government in India, and Government House, the Foreign and Military Offices, the High Court, the Public Works, Treasury, Mint, University and Museum, are all buildings on a metropolitan scale, although they are all somewhat formal, and lack any imposing features. Calcutta, both in its situation and European buildings, is a dead level city, and the latter lack the inspiration of the architecture of modern Bombay. Neither is Calcutta so bright a city as Bombay. Most of the business houses, offices, and premises are built of brick covered with plaster, which is not brightly painted, and gives some of the quarters a shoddy appearance. The native bazaars and streets are also very inferior in construction, colour, and smartness to those of Bombay, while the river does not make up for the bay, nor

the Maidan compensate for the want of a Malabar Hill. Moreover, there is a considerable smokiness in the atmosphere of Calcutta which lends no enchantment to its streets and buildings.

The Maidan is perhaps the best feature of Calcutta. It is a large park, covering four to five square miles of ground, one of its sides being an esplanade by the bank of the river, and intersected by roads and avenues, comprehending the Eden Gardens, Fort William, the Racecourse, Zoological Gardens, and Belvedere, the residence of the Lieutenant-Governor of Bengal, where once a week or oftener during the season Calcutta society meets in the afternoon for entertainments in the open air. One of these we attended on a delightful day in the middle of January, lawn tennis being the favourite recreation. As illustrating the difference of climate, it may be mentioned that the Indian Derby, the race for the Viceroy's Cup, is always run on the day before Christmas. The ladies on the grand stand are all attired in the lightest silks and muslins. Native Princes, Maharajahs, and Rajahs, with their Maharanees and Ranees, walk in front of the stand and in the paddocks in characteristic costumes. The other side of the course is crowded by natives in garments displaying all the colours of the rainbow, and it is interesting to see how eagerly they watch the races. Christmas Day itself is a great day for pic-nics in the open air, amongst other places, at the Government Botanical Gardens, some miles down the river. In these extensive Gardens, which are very well kept, are many beautiful specimens of Indian trees, including the largest banana tree in the world. There are some noble avenues, and the lover of nature may wander here for hours. It is effectively laid out with ornamental waters, giving pleasant variety to the changing views. There, along with a happy family party, we enjoyed our Christmas pudding under the shelter of a wide-spreading tree, although even there the temperature was between 70 and 80 degrees.

Next to these recreations a very agreeable manner of enjoying fresh air and scenes is to go up or down the river in a private steam launch. Several of the mills have their own launches, and more than once we did the distance between Calcutta, Gourepore, Titaghur, &c. Seated under an awning in the forepart of the launch, we pass on either bank in rapid succession stretches of jungle, interspersed with mills, jetties, bungalows, villages, towns, temples, rowing boats, sailing craft of curious forms and rigs, heavily burdened jute flats, and innumerable Hindoos at the ghats simultaneously washing away their dirt and their sins, while here and there the smoke from a funeral pile indicates the return of others to dust and ashes in what they consider the happiest manner near the most sacred of rivers.

At Calcutta itself the Hooghly resembles the Clyde below Glasgow Bridge, or the Thames below London Bridge. The only bridge between Calcutta and Howrah is a floating bridge, supported on boats strongly moored, with two movable portions, which swing open for a certain length of time twice a week to allow large craft to pass through. During the busy hours of the day the Bridge traffic presents an animated scene, from the curious teams and still more curious features and dresses of the pedestrians. Below the Bridge on the Calcutta side are first the large steamers moored to the quays belonging to the great passenger and trading Companies. Then in long tiers come the large fleets of the British India and other Steam Navigation Companies, whose steamers sail to all the ports in the East. The British India alone is said to have a larger number of vessels, and also a heavier tonnage, than the great Peninsular and Oriental line. After these come the big tramp steamers, and the long rows, three, four, and even more tiers deep, of three and four-masted sailing ships, with many of whom we are familiar as jute-laden vessels coming to Dundee. Finer ships in the commercial marine are nowhere to be seen than those engaged in the jute exporting trade. Two or three steam yachts, the Viceroy's amongst the number, and several gunboats, despatch boats, and guard ships complete several miles of shipping lying in the river, amongst which rowing boats, steam launches, and barges are continually moving. Besides these there are vessels in the docks, built like a number of expensive warehouses, contrary to the remonstrances of the merchants and shippers,

at the instigation of official members of the Port Trust, and which have added largely and needlessly to the expenses of a very expensive Port.

The business part of Calcutta, chiefly connected with the Jute Trade, is known by the natives as Alloe Godown, signifying Potato Warehouse, for which the ground was formerly used. Now it is covered by large and commodious offices, the upper floors of the building being generally occupied for residential purposes by the merchants or their European assistants. At the doors are generally a number of gharries, or street cabs, differing from horse cabs in being only wide enough for one person on each seat, and having sliding doors and louvre openings instead of glass windows. Each office keeps two or three gharries of its own, as nobody thinks of walking even a hundred yards. Every jute broker has his gharri to facilitate his movements from office to office or to the jute bazaar. On alighting from a gharri at an office door you see the dirwan, who is the chief of half a dozen native messengers in attendance day and night, and who at night may be seen stretched out asleep in the porch and passages simply covered over with a piece of cloth. The chief offices are generally on the first floor, divided by louvre partitions into separate rooms for the members of the firm, the European assistants, and the Baboos or educated clerks, who act as cashiers, book-keepers, correspondents, and copying clerks. Several native messengers sit in the passages and guard the approaches to the several rooms. To visitors from home the internal economy of the offices at first seems very peculiar, but it is wonderful what an amount of work is carried through between 10 A.M. and 5 P.M., the regular hours, with an interval at two o'clock of half an hour for tiffin, which is taken upstairs by all the Europeans, in a common breakfast, tiffin, and dining-room. No man eats the bread of idleness in these offices in Calcutta. Everything is carried on at high pressure, and the speed of the bargains, the magnitude of the transactions, and volume of business are only equalled in the largest commercial and financial establishments in Europe.

BUILDINGS OF THE CALCUTTA MILLS.

As already stated, the Jute Mills in India are not cramped for space, and not crowded together; nor are any of them, like Messrs Baxter Brothers' and some other works, on steeply rising ground. At first they were all several miles, if not many miles, apart. Now the new mills on the Hooghly are clustering more together, and filling up intervening spaces, but still leaving miles of river frontage unappropriated. In the early days the land was not of much value, and large areas could be acquired for comparatively little money. Now the native landowners are less easily dealt with, and embrace their opportunities of driving harder bargains. Land is rapidly going up in price within 30 miles of Calcutta, and every year will see an increase on this account in the first cost of mills.

A site being secured, the first thing done is to enclose the compound with a brick wall. The compounds are 10, 15, 20, and some over 30 acres in extent—figures which give an idea of the size of each of the mill properties. All the buildings are built of brick. The Bengalis are good brick-makers and good bricklayers, but the briskness of the building trade consequent on so many extensions and new mills being erected has sent up both the price of bricks and the wages of bricklayers. The designs are neat and effective. The bungalows and

MANAGERS' BUNGALOW.

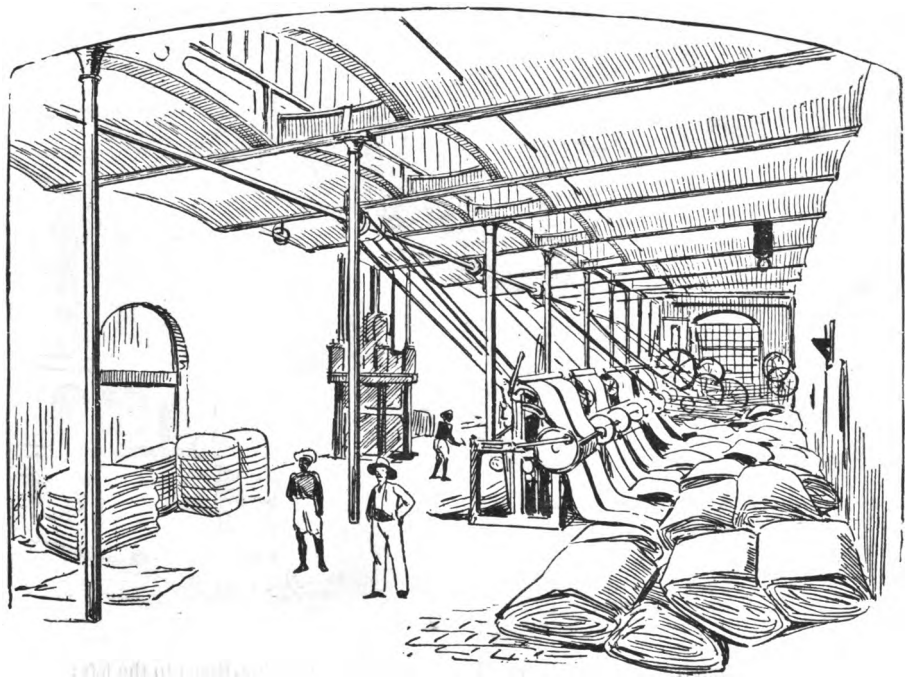
assistants' quarters may often be styled handsome, the bricks being covered with cement, the verandahs having arched fronts, and the whole brightly painted and coloured.

Entering a mill compound, you are first of all salaamed by the native dirwans or gate-keepers. These are frequently Mahomedans, with whom the vigorous exercise of authority seems more natural than to the mild and pliant Bengali. This is called for by the tendency to picking and stealing small things on the part of the natives, who have often to be searched as they leave the works. The native is said not to consider stealing a sin unless it is detected. After entering the gateway the most conspicuous buildings are generally the boiler and engine houses. The engine-house is the loftiest erection—the engines, most of them made in Dundee or Bolton, being commonly of from 1200 to 2500 indicated horse-power, with fly wheels grooved for between 30 and 40 driving ropes for the different sets of gearing. I learned while visiting the mills that the Dundee engineers are so full of orders for new engines of great power and the most improved types that it is difficult to obtain execution of additional work. Some of the mills have very large ranges of boilers, 7 to 8 feet diameter, and chiefly of the Lancashire type. Opposite the engine and boiler houses is the mechanics' shop, of which the engineer generally acts as superintendent, although in some instances there is a separate foreman, commonly from Dundee.

Probably the visitors' attention is next arrested by the tanks, as the condensing ponds are called. These to a Scottish eye are of enviable extent, needing no arrangements such as are common in Dundee for artificially cooling the water by making it travel and fall from point to point. Neither is there any outlay on walls. The soil is very much of the nature of "puddle," and easily retains the water, the chief loss of which is from evaporation, as none of them are covered. But there is no difficulty in keeping them filled. There is an inexhaustible and costless supply in the adjacent river, from which pipes are brought into the tanks. The value of this is increased to the natives, who regard the water of the river as sacred both for drinking and

ablution. The mill tanks are therefore used by them continually as bathing ponds. Men and women—at a slight distance apart—may always be seen washing themselves and bathing from sunrise to sunset. Whenever they feel tired in the works out they go to bathe in the tanks or in the river. During the hot season more particularly this must be a great refreshment. At all seasons it is a great sanitary benefit.

Near to the tanks are the spinning and weaving sheds. In the comparatively few Cotton Mills they still follow the old Lancashire type of several storeys. In the Jute Mills the new system is universally followed of having the whole work, from preparing to finishing, done on the same level and in one progressive method. Hence we have in India sheds of immense extent covering four, five, six, seven, and eight acres of ground. What strikes one in entering them is their loftiness, spaciousness, and airiness. The climate requires these characteristics, and they are not stinted. The internal height of the walls is generally 16 feet, but at every 30 feet or so the roof is raised in this way ⌐¬, and the two sides have windows on swivels, so that there is a constant circulation of air. We did not see any of the zigzag roofs common for weaving sheds at home. In India, where there is commonly an excess of light, the form of roof adopted is most suitable. Except the raised portions indicated above, which run the whole length, the roofs are quite flat, being carried on iron pillars and iron joists, the intervening spaces being arched with brick covered by concrete. The construction is very simple, strong, durable, and in every way adapted to climatic requirements. The extraordinary size of the sheds is very striking, especially when you see 650 looms at once, each lit

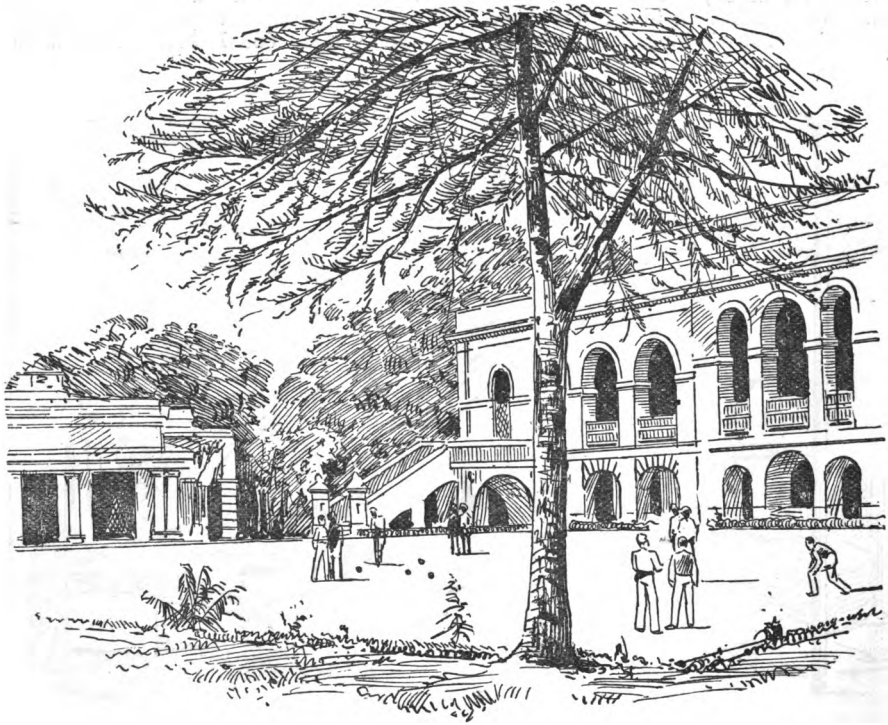


INTERIOR OF MILL—SHOWING MODE OF CONSTRUCTION.

with its own electric light. What also strikes one more particularly in the newer mills is the width of the passages between the spinning frames and looms.

Adjacent to the long machinery-filled sheds are the long jute-filled ranges of godowns or warehouses, most of which at the time of our visit were crammed with baled jute to the very roof, a height in many cases of 20 to 30 feet. Most of the jute is of fine Naraingunge or Serajgunge qualities, chiefly baled, but sometimes in drums. Railway sidings and tramways from the river jetties often bring the jute close to these godowns, after which the natives carry the bales and drums on their heads to their positions in the godowns. Commonly two men carry a bale, and the cheapness of their labour makes it quite unnecessary to use travelling cranes or other mechanical appliances. In one of the oldest and largest mills near Calcutta, where all the godowns were full, we saw five long stacks of jute in the open compound, which testifies to the dryness of the weather, as the material would be much damaged if soaked with rain. The manager remarked that these stacks would be used up long before the rainy season set in.

Nearest generally to the river are the managers and assistants' bungalows, externally handsome, internally spacious residences. The assistants have their separate rooms, while there is a large common room which serves as billiard, reading, and smoking room. Outside is a large tennis lawn and bowling green, well rolled and watered by the mollies or gardeners,



ASSISTANTS' QUARTERS (BACK VIEW)—Billiard-Room and Reading-Room to the left; Bowling Green in centre.

who attend to the plants and flowers. Tennis and bowls are everywhere favourite games in India, as they give sufficient, and yet not too much exercise. It looks rather strange to see, as we did at the Hastings Mill, a number of assistants playing tennis in the morning while the mill was in full swing. These were the men who had been on the night shift. The accommodation of the bungalows would also be considered almost palatial in Scotland, but the long hours, hard work, and, above all, the trying climate in India require it all. We alighted on weather quite paradisaical in salubrity, but every one said:—"Don't suppose it is always like this," and, with looks expressive of sad remembrances of baking heat and stewing moistness, "You should come in June or, still worse, in September!"

THE WORKERS AND THEIR WAGES.

The workers in the Calcutta Mills have a strange appearance to European eyes. Seeing them coming to the works in the early morning or leaving in the evenings, it is obvious that what seems pleasantly cool to us is really cold to them. They cover up their heads and wrap the long pieces of thick cotton cloth, which in the case of men are called *dhooli* and of women *saari*, so as to cover them as completely as a single piece of cloth can do. The cheapness and simplicity of their garments and food account for their being able to live, as we shall see, on such small wages. This also results from the climate, which suits them best when Europeans begin to complain of heat. They never feel quite comfortable when the temperature is below from 75 to 80 degrees. When they enter the works and the day increases in warmth they diminish their covering. Even in the end of December and beginning of January we saw many of them with very little more than strips of cloth round their loins. The darkness of their skins makes the lack of clothing less remarkable. The Oriental practice of anointing themselves with oil also assists to keep them warm in winter and cool in summer.

Later on I purpose giving notes of what I saw in particular Mills. Here it may be remarked generally that the shifters at the spinning frames are bright looking boys from nine to twelve years of age, under the charge of adult spinners, who see that they attend to their work, which they treat very much as a piece of fun. In the mills a portion of the batching and preparing hands are women, as also in the sack-sewing, but four-fifths of all the hands are males, just reversing what holds in the Dundee mills.

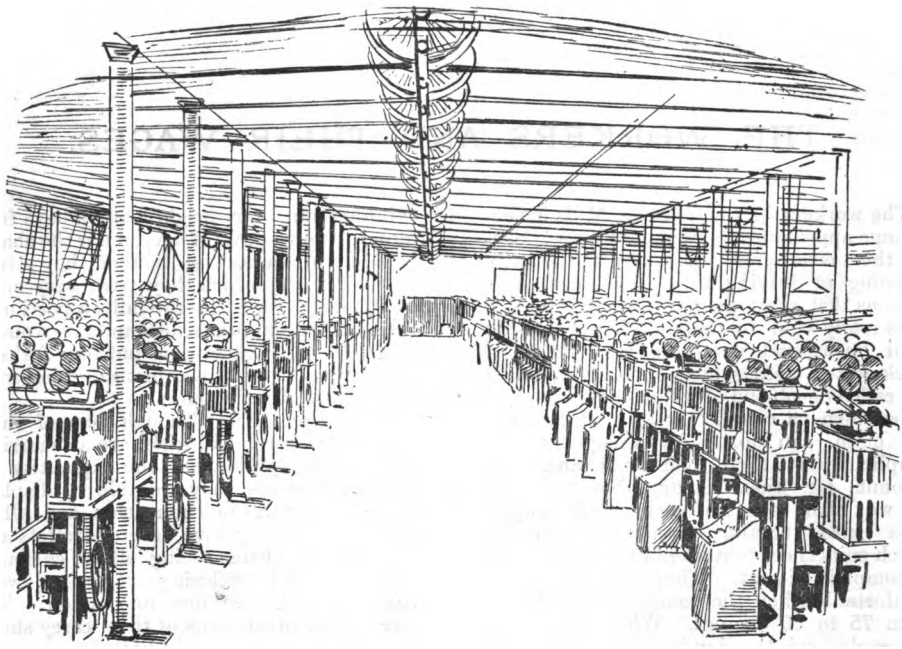
The women, who, although some of them look little more than girls, are all married, take great pride in the quantity of silver ornaments they are able to display. Some have rings in their noses, and all in their ears. Many have several armlets and bangles, the chains being silver, curiously wrought, and enclosing various jewels. Anklets, too, are not uncommon. The quantity of silver many of them carry shows that for their position in life they are very well off.

It may also be noted that the workers generally look well fed. Although they do not eat meat, and live largely on rice, their ribs are well covered, and without being fat they have abundance of flesh. There is one sight we do not see at home. In the sack sewing and hemming departments the mothers are allowed to bring their young children to the sheds. Babies may be seen on the laps of their mothers while hemming sacks; some asleep in a corner; other little things of

three, four, or five years of age playing about quite happily. Thus the Day Nurseries in India are in the finishing sheds.

Coming now to the wages paid to the natives in the Calcutta Mills, not wishing to make mere general statements, I applied to the Chairman of the Indian Jute Manufactures Association for information, which the Committee unhesitatingly supplied, both as to the total wages paid in the Calcutta Mills and the rates of wages paid in the several departments of one of the largest Mills on the Hooghly. The first of these he was able to give, because all the Mills make regular returns to the Calcutta Chamber of Commerce, which are tabulated by the officials. Only the officials have key letters indicating the particular Mills. These returns when tabulated and summed up are of great value.

The following figures will be very suggestive both to employers and employed in the Dundee Jute trade. The number of native men, women, and children employed by the Association Mills at the date of the latest return was 66,925, and the wages paid to them monthly 672,138 rupees, or an average of 10 rupees 0 annas 8 pie each. The value of the rupee at the time of writing is 1s 2d, so that the average wages of all the hands in the Calcutta Mills is only 11s 9d *per month*, or less than 3s per week. I am further enabled to give the subjoined table showing the rates of wages and bonus given to each class of the native workers in one of the largest Mills. It will be seen that both the bonus system and piece work are adopted wherever they can be of advan-



SPINNING SHED.

tage, and I am assured the results are very satisfactory, the out-turn of work being wonderfully good.

The following figures throw a flood of light on the cheapness of production in the Indian Mills. Whilst the table was supplied in Indian currency, the figures have, for the convenience of home readers, been translated into the approximate British equivalents :—

RATE OF WAGES PAID.

Occupation.	British Equivalent. Wages per Week. s. d.			Bonus. d.	Indian Currency. Wages per Week. Rs. As. P.			Bonus. Rs. As. P.
Batching Department.								
Selectors,	2 4	to	3 6	—	2 0 0	to	3 0 0	—
Jute Cutters,	2 5	,,	5 4¾	—	2 1 0	,,	4 10 0	—
Softener Coolies,	2 0½	,,	2 4	—	1 12 0	,,	2 0 0	—
Coolies,	1 9	,,	2 2¼	2	1 8 0	,,	1 14 0	0 2 0
Preparing Department.								
Cards—Feeders,	1 9	,,	2 2¼	2	1 8 0	,,	1 14 0	0 2 0
Receivers,	1 9	,,	1 10¾	2	1 8 0	,,	1 10 0	0 2 0
Drawings—Feeders,	1 9	,,	1 10¾	2	1 8 0	,,	1 10 0	0 2 0
Receivers,	1 9	,,	1 10¾	2	1 8 0	,,	1 10 0	0 2 0
Rovings—Feeders,	1 10¾	,,	2 0½	2	1 10 0	,,	1 12 0	0 2 0
Warp Rovers,	2 2¼	,,	2 10	—	1 14 0	,,	2 6 0	—
Weft ,,	2 8	,,	2 11¾	2	2 4 0	,,	2 9 0	0 2 0
Shifters,	1 4	,,	1 8	—	1 2 0	,,	1 6 0	—
Coolies,	2 0½	,,	—	—	1 12 0	,,	—	—
Spinning Department.								
Hessian—Warp Spinners,	2 10	,,	—	2	2 6 0	,,	—	0 2 0
Sacking—Warp ,,	2 10	,,	—	2	2 6 0	,,	—	0 2 0
Hessian—Weft ,,	2 10	,,	—	2	2 6 0	,,	—	0 2 0
Sacking—Weft ,,	2 11	,,	3 0¾	4	2 8 0	,,	2 10 0	0 4 0
Twist, ,,	2 0½	,,	—	4	1 12 0	,,	—	0 4 0
Shifters,	1 4	,,	1 8	—	1 2 0	,,	1 6 0	—
Coolies,	1 9	,,	2 0½	—	1 8 0	,,	1 12 0	—
Calendering Department.								
Calender Attendants,	2 8	,,	2 11	—	2 4 0	,,	2 8 0	—
Measuring Machine Coolies, Damping ,, ,, Cutting ,, ,,	2 0½	,,	2 2¾	—	1 12 0	,,	1 14 6	—
Pressmen (per bale),	Kutchu bales 0 1	,,	Pucca bales 0 1½	—	Kutchu bales 0 1 0	,,	Pucca bales 0 1 6	—
Coolies,	2 0½	,,	2 8	—	1 12 0	,,	2 4 0	—
General.								
Oilers,	2 11	,,	3 10	—	2 8 0	,,	3 4 0	—
Belt Repairers,	4 4½	,,	5 6½	—	3 12 0	,,	4 12 0	—
List Sewers,	3 6	,,	4 1	—	3 0 0	,,	3 8 0	—

Description of Goods.	British Equivalent. Rate. d.		Bonus. d.	Indian Currency. Rate. Rs. As. P.	Bonus. Rs. As. P.
Hessian Winding Dept.					
Hessian Warp,	0¼	p. 9 Bobbins.	—	0 0 3	—
Hessian Cops,	0¼	p. 38 lbs.	—	0 0 3	—
Sacking Winding Dept.					
Sacking Warp,	0¼	p. 10 Bobbins.	—	0 0 3	—
Sacking Cops,	0½	p. 42 lbs.	—	0 0 5	—
Hessian Beaming Dept.					
40″ 9 por,	s. d.	p.....yds.			
,, 10 ,,	3 10	,, ,,	—	3 4 0	—
,, 11 ,,		,, ,,			
45″ 10 ,,	4 0	,, ,,	—	3 6 0	—
,, 11 ,,	per	,, ,,		per week.	
49″ 11 ,,	w'k.	,, ,,			
50″ 11 ,,		,, ,,			

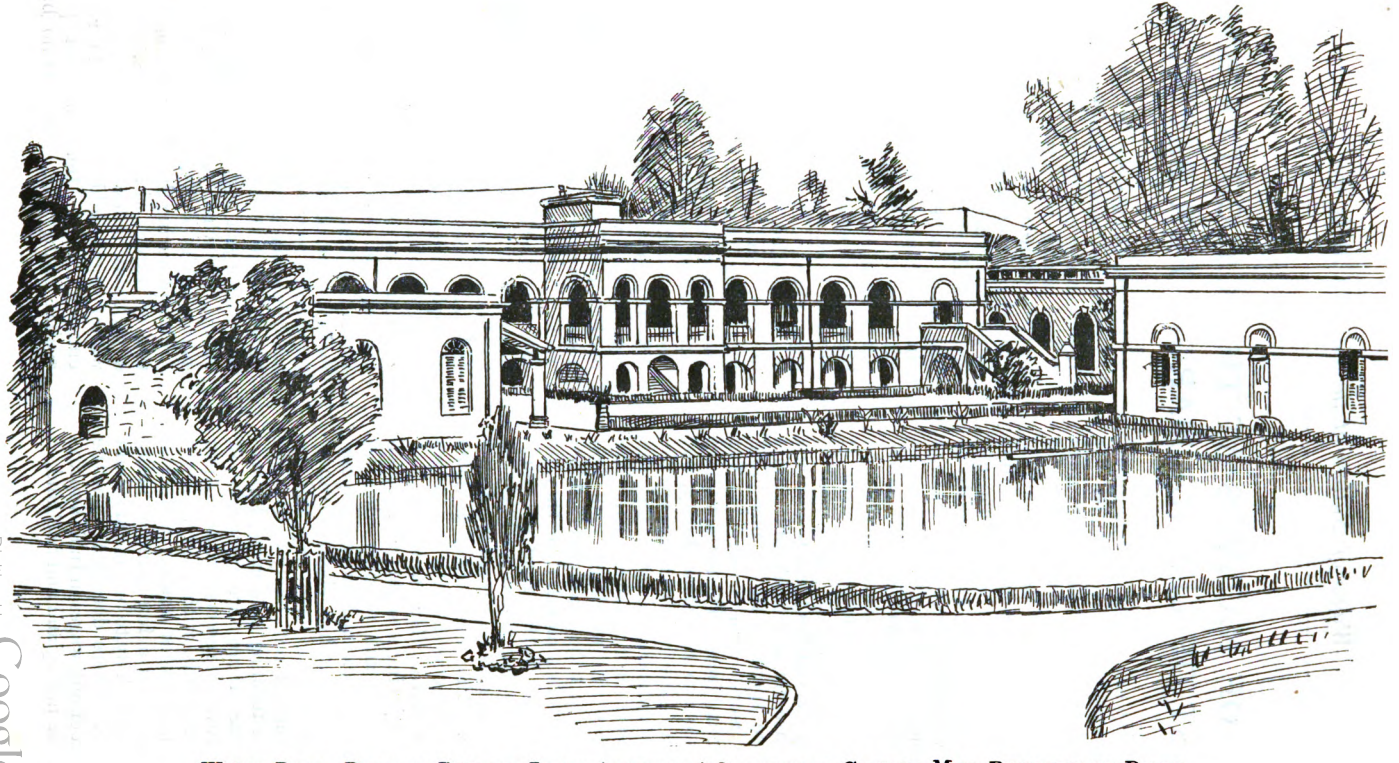
Description of Goods.	British Equivalent. Rate. d.		Bonus. d.			Indian Currency. Rate. Rs. As. P.	Bonus. Rs. As. P.
Sacking Beaming Dept.							
Twills, 8 por, ...	3 8	p.....yds.				3 2 0	—
,, 7 ,, ...		,, ,,	—				
,, 6 ,, ...		,, ,,				3 4 0	—
Plain, 8 ,, ...	3 10	,, ,,	—			per week.	
,, 7 ,, ...	per	,, ,,					
,, 6 ,, ...	w'k.	,, ,,					
,, 5 ,, ...		,, ,,					
Hessian Weaving Dept.							
40″ 9 por 10 shots,...	5d	p. 104 yds.	5½d	for 11 cuts	9×10	0 5 0	0 5 6
,, 10 ,, 11 ,, ...	6	,, ,, ,,	7	for 12 cuts	to	0 6 0	0 8 0
45″ 10 ,, 11 ,, ...	6	,, ,, ,,	7½	for 13 cuts	11×11	0 6 0	0 8 6
,, 11 ,, 10 ,, ...		,, ,, ,,	7¾	for 14 cuts		0 6 0	0 9 0
			and				and
,, 11 ,, 12 ,, ...	7	,, ,, ,,	5	for 10 cuts		0 7 0	0 5 0
49″ 11 ,, 12 ,, ...	7½	,, ,, ,,	5½	for 11 cuts	11×12	0 7 6	0 5 6
50″ 11 ,, 12 ,, ...		,, ,, ,,	7	for 12 cuts			0 8 0
Sacking Weaving Dept.							
Twills 10 por. 12 shots,	4½	p. 90 yds.	3	for 13 cuts		0 4 6	0 3 0
,, 8 ,, 10 ,,	4¼	,, ,, ,,	3½	,, 14 ,,		0 4 3	0 3 6
,, 8 ,, 9 ,,	5	,, 106 ,,	4½	,, 15 ,,		0 5 0	0 4 6
,, 8 ,, 8 ,,	4¾	,, ,, ,,	6	,, 16 ,,		0 4 9	0 6 0
,, 7 ,, 9 ,,	4¾	,, ,, ,,	7	,, 17 ,,		0 4 9	0 7 0
			3	,, 15 ,,			0 3 0
,, 7 ,, 8 ,,	4¾	,, ,, ,,	3½	,, 16 ,,		0 4 9	0 3 6
,, 6 ,, 9 ,,	4¾	,, ,, ,,	4½	,, 17 ,,		0 4 9	0 4 6
,, 6 ,, 8 ,,	4½	,, ,, ,,	6	,, 18 ,,		0 4 6	0 6 0
			7	,, 19 ,,			0 7 0
Plain 8 por. 9 shots,	4¾	p. 106 yds.	3	for 14 cuts.		0 4 9	0 3 0
,, 8 ,, 8 ,,	4½	,, ,, ,,	3½	,, 15 ,,		0 4 6	0 3 6
,, 7 ,, 9 ,,	4¾	,, ,, ,,	4½	,, 16 ,,		0 4 9	0 4 6
,, 7 ,, 8 ,,	4½	,, ,, ,,	6	,, 17 ,,		0 4 6	0 6 0
			7	,, 18 ,,			0 7 0
			3	,, 17 ,,			0 3 0
,, 6 ,, 8 ,,	4	,, ,, ,,	3½	,, 18 ,,		0 4 0	0 3 6
			5/2	,, 19 ,,			0 4 6
,, 5 ,, 8 ,,	4	,, 110 ,,	7/	,, 20 ,,		0 4 0	0 6 0
			8/2	,, 21 ,,			0 7 0
Sack Sewing Dept.							
Hand Sewing,	8¾	p. 100 bags ...				0 10 0	
	10½					0 12 0	
Machine Sewing.							
Wheat pockets, ...	2	p. 100 bags				0 2 0	
Bran bags, ...	3					0 3 0	
Cotton packs, ...	8¾					0 10 0	
Wool packs,... ...	1 0½					0 12 6	
Twills, ...	2					0 2 0	
Plains, ...							
Finishing (Hemming, &c.).							
Hessian—Selveged or unhemmed, ...	2	p. 100 bags				0 2 0	
,, Hemmed, ...	3					0 3 0	
Sacking—Unhemmed,	2½					0 2 6	
,, Hemmed, ...	4½					0 4 6	
Wool packs, ...	1 11					1 9 0	

WAGES OF NATIVES AT THE CALCUTTA MILLS—COST OF LIVING—MARGIN FOR SAVINGS.

It seems almost incredible to people accustomed to the wages earned in Scotland that in a mill like that at Gourepore the average wages of a man are only 3s 6d per week; of his wife, 1s 8d; of a boy, 2s 9d; and of a girl, 1s 9d. It seems still more incredible that these wages are much higher than can be earned outside the mill, and especially in the up-country districts, from which most of the people come. It is most incredible of all that the wages they receive are considerably in excess of their requirements, and that they can, if they choose, and most of them do, save as much in some months' work at the mills as enables them to go home and live at ease for a considerable time, until they have spent their money, and return to work for more. Yet all these are actual facts. The extraordinary—or as they seem to us extraordinary, but in India ordinary—low rates of wages are the principal advantage possessed by the Calcutta Mills over those in Scotland. There are other advantages, with which we shall deal later on, but the fact that the hands—taken all over—earn less in a month than they do in Dundee in a week is the great outstanding difference. Is that difference likely to be removed? There is no prospect of that being probable. The workpeople at home are not likely to be content with less wages than they now have. The workpeople in India are now enjoying a slight advance on their former wages, and possibly when all the new mills and extensions begin operations there may be another slight advance, but a few annas go a long way, and the aggregate advance is not likely to be considerable. The teeming millions of India—in Bengal alone there are upwards of 70,000,000—are a vast reservoir to draw upon for hands. The Mills, with their constant employment, and wages double, and even treble, what are paid a few hundred miles from Calcutta, are likely to become more and more attractive. There does not seem the least likelihood of mill wages in India approximating to those in England and Scotland.

How are the natives of India able to live on such low wages? The first answer is that the climate has a great deal to do with it. "Man wants but little" clothing, shelter, or food comparatively in a country where even the winter temperature during the day is 80°, and where the summer heat ranges considerably above 100°. The natives enjoy degrees of warmth which to Europeans are almost unendurable; but they enjoy them with scanty clothing, light dietary, abstinence from intoxicating drinks, and dwellings built of willows and mats. The habits of their lives are the results of centuries of experience. Their wants are few and easily supplied. Secure them a sufficiency of rice, and they are easily satisfied, for, living in a fertile country, vegetables and other etceteras are not difficult to obtain. Accustomed to doing little for their livelihood, to work only when inclined, the great difficulty is to induce them to undertake regular employment. They have never been used to working steadily eight, nine, or ten hours a day, or day after day and week after week. Short spells of work and long intervals of rest are what they and their fathers before them have been familiar with. The, to them, comparatively high wages of the Mills are necessary to compensate them for an unpleasant change of habits. And when they go to the Mills and take the wages they consider they are sacrificing themselves for the sake of their families and friends, to whom they remit part of their earnings, and make a point of returning to live with them for months or weeks together. All this may scarcely seem intelligible to workpeople at home, but it is not difficult to understand when once you experience what the climate is, and see what the natives are and their simple habits of life.

Except during the nights and mornings of two or three winter months, clothes are superfluous unless for decency. Even in winter young children prefer to run about entirely nude. Born with a prejudice against eating meat, there is no butcher's



WATER POND—BILLIARD ROOM TO LEFT; ASSISTANTS' QUARTERS IN CENTRE; MILL BUILDINGS TO RIGHT.

bill, and neither beef, mutton, nor pork figure in the weekly expenditure of the natives. If their houses do not belong to them, they are so cheaply built that the rent is next to nominal. Thus it is that with wages one-fourth or fifth what they are in Scotland the mill hands in India have enough and to spare. This is not written at random. I made inquiries wherever I went, and found the testimony everywhere the same. The hands in the Jute Mills at Calcutta are amongst the best paid native workpeople in India. The silver ornaments worn by the women and girls show that they consider themselves amongst the aristocracy of labour. At Gourepore I made special inquiries with regard to the rate of wages. Mr Playfair, who takes a keen interest in all social questions of this kind, at once placed the wages book before me, and requested the Baboo in charge to prepare for me statements showing as fairly as possible the average income and expenditure of a family, consisting of husband, wife, and three children; one family Bengalee, the second Hindustani living at Gourepore, and the third Hindustani living up country. These statements have been forwarded to me, certified by Mr Orr, the manager, and I give them as follows (an approximate equivalent in British money being also given):—

Bengalee or local workers' cost of living comfortably —Husband, wife, and three children.

	Approximate British Equivalent.	Indian Currency.
Rice, ...	1/9	Rs. 1 8 0
Dhals, ...	5	0 5 3
Vegetables, ...	1/0½	0 14 0
Fish, ...	5¾	0 7 0
Spices, ...	3½	0 4 0
Oil for fuel and light,	5	0 5 3
Firewood, ...	6	0 7 0
Clothing, ...	4¾	0 5 0
House rent, ...	1¾	0 2 0
Total, ..	5/5	Rs. 4 9 6
Weekly Wages.		
Husband, ...	3/6	Rs. 3 0 0
Wife, ...	1/7¼	1 6 0
Boy, ...	2/8	2 4 0
Two girls, ...	1/9	1 8 0
Total, ...	9/6¼	Rs. 8 2 0
Income for a week,	9/6¼	Rs. 8 2 0
Expenses do., ...	5/5	4 9 6
Saving do., ...	4/1¼	Rs. 3 8 6

Hindustani or up-country workers' cost of living comfortably at Gourepore—Husband, wife, and three children.

	Approximate British Equivalent.	Indian Currency.
Rice, ...	1/9	Rs. 1 8 0
Dhals, ...	9½	0 10 6
Vegetables, ...	3½	0 3 6
Spices, ...	1¾	0 1 9
Oil for fuel and light,	3¼	0 3 6
Firewood, ...	6	0 7 0
Clothing, ...	3	0 3 0
House rent, ...	1¾	0 2 0
Total, ...	4/1½	Rs. 3 7 3
Weekly Wages.		
Husband, ...	3/6	Rs. 3 0 0
Wife, ...	1/7¼	1 6 0
Boy, ...	2/8	2 4 0
Two Girls, ...	1/9	1 8 0
Total, ...	9/6½	Rs. 8 2 0
Income for a week,	9/6¼	Rs. 8 2 0
Expenses for do.,	4/1½	3 7 3
Saving do., ...	5/4¾	4 10 9

Hindustani or up-country workers' cost of living comfortably at home—Husband, wife, and three children.

Rice, ...	1/2	Rs. 1 0 0
Dhals, ...	5	0 5 3
Oil for fuel and light.,	3½	0 3 6
Spices, ...	1½	0 1 9
Clothing, ...	3	0 3 0
Total, ...	2/3	Rs. 1 13 6
Weekly Wages.		
Husband, ...	2/4	Rs. 2 0 0
Wife, ...	1/2	1 0 0
Boy, ...	1/2	1 0 0
Two girls, ...	7	0 8 0
	5/3	Rs. 4 8 0
Income for a week,	5/3	Rs. 4 8 0
Expenses do., ...	2/3	1 13 6
Saving do., ...	3/0	Rs. 2 10 6

These comparative statements show that a local Bengalee family of five workers, earning altogether, say, 9s 6d per week, can supply all their wants and save about 4s 2d; and a similar family coming from up country, earning the same wages, can save about 5s 6d. The latter family, on the other hand, living at home, can only earn 5s 3d, and, although they can live on little more than 2s, they can only save about 3s per week. From the social economy, as well as from the trade point of view, these figures are exceedingly interesting.

SHIPPING IN THE HOOGHLY AT CALCUTTA.

THE WORKERS AND THEIR HABITS.

Before dealing with the subject of hours and arrangement of shifts under which the natives work, I may mention some peculiarities which would not occur to a stranger unless he were specially informed about them. Some characteristics of dress or undress are obvious enough. So, too, of their ablutions and religious observances. The Mahomedans are peculiarly attentive to their hours of prayer, and may be seen reverently bowing and gesticulating in the direction of Mecca. The Hindoos, by their frequent washings and bathings, manifest their belief that cleanliness is a part of religion, but unfortunately they do not extend it to their garments, which often leave much to be desired in that respect.

One peculiarity is that it is contrary to the nature of the natives to go on steadily working week in and week out, and all the year round, as Europeans do. Partly, no doubt, the result of climate, and partly of habits indulged in for generations before Europeans and machinery invaded the country, the natives dislike continuous working all day long, every day of the week, and every month of the year. Money will not induce them to abandon their liking for a few hours, a few days, or a few months away from their work. It is no use attempting to force them to be steady at their jobs. If not allowed to go away when they ask leave, they will take the leave and go away all the same, and it is just as well therefore to let them go. Hence it is necessary at every mill to keep a much larger number of hands than are daily employed. About one-third more are commonly on the books than at work. This is troublesome and inconvenient, but a necessary part of the system, which requires a regular irregularity to suit it to the native customs.

Another peculiarity is that the different classes of workpeople come from different districts of country, and some from extraordinary distances. I asked the commercial manager of one of the mills if he could give me details illustrating the migratory habits of the natives, and I am indebted to him for the following particulars. The full working complement of hands at this mill is 4055, of whom 2658 are male and 1032 female adults; while the children, above 9 and under 14 years of age, are 365, of whom 294 are male and 71 female. These are required to man the machinery, and form a full working complement. But there are about 30 per cent., or 1200 workers, more on the mill books, who are continually on the move, either absenting themselves on account of sickness or taking a holiday, or visiting their homes far away in the country. Curiously, too, the local workers are ordinarily the most unsteady. Those whose homes are at a considerable distance are steadiest so long as they continue at the mills, but at certain seasons they go back to the country, generally moving in gangs. The following table exhibits very remarkably the extent to which particular classes of workers come from particular parts of the country, and the extraordinary distances the people travel to and from their homes. Such figures also enable us to understand the enormous length of the railway trains in India and the crowds of natives continually travelling in them. What should we think in Dundee of large numbers of the hands in the mills being drawn from parts of the country upwards of 300, 400, 500, and some nearly 700 miles away, and moving backwards and forwards to their homes at stated periods every year?

BATHING AT KALI GHAT, CALCUTTA.

Miles Dist'nt.	Districts drawn from.	Number of Workers.	Employed at
	Locally within radius of five miles on both sides of the river Hooghly,	1205	Batching, preparing, spinning, and mechanics.
40	NUDDEA, ...	170	Weaving & winding.
150	GOALUNDO, ..	140	,, ,,
30	HOWRAH (Southern portion), ...	60	Preparing, weaving, and boats.
10 to 20	HOOGHLY, ..	100	Batching, preparing, spinning, and beaming.
70	BURDWAN, ..	180	Preparing, spinning, beaming, and weaving.
130	BANCOORAH, ..	80	Batching, preparing, and spinning.
150	CHOTA NAGPUR,	30	General labourers.
170	PATNA, ...	700	Weaving, bag-sewing, and labourers.
370	ARRAH, ...	680	Winders, weavers, sewers, & labourers.
420	GAZIPORE, ..	400	Bag-sewing.
479	BENARES, ...	110	General labourers.
510	MIRZAPORE, ..	50	General labourers and gatekeepers.
306	MONGHYR, ..	900	Batching, preparing, spinning, winding, weaving, finishing, general labourers, and boatmen.
678	LUCKNOW,.. ..	350	Weavers.
200	ORISSA, ...	100	Jute cutters, jute carriers, and general labourers.
		5255	

Shortness of labour is experienced occasionally even at the mills which are most favourably placed. This generally occurs in waves, and is due to general sickness during the unhealthy months, or when the temperature becomes abnormally high, and too high even to be agreeable to the natives, say between 100 and 115 deg. A remarkable fact also is that when rice and other articles of native consumption are unusually cheap, so that they can live more easily, it is more difficult to induce them to remain at work. The natives care more for an easy life than for earning regular wages by regular work.

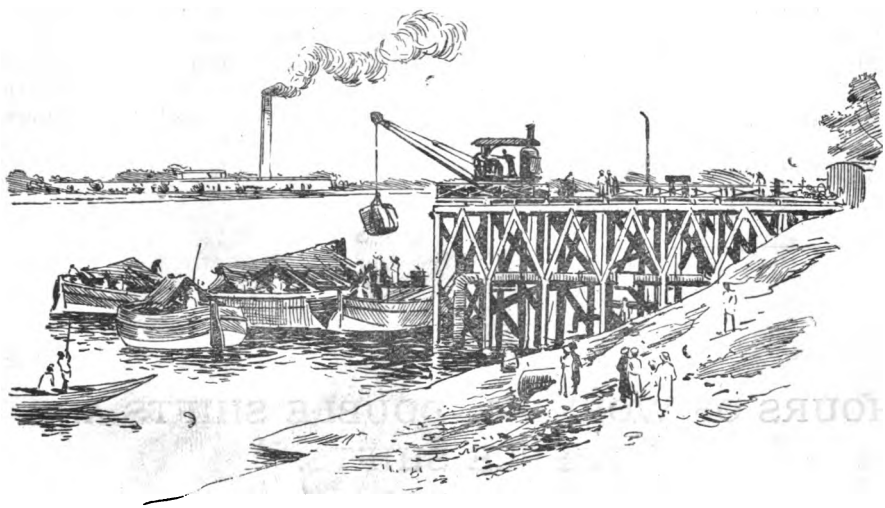
HOURS OF WORKING—DOUBLE SHIFTS AND TREBLE SHIFTS.

I now come to the critical and controverted question of the hours of working in the Indian Jute Mills. Under the Factories Acts in the United Kingdom women and young persons are not permitted to work more than 10 hours per day, or 56 hours per week, and this practically limits the running of the engines to that time. In the Dundee mills and factories working by shifts is unknown, and the rule is for the engines to run from 6 to 9 A.M., when they stop till 10 o'clock, allowing all hands an hour for breakfast; then they run again till 2 P.M., allowing an hour for dinner; and again from 3 to 6 P.M. on the first five days of the week, but stop on Saturdays for good at 1 P.M. The same hands work the whole time, with the exception of the children between the ages of 11 and 14 who have not passed the Fourth Standard, and who are only permitted to work five hours, while they are required to make an attendance at school of two hours. It is not improbable that the Government in this or an early session of Parliament will introduce a Bill further limiting the employment of children in mills and factories in the United Kingdom to 12 years of age and upwards.

The method of working in the Indian mills has long been different. The habits of the natives, consequent on the great heat during nine months of the year, their weaker

constitutions, the distance in some cases of their dwellings, and their love of bathing led them to prefer working in what may be described as alternating shifts, so that they might work at two different parts of the day with a pretty long interval between. Until recently the engines started at daylight in the morning and ran till sunset—about half-past five in winter and seven in summer. Artificial lighting by either oil or gas would have been considered objectionable on account alike of the risks of fire, the fumes, and the heat. The idea occurred to Messrs Birkmyre, the proprietors of the Hastings Mill, that by running night and day, with the electric light, they could double, or nearly double, the production from the same machinery. The idea of using the electric light by them was not carried out until it was known that it had been satisfactorily introduced in several Dundee mills. Others then resolved to try it in their mills in order to secure a more uniform day of working hours. There are still a number of the older and larger mills that have not adopted the electric light, believing that the old-fashioned system of working from sunrise to sunset is more profitable. The mills presently using the electric light are the Howrah, Gourepore, Ganges, Seebpore, Fort Gloster, Samnuggur, Titaghur, and Victoria, the majority of which during the winter months run 14 hours a day, but the last three stop at half-past two on Saturdays.

In order that I might have absolutely correct information respecting both the hours of working and the changing of the shifts I applied to Mr C. A. Walsh, the Special Inspector of Factories in Bengal, for official copies of the Forms of Register of Hours of Employment kept at each mill, and exhibited in English and Bengali at the entrance to the works. It may be observed that there are now practically three systems :—



EXPORT JETTY, SHOWING BALED JUTE GOODS BEING LOADED INTO CARGO BOATS, WHICH GO ALONGSIDE EXPORT VESSEL IN PORT; VICTORIA JUTE WORKS IN DISTANCE.

I.—MILLS WORKING FROM SUNRISE TO SUNSET, some of which have three squads and some two, both of men and women, working between five in the morn-

ing and seven at night on the longest day, and between half-past six in the morning and half-past five at night on the shortest day of the year. The shifts are so arranged that each squad works not more than seven hours on the shortest and nine hours on the longest day. The Indian Jute Company's Mill, of which Mr D. Cochrane is the manager, is an example of the two-shift class, and the following is the printed form signed and exhibited by him with regard to children :—

SHIFT SYSTEM FOR THE LONGEST DAY.
FOR CHILDREN ONLY.

HOURS OF COMMENCING AND CLOSING WORK DAILY.		Period of Each Shift.	Total Hours' Work.
Commencing.	Closing.		
	A SQUAD.		
5.0 A.M.....	9.0 A.M.....	4 Hours.	
12.0 ,, ...	3.0 P.M.....	3 ,,	7 Hours.
	B SQUAD.		
9.0 A.M.....	12.0 A.M.....	3 Hours.	
3.0 P.M.....	7.0 P.M.....	4 ,,	7 Hours.

II.—MILLS LIGHTED BY THE ELECTRIC LIGHT.

The hours of working in these mills are not uniform. The majority run their machinery fifteen hours per day; but three of the mills—those owned in Dundee—run fourteen hours, except on Saturdays, when they stop at half-past two. The following statement shows clearly the working hours of the separate squads at the Fort-Gloster Mills, of which Mr Forrester is the manager :—

MEN AND WOMEN.

	Started.	Stopped.	Working Hours.
Morning hands—	6 A.M.	9 A.M.	3 hours.
	12 A.M.	3 P.M.	3 hours.
	3 30 P.M.	6 P.M.	2.30 ,,
			8.30 ,,
9 o'clock hands—	9 A.M.	1 P.M.	4 hours.
	2 P.M.	6 P.M.	4 hours.
			8 hours.
3 o'clock hands—	6 A.M.	10 A.M.	4 hours.
	11 A.M.	3 P.M.	4 hours.
			8 hours.

CHILDREN.

No 1 squad— 6 A.M. to 9 A.M.	Again, 12 A.M. to 3 P.M.	6 hours.
No. 2 squad— 9 A.M. to 12 A.M.	Again, 3 P.M. to 6 P.M.	6 hours.

It will be seen that under this arrangement no man or woman works more than eight and a half hours, and no child more than six hours—the mill running from six in the morning till six at night.

Take next a mill—the Seebpore—of which Mr John Steen is manager. Here the working hours are from 5 A.M. to 8 P.M. As will be seen from the following diagram, the first shift of men and women starts at five o'clock in the morning, works till 7.30, and rests till ten, when it goes on till three in the afternoon, rests till 5.30, and then goes on till eight o'clock. This is the only shift that has three turns of working. The second shift works from five till ten, rests till 12.30, and goes on again till 5.30, when its work is finished. The third shift begins at 7.30, works till 12.30, rests till three, and then works on till 8 P.M. The children have also three shifts, but none works more than five hours a day :—

DIAGRAM OF WORKING HOURS FOR MEN AND WOMEN.

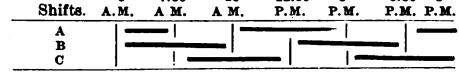
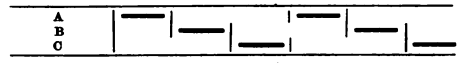
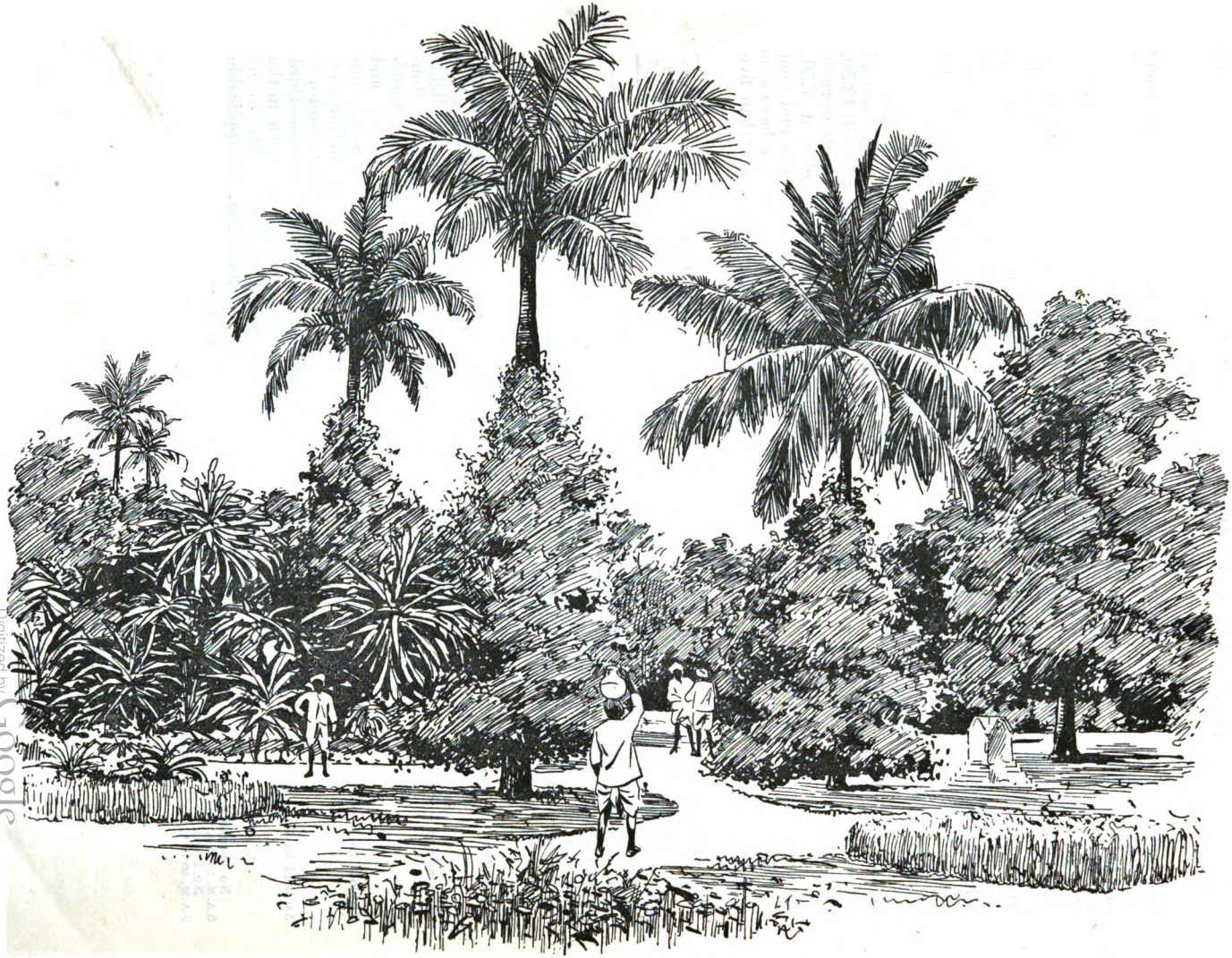


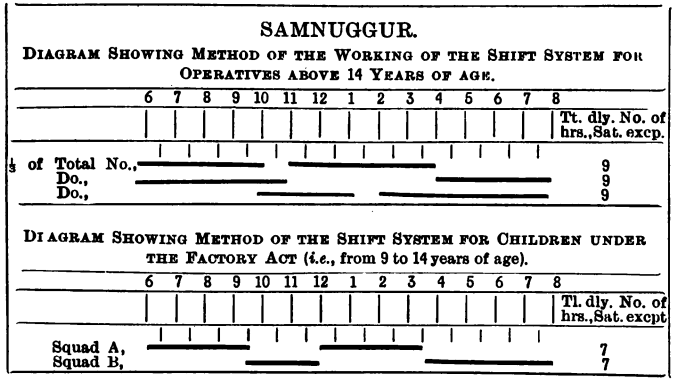
DIAGRAM OF WORKING HOURS FOR CHILDREN.



The third example is afforded by the Samnuggur, Titaghur, and Victoria Mills, which run the shortest time with the electric light. The engines run 14 hours daily from Monday to Friday inclusive, stopping on Saturdays at 2.30 P.M., so that all cleaning and ordinary repairs can be finished before sunset—the doors not being opened on Sundays. Two-thirds of the total number employed form a full working complement—one-third acting as a relieving squad, as shown in the following diagrams, supplied by Mr Robert Leighton, of the Samnuggur, but applicable to all three mills :—



BOTANICAL GARDENS, CALCUTTA.



III.—THE HASTINGS MILL.

We come now to the Hastings Mill, owned by Messrs Birkmyre Brothers, and of which Mr Finlay is the manager, which works all the 24 hours, with the exception of from three to five o'clock in the morning. It was this 22 hours' daily working which suddenly startled employers at home to the difference between the Factories Acts in the mother country and in India, restricting hours of employment in the United Kingdom to 56 per week, while permitting 132 hours in India—thus enabling an Indian millowner to obtain 235 per cent. more production from his machinery and plant than if his mill were in England or Scotland. The first impression was that this all day and nearly all night working must involve excessive hours of employment for the individual working man or woman. On examination, however, of the following statements of the arrangement of working hours for adults and children during the day and of adults for night work, it will be seen that of the three day squads A, B, and C, the working time of the A set does not exceed 9 hours, of the B set 8½ hours, and of the C set 9 hours; of the children during the day 7 hours; and of the men and women during the night in the D squad, the one section 8 hours and the other 6 hours 50 minutes. The following are the three sets of working arrangements :—

THE ARRANGEMENT OF WORKING HOURS FOR ADULTS IN THIS FACTORY UNDER THE INDIAN FACTORIES AMENDED ACT OF 1881.

HOURS OF COMMENCING AND CLOSING WORK DAILY.

	Commencing Hour.			Intervals of Rest.			Closing Hour.			Remarks.
	Men.	W'm'n.	Ch'l'r'n.	Men.	Women.	Children.	Men.	W'm'n.	Ch'l'r'n.	
	1	2	3	4	5	6	7	8	9	10
A. Squad,	5 A.M.	5 A.M.	5 A.M.	From 9 A.M. to 12 noon. 3 P.M. to 5 P.M.	From 9 A.M. to 12 noon. 3 P.M. to 5 P.M.	From 9 A.M. to 12 noon. 3 P.M to 5 P.M.	7 P.M.	7 P.M.	7 P.M	For Children deduct 15 minutes per hour.
B. Squad,	5 A.M.	5 A.M.	5 A.M.	From 9 A.M. to 10 A.M.	From 9 A.M. to 10 A.M.	From 9 A.M. to 10 A.M.	2.30 P.M	2.30 P.M	2.30 P.M	Do.
C. Squad,	9 A.M.	9 A.M.	9 A.M.	From 1.30 P.M. to 2.30 P.M.	From 1.30 P.M. to 2.30 P.M.	From 1.30 P.M. to 2.30 P.M.	7 P.M.	7 P.M.	7 P.M.	Do.

The ARRANGEMENT of WORKING HOURS for CHILDREN in this Factory under the Indian Factories Act XV. of 1881, as amended by Section 16 of Act XI. of 1891.

FOR THE LONGEST DAY.

A SQUAD.

	Commences Work.	Leaves off.	Working Time.	Total.
	AT 5 A.M.	9 A.M.	4 HOURS.	7 HOURS.
Returns ..	AT 12 NOON.	3 P.M.	3 ,,	

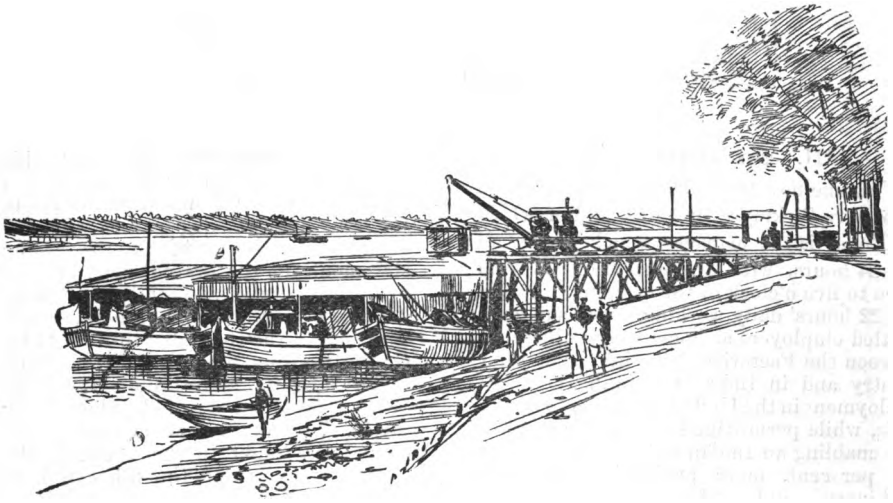
B SQUAD.

	Commences Work.	Leaves off.	Working Time.	Total.
	AT 9 A.M.	12 NOON.	3 HOURS.	7 HOURS.
Returns ..	AT 3 P.M.	7 P.M.	4 ,,	

The ARRANGEMENT of WORKING HOURS for ADULTS in this Factory under the Indian Factories Amended Act in 1881. Hours of commencing and closing work daily.

FOR NIGHT WORK.

	Comen'cing Hour.		Intervals of Rest.		Closing Hour.	
	Men.	W'n.	Men.	Women.	Men.	W'n.
*D*Squad A Sect.,	P.M. 7	P.M. 7	P.M. 10 to 10.35 A.M. 13.30 to 1.5	P.M. 10 to 10.35 A.M. 12.30 to 1.5	A.M. 3	A.M. 3
B Sect.,	P.M. 7	P.M. 7	P.M. 10.35 to 11.45	P.M. 10.35 to 11.45	A.M. 3	A.M. 3



IMPORT JETTY.—JUTE BEING HOISTED BY STEAM CRANE FROM THREE "FLATS" (BARGES) IN WHICH JUTE IS BROUGHT DOWN FROM UP-COUNTRY CENTRES.

SUPPLY OF JUTE—FUTURE PROSPECTS.

STATUE OF SIR W. PEEL, CALCUTTA.

The question whether the jute-growing districts can continue to meet the ever increasing demands upon them being one of much interest to all concerned in the jute industry, I availed myself of the opportunities kindly afforded me of hearing the views of two experienced and well-known brokers. The first was Mr Robert Steele, to whom the Dundee manufacturers have been largely indebted for many years for

securing them abundant supplies of comparatively cheap jute, and who impressed me as being one of the ablest men I met in India. His knowledge of the material began when he was a youth, about the year 1860, in the office of Messrs A. R. Cox & Co., in Liverpool. Since 1861 he has seen the shipment to Europe increase ten times and more, and the total consumption upwards of twenty times. When he went to India in 1871 there were only the Barnagore, Calcutta (now Champdany), Gourepore, and Serajgunge Jute Mills. These mills made goods chiefly for local use—for Bombay for bagging, and for Burmah for rice. In 1873-4 large additions were made. The Fort Gloster, Budge-Budge, Oriental (now the Union), Howrah, Champdany, and Samnuggur Mills were erected. In 1875 Mr Birkmyre removed his mill from Greenock, and since then many other new mills have been established. The demand for jute has increased twentyfold since 1860, and ten times what it was in 1871. The supply has kept pace with the demand. Jute has been grown in India from time immemorial. In the districts where it thrives probably 500,000 bales a year are used by the natives for tying up their huts and various domestic purposes. In 1871 the great bulk of the jute came down the river by native boats, and only a small quantity by the Eastern Bengal Railway. The area of production up-country has very greatly enlarged. It has gone on increasing in a steady and progressive manner. No doubt in some unfavourable seasons much less has been produced, owing usually to a deficiency of moisture, although in others the plant has suffered from excessive rains. As the area on which jute is grown extends there will be less danger of the total production being affected by droughts or floods in particular localities. There is a large production of jute round Calcutta itself. This is known as Daisee jute. It is not bright in colour, but is well suited for making carpets, as it takes dyes well. The proportion of Daisee is not more than one-twelfth of the whole production. There are no carpet works in Bengal.

As to the increased growth of jute, the natives first grow as much rice as will support them during the year; then they grow whatever is most profitable, and this they have found jute has been for many years past. Hence year by year the circumference of the jute-growing regions has been steadily widening. The increased growth has not led to any deterioration of quality: some of the best is always produced. No doubt when the ryot grew only a small quantity he took his best land for it; now that he grows more he takes whatever land he has. Mr Steele does not think they have attained the limit of jute production—indeed he does not see where the limit is. There is plenty of land where jute can be grown which has not yet been touched. There is not only land, but the population, being prosperous, is steadily increasing, so that more labour is available. Jute is the most profitable crop that can be grown in the delta of the Ganges. The peasantry in the jute districts are the most prosperous in India. Their standard of living is now considerably higher than it was. Their power of holding back jute for a higher price is remarkable, and they exercise it largely if the price does not suit them. The ryot—the small grower—had formerly considerable indebtedness. He has now got rid of that, and is becoming very independent. The zemindar is also better off when he has a prosperous peasantry, but his rent-roll is practically fixed. The average price obtained for jute by the grower now is something like double what it used to be. This is largely accounted for by the improved means of communication. The producer and consumer are brought nearer together; the cost of carriage is greatly reduced; the profits of the middleman and intermediate dealers have been diminished; and the producer gets full advantage of the increased demand. This has been assisted by the establishment in the jute districts of large European firms who buy direct from the ryots. The consequence is the ryots have got out of the hands of the money lenders. They are much better lodged, clad, and fed than formerly. The improvement in the condition of the native population is unmistakable. They are better off in every way, nor are the jute districts particularly unhealthy.

Coming to the present supply of jute, Mr

Steele gives the figures in round numbers as follows :—

Shipments to Dundee, ...	1,200,000 bales.
,, ,, Europe, ...	1,400,000 ,,
Consumption at Calcutta,	1,800,000 ,,
,, by Natives, ...	500,000 ,,
America—Jute and Cuttings,	600,000 ,,
Total, ...	5,500,000 bales.

In 1871 it was not more than one-fifth, the total shipments to Europe then being about 700,000 bales of 300 lbs., and to America not more than 50,000 bales.

When the new extensions are completed and the new mills in operation Mr Steele estimates that the Calcutta consumption alone will be 2,200,000 bales, being 1,000,000 bales in excess of the present consumption of Dundee. At the same time, it is to be noted that 1,200,000 bales used for fine goods is equivalent to 1,800,000 bales for the heavy goods made in Calcutta. All but one of the new mills are for hessians. It does not necessarily follow that they are to destroy the hessian trade of Dundee, which makes the finer and broader classes of goods that have not yet been made in Calcutta. A large increase of exports may be calculated upon to Burmah, the Straits, China, and Australia. There is no doubt room for a certain extension. An addition of 30 per cent. all at once is certainly very large. There may be a temporary glut, but the steadily growing trade of the world will bring up the demand to the supply. Possibly prices will rule low for a year or two, but those low prices will cause a great extension of consumption, and by no means imply permanent injury to the trade. Whoever once begins to use jute for packing and other purposes goes on using it, and using more and more of it. If we could only open up China to take jute goods all the new mills would not be able to meet the demand. One great hope of the trade is the opening up of China. The Chinese at present use mats. They carry grain in carts built up of mats, and lose a lot of grain. Let them once begin to use jute sacks and they will go on and require enormous quantities.

The second gentleman with whom we had a conversation on the subject of jute supplies was Mr Clark, of the firm of Landell & Clark, who have agents throughout the jute-growing districts. Mr Clark has been nearly 20 years in the trade. He confirmed generally Mr Steele's statements respecting the growth of the supplies of jute. The area of cultivation has about doubled. The increasing demand has led to a higher level of prices. The demand is steady, and the growers can reckon on always having a market. The production depends very much on the season. Excess of moisture is bad for the crops, but not so bad as excessive drought. The larger the area under cultivation the better the average will be. The earlier districts may be affected one year and not the later, and *vice versa*. Some years ago there was a marked deficiency, and jute went up for a short time to £22 in Dundee. Sometimes it is difficult to ascertain accurately the condition of the growing crops. Heat and moisture are both requisites. Excess of rain is against quality. With regard to the extent of the cultivation, in some districts jute has largely put out rice. In others, where indigo was not very successful, it has been displaced by jute. The ryots have got much better prices, and have found that no crop pays so well as jute. As a matter of fact the ryots and small dealers are all better off than they were some years ago. In the native bazaar the stock of jute held now by the natives is greater than ever it was before. At present it amounts to 10 lakhs of maunds of 82 lbs., the largest quantity ever known, equal to nearly 40,000 tons. The holders are quite able to hold on, and won't sell at what they think a sacrifice, and so they are sitting on their stock and waiting for an advance. When Mr Clark first knew the trade they could not do this. The natives are born speculators, and amongst other things speculate in jute.

There is no apprehension of a short supply: at all events the mills are not within a measurable distance of it yet, not even taking into view the proposed extensions. If anything went wrong with a year's crop there might be some inconvenience for a time; but with a growing demand more jute will be grown. Year by year more land will be brought under the crop. There is no obvious limit to jute production. In Mr Clark's

opinion there is a large margin for increase, although others take a different view, and think this is doubtful. Of course, jute will not grow on the hills or beyond a heavy rainfall, nor will it ever displace tea. It grows to a small extent in the north-west, but not of good quality. He apprehends no immediate danger of a short supply. Given good weather, and all the jute required will be grown. Probably it may come to be grown in Burmah, where there must be an immense quantity of land available—much the same kind of land and climate as in India—but it is not commercially known there as yet. Jute can be grown in Egypt, but cotton pays better, and labour is comparatively high. So far jute-growing elsewhere than in Bengal is problematical, and Bengal may be said to have a monopoly. It has the great advantage of abundance of suitable land in connection with cheap labour.

VISITS TO JUTE MILLS.

GROUP OF NATIVE SPINNERS, whose wages range from 2s 10d to 3s 0½d per week, with bonus of 2d to 4d.

It may be well to extend the notes I took of visits to several Jute Mills on the Hooghly, as they bring out information on various points of detail which might otherwise remain unnoticed. To begin with I take

GOUREPÓRE,

because it is the highest up the Hooghly,

about 24 miles distant by water. It is reached on the land side in about an hour from Calcutta by the Eastern Bengal State Railway, with which it is connected by a siding bringing jute and coal direct into the works. For convenience of communication by water the Mill has its own steam launch, one of the fastest boats on the river. Most of the Mills on the Hooghly have their own launches, which also serve as tugs when required for the flats and barges. At Gourepore we were met by Mr Barry, the largest shareholder and Chairman of the Company, and by Mr P. Playfair, the Calcutta agent, who accompanied us, along with Mr Orr, the resident Manager, over the works, which are amongst the oldest on the river, having been established in 1862 with about 200 looms, since extended to 415, and now being added to with other 200. A little above Gourepore is what is known as the Jubilee Bridge, erected for railway purposes, and which is believed to have been seriously misplaced. It has in the meantime injuriously affected Gourepore by deflecting the current so that a large *chur* or sand-bank has grown up immediately in front of the works, leaving the jetty—except when the river is in flood—high and dry. The Hooghly is very subject to variations of this kind. The railway stations at Jalpaiguri, where there is a steam-ferry, have sometimes to be shifted for miles, and the banks have to be cut again and again at different places as the river recedes for the steamboat landings. This also occurs on a still greater scale at Goalundo.

RAILWAY SIDINGS FOR JUTE AND COAL WAGGONS.

One of the first things we noticed here were the railway sidings, which admit of a whole train of 50 waggons, bringing 500 tons of jute, into the works at once. Dundee manufacturers can appreciate what a convenience this is compared with having all their jute carted up steep streets a long distance from the Harbour. At the time of our visit there were 10 waggons delivering coal near the boiler shed by the simple process of opening traps in the floors, so that the waggons clear themselves with very little attention. All the Jute Works now use Bengal coal. There is a large coal-bearing district at Burrakur, about 150 miles from Calcutta, which is being rapidly developed. Although not equal to English or Welsh coal for steam raising, the Bengal coal is of fairly good quality. At Gourepore the consumption is under 2 lbs. per horse-power per hour, and about $8\frac{3}{4}$ cwt. per ton of manufactured goods. The cost of the coal is 5 rupees per ton at the pit, or $8\frac{1}{2}$ rupees delivered—equivalent, say, to 9s 11d per ton.

ENGINE POWER.

The engine here is of a comparatively old type, one of Hick, Hargreaves, & Co.'s (of Bolton) compressed horizontal side by side engines, working at 120 lbs. steam pressure, and erected about three years ago. Mr Orr, the very intelligent Manager, considers this still the best type for a Jute Mill, and does not think it has been improved upon in economy or safety of working.

FOUNDRY AND MECHANICS' SHOP.

We were peculiarly interested in these, a visit to which at once removed our previous impression that the natives have no mechanical aptitude. The reverse is the fact. Although Mr Orr gives a general superintendence, the whole of the small castings and repairs are done by natives. There is a native foreman, who, along with several of his helpers, was educated at a neighbouring Free Church Mission School, established originally by Dr Duff. He understands and can prepare mechanical drawings. Coming into the shop as a boy, steady and trustworthy, the native soon learns the use of tools. Give him a drawing and he can at once make a pattern. He is also a very careful moulder. The result is that all the castings for the looms, such as protector buffers, treadle pulleys, change pinions, picking cones, connecting arms, trucks and points, lay box ends, spinning frame cylinder ends, the small castings in connection with warp and cop winding, and with sewing and hemming machines are all done in the shop. As illustrating the capability of the native workers, Mr Orr pointed out a carding machine made by Mr Low, of Monifieth, in 1880, which they were reconstructing and making equivalent to a new machine quite up to date. With the

exception of the fast running wheels, all the wheels for renewals are now cast and finished in the foundry.

SANITARY ARRANGEMENTS—FILTERED WATER SUPPLY—MODEL HOUSES.

Mr Playfair devotes special attention to the health of the workpeople. The latrines here, as at the Calcutta mills generally, are far superior to those at similar mills in England and Scotland, where the common water-closets and urinals are often abominations disgraceful to a civilised people. For great establishments the Indian earth deodorising system is infinitely better than a limited water supply system. At Calcutta the latrines must be a certain distance from the spinning and weaving sheds, and the separation of the sexes is perfect. Then, in a hot and thirsty country, it is an immense advantage that at Gourepore and all the best mills pipes are led all round the works, with taps and drinking cups at convenient places, and separate ones for Hindoos and Mahomedans, who will neither eat nor drink out of the same vessels. In his anxiety for the health of the workpeople Mr Playfair has erected for the natives a range of model houses. In doing so he had regard as far as possible to native ideas, aiming chiefly at giving them more substantial buildings, better protection from the weather, and better ventilation. To European eyes he has admirably accomplished these aims, but the result has not been altogether encouraging. Ventilation seems not to be loved by the native; and, accustomed all his life to bamboo-framed huts with mud brick walls or bamboo mats, he prefers as a rule to go on living as he has done and as his people have done for generations before him. He considers ventilators a mortal affliction, and forthwith stops them up. It will take the natives a long time before as a body they prefer any kind of model dwellings to their old-fashioned bamboo hovels in or near the jungles.

NATIVE MEDICAL ATTENDANTS.

All the Calcutta mills keep properly qualified native medical attendants. We had an interesting conversation with Dr Sarkar, L.M.S., of the Medical College of Calcutta, where he graduated under Dr Kenneth Macleod in surgery, and Dr David B. Smith in physiology and pathology. He attended college for five years, and passed the usual practical, oral, and written examinations. He stated that the workpeople are ordinarily very healthy. The ailments from which they suffer are mainly dysentery, fever, and cholera, and chiefly when the seasons change. The rains bring malaria with attendant dysentery and fever, and the hot weather cholera. The improved sanitary arrangements had greatly diminished the fatal cases, which were registered as follows:—

1884,	...	...	10	1890,	...	...	5*
1885,	...	...	21	1891,	...	...	0
1886,	...	...	8*	1892,	...	...	9
1887,	...	...	2*	1893,	...	...	2
1888,	...	...	4	1894,	...	...	1
1889,	...	...	3	1895,	...	...	0

* The cases marked with an asterisk were amongst the mehters of the Company, who had no filtered water supply at the time.

We were indebted to Dr Sarkar for preparing for us an effective native remedy for dysentery used by the natives, which happily we did not require to use in India. There are several such remedies in the Indian pharmacopœia which British residents think might be adopted with advantage at home.

SAMNUGGUR, TITAGHUR, AND VICTORIA.

NATIVE HAND SACK-SEWERS, whose wages are about 8¾d per 100 bags.

By reference to the sketch map previously given it will be seen that the three Dundee owned Mills are all situated on the Hooghly above Calcutta, but below Gourepore. Samnuggur was first erected in 1874 with 150 looms, and was gradually extended to 560 looms. It has a compound 33 acres in extent, and is remarkably well situated, with railway sidings, import and export jetties with deep water, and managers' and assistants' bungalows on the East bank of the river. It has been a flourishing concern from the beginning, and Titaghur, six miles further down the river, is its offspring, seven-tenths of its original capital being the surplus profits of the Samnuggur. Victoria,

so far as its shareholders and Directors are concerned, is quite a separate establishment. In its early years it had serious difficulties to contend with and very limited success. It is situated almost immediately opposite Samnuggur. It has not the advantage of direct railway connection, and depends, therefore, on river communication, which, as already indicated, is subject to variability of currents and sandbanks. It is a modern, handsome Mill in a large and well laid out compound of about 25 acres, and by agreement with the home Directors it has been for some time, with satisfactory results, under the same Calcutta management as Samnuggur and Titaghur. Each of the three concerns has its own resident Mill Manager, who remains steadily in charge of the works. Each also has its own Commercial Manager, who visits the works every morning, confers with the Mill Manager and heads of departments, sees what is going on, and then goes up to report to and consult with the General Manager in Calcutta. The three concerns are thus kept in line, as it were, each having the benefit of the other's experience and common guidance by heads who have been long in the business, and have had both detailed and general acquaintance with the Mills, with the purchase of the raw material, and with the sale of the manufactured goods. The three Dundee owned Mills are equal to any on the Hooghly. It would involve considerable repetition to describe each of them separately, as they have many features in common. I shall, therefore, limit my attention to

TITAGHUR,

the building of which was started in 1883, and which began working in 1884. The facility with which new Mills and extensions can be built and set agoing is to be kept in view. Built of bricks, made on the ground or in the immediate neighbourhood, they are easily run up, and the Dundee and Leeds engineers—except at a pushing time like the present—are not long in fulfilling orders. Titaghur is 13 miles above Calcutta. The compound covers 35 acres of perfectly level ground. The river frontage is some hundreds of yards in extent, and has the advantage of deep water. There are two jetties with steam cranes, one for the flats aden with jute, and the other for the barges which carry away the manufactured goods, to be shipped either on board steamers or sailing vessels below the Bridge for all parts of the world.

The direct reception of jute from up the country into the Mills and despatch of goods are immense advantages. The large flats which bring the jute down the Hooghly belong to the River Steam and India General Navigation Companies, with whom the Mills have an agreement as to rates. Some of the new flats will bring as many as 35,000 maunds, of 82 lbs. each, being equal to 1500 tons, and one river steamer will bring down two of these flats—one lashed to each side of her, this method being found most convenient for the river navigation. Narraingunge, from which much of the jute is brought, is 150 miles up the river, and the steamers take well on to a week coming down with the flats, having to anchor at night; but some which have been fitted with the electric light can do it in a couple of days. The barges and native boats used for shipping the goods are much smaller than the flats, carrying from 60 to 80 tons, and are generally towed down direct from the goods jetty by steam launches to the ship's side. The tramways to the jetties and railway sidings are generally worked by the multitudinous coolie, whose labour is so cheap that horses or other quadrupeds are never used. Everything that comes to or leaves the Mill is weighed and recorded at the steelyard. At the time of our visit eight large go-downs or warehouses, covering a large extent of ground, were choke-full of jute—most of it a fine quality of Narraingunge—and holding a nine months' stock for the Mill. The go-downs are 25 feet high, and they are filled by the coolies, carrying the bales on their heads. Two coolies are needed for one bale. There are no cranes or other appliances for moving the bales. The coolies, although not strong men, seem to work with a will, being paid by the number of bales they carry.

Entering the Mill, we are struck by its loftiness. The roof is arched with brickwork and concrete on iron columns. The common form has been previously described. The working in the Batching-Room is done by Hindoo women, who seem to work very

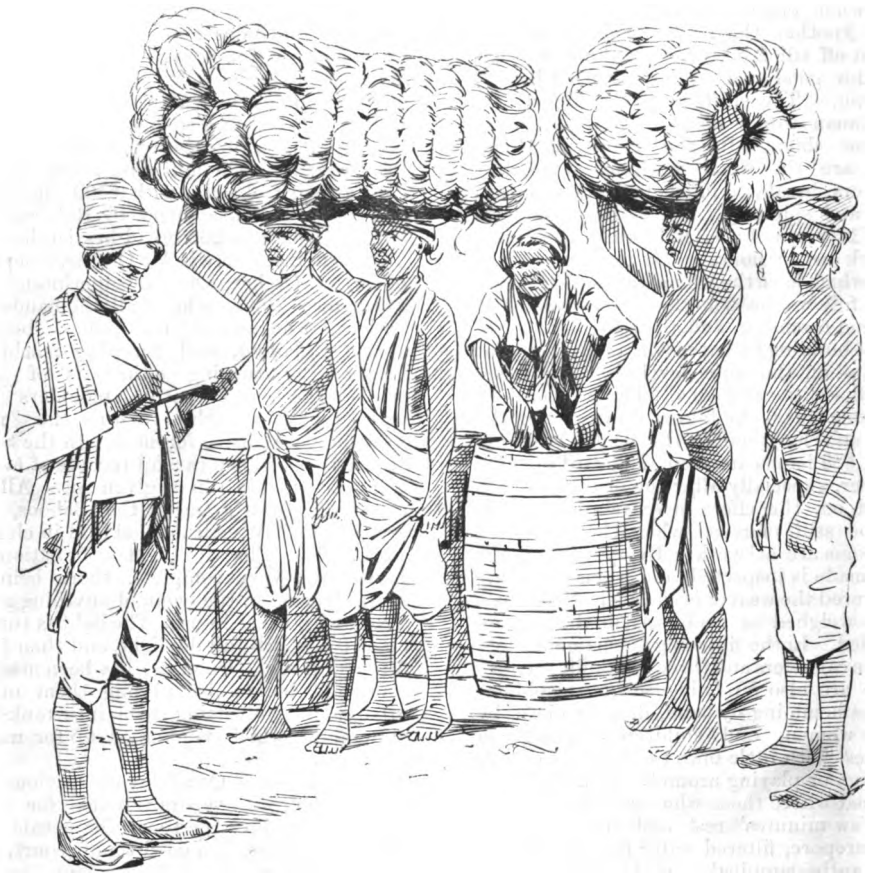
leisurely, and they are far more numerous than in a corresponding department at home. We inquired as to their hours and manner of working. They begin at 6 and work till 9.30, when one-third go away and return at 12. Another third go away at 12 and remain off till 2.30, when the first shift go away for good and do not return till next morning. The shifts are so arranged that no woman works more than seven hours on one day. In the Preparing-Room there are the usual machines at work—softeners, breakers, finishers, drawings, rovings, and spinning. The shifters are boys about 11 years of age, and are only allowed to work seven hours a day in squads of 15 each, which have their fixed times of working. Next follow the winding department and beaming machines, and then the 435 looms. A new building in extension of the present one, and on the same level, is in progress for 208 additional looms. These extensions are easily made by taking down one of the walls and lengthening the whole building. When 435 looms are seen and heard working together, especially after the electric light is turned on, the effect is extraordinary. It will be still more so when the additional 208 looms are at work. Every yard of the cloth made is inspected, and when faults are discovered the weaver is checked. Every bale is also weighed as made up, numbered, and recorded. In the finishing department there are five calenders and three hydraulic presses. There are also 58 Laing sewing machines, besides hemming by hand, done by piece, by men, women, and children working in families, with little ones too young to work sleeping or playing around. Outside there is a shed where those who are tired can go for a few minutes' rest and fresh air. As at Gourepore, filtered water for drinking is abundantly supplied, and there is a large tank to which the hands resort for washing and bathing.

The engines are by Pearce Brothers, Dundee—two pair side by side compound Corliss engines, indicating 2000 H.P. There are eight boilers—five by Adamson, Manchester, and three by Beely, Manchester—30 feet long by 8 feet diameter, working at 90 lbs. pressure. The mill and spinning machinery is by Fairbairn, Leeds, with 9135 spindles. The factory sacking machinery is by Pearce Brothers, Dundee—267 looms. The factory hessian machinery is by Urquhart, Lindsay, & Company, Dundee—168 looms. The machinery order for the extension includes new engines by James Carmichael & Company, Limited, Dundee—one pair side by side compound Corliss engines, indicating 1800 H.P., and four boilers of the Fairbairn-Beely patent tubular type by Beely, Manchester, working at 120 lbs. pressure. The mill machinery will be by Fairbairn, Leeds, with 5300 spindles; and the factory machinery by Robertson & Orchar, Dundee—208 broad hessian looms.

The engineer here is Mr Orchar, a nephew of Provost Orchar, who also superintends the Mechanics' Shop, where all the hands are natives, who attend the lathes, boring, slotting, planing, and screwing machines. One of the turning-lathes is of large size. There are native moulders and pattern-makers, who, with the rest, work under a native foreman. In the Store Room Baboos keep careful records of everything that is taken in or given out. All the clerking is also done by the Baboos, who are educated Bengalis, and skilful in clerical work. The Electric Light installation by Lowden is very complete, there being a spare dynamo in the event of anything going wrong with those in use. The light is turned on at 6 A.M. till full daylight, and then from dusk till 8 P.M. Good use has been made of some old boilers by placing them under ground and converting them into tanks for mineral oil, which is pumped up for use in the work.

The Assistants' Quarters are spacious and comfortable, with separate rooms for eight assistants, and a large room for meals and billiards. There is a good tennis court, and although the assistants have a long day, it is relieved by their having an hour and a half off for breakfast and two hours for dinner. One outstanding merit of the Titaghur, Samnuggur, and Victoria Works is that they all stop at 2.30 on Saturday afternoons, so that the assistants have these afternoons and Sundays entirely clear for themselves, which they greatly appreciate, and the deprivation of which at some other works is undoubtedly felt as a great hardship.

THE HASTINGS MILL.



JUTE-CARRYING COOLIES, whose wages range from about 1s 9d to 2s 2½d per week. Our picture shows the method of carrying both bales and drums of jute, while at the left-hand side is the tallyman, who keeps a record of all the jute that goes into or leaves the Mill.

This Mill is remarkable from the fact that at the beginning it was practically flitted from Greenock by Mr Wm. Birkmyre, who came to the conclusion, justified by the result, that Bengal rather than the West of Scotland was the proper place for such works. It is the property of Messrs Birkmyre Brothers, and is in the immediate vicinity of Serampore, originally a bright Danish settlement, and afterwards memorable as the scene of the Apostolic labours of Carey, Marshman, and Ward, whose house is still within the compound of the College, and occupied as the residence of the

Principal. The Mill derives its name from Warren Hastings, whose villa is now the residence of Mr Finlay, a native of Dundee, where he is well known, the able and experienced manager of the Mill, who showed us Warren Hastings' signature to the title-deeds of the property, which he purchased at the time for 10,000 rupees. Mr Finlay, like Mr Orr, of Gourepore, and Mr Leighton, of Samnuggur, is a fine specimen of health and sturdiness after long residence in India, where he has been 40 years, with only brief intervals at home. Apparently there is no reason why men of good constitutions, exercising ordinary care, should not live in India to a good age, and in the enjoyment of an average degree of health.

Ferrying over from Titaghur early on a lovely morning in a native skiff, we were met by Mr Kinnison, the active commercial manager and representative of Messrs Birkmyre in Calcutta, by Mr Finlay, and by the head engineer, Mr Scott, son of Provost Scott, of Tayport. After witnessing a busy scene in the landing of jute drums and bales on the jetty, and the carrying of them by coolies on their heads direct to the go-downs, we came first to a range of 14 boilers, 7 feet by 30, working at 80 lbs. pressure, and three for the electric light—the installation being by Duncan Stewart & Co., of Glasgow, working at 160 lbs. An experiment has been made in the engine department with a large high pressure triple expansion engine of the marine type, and with such satisfactory results that another has been ordered. It has proved perfectly steady in working, and gives little or no trouble, while there is great economy in the consumption of coal per indicated horse-power. Besides this there are two pairs of engines working tandem of 750 I.H.-P. each pair, and with a fly-wheel grooved for 30 ropes. These were made by Turnbull, Grant, & Jack, of Glasgow. There are 11,400 spindles in the mill and 550 looms in the factory, 11 calenders made by Urquhart & Lindsay and W. G. Thompson, and a mangle by Robertson & Orchar. The foundry and mechanics' shop are worked by natives under the supervision of Mr Scott, who corroborated all I had previously heard of the aptitude, steadiness, and trustworthiness of the native mechanics, moulders, and patternmakers. Taken in young, they are very intelligent, and smarter, he thinks, in learning their work than Europeans of the same age. He pointed out a young iron-turner who, he said, was an exceptionally good turner. In the foundry all their own castings are made up to 8 cwts. in weight.

There are two specialties in the Hastings Mill. One is Cotton Belting, made entirely of cotton yarn supplied from the Birkmyre Cotton Mill at New Lanark—originally established by Robert Owen, the social philanthropist. The second and more important is the Flax Canvas Department. The canvas is supplied from the Birkmyre Mill at Port-Glasgow, and is most of it patent water-proofed. Here it is made into tarpaulin for railway waggon covers for the Commissariat and other Government Departments, including the Post Office. Cotton canvas, also supplied from New Lanark, is made for tents, sails, and awnings suited to a tropical climate. These departments employ many hands and present very busy scenes. The warehouses, or go-downs, and storerooms at Hastings are very large, and hold 15,000 tons of material.

Reference has been made already to the Hastings Mill working by aid of the electric light for 22 hours out of the 24. This is said to have been suggested by a rumour that another enterprising Glasgow firm contemplated putting up a large Mill close to Hastings, whereupon the proprietors of the latter thought they might as well find employment for all the hands available in the neighbourhood, and at the same time double their production from the same plant by running 22 hours, instead of from daylight to dark. It was found that there was nothing in the Indian Factories Act to prevent this. These Acts, like our own, do not interfere with the employment of adult males. They are solely for the protection of women and children; but they differ from the home Acts in permitting the Inspectors to arrange shifts, limiting the employment of these to a reasonable number of hours. I have previously given the sanctioned arrangement of shifts at Hastings, under which it will be seen children are not employed at all

during the night, and the women only between the hours of 7 P.M. and 3 A.M., with intervals for rest and refreshments. The Mill stops altogether between 3 and 5 A.M. Messrs Birkmyre had no difficulty in finding hands for the night work. They began the night running in April 1894, and by the end of May the looms were all in operation. In the hot weather more particularly both Europeans and natives prefer working during the night for the advantage of the comparative coolness. All the year round the Europeans prefer the night work, as it enables them to be off during the day. They generally take a sleep till a little after daylight, then a bath and breakfast, then a game of tennis or billiards, and then turn in to sleep during the heat of the day, getting up at three or four in the afternoon for tea and dinner. During our visit we saw a party of the night assistants enjoying a game of tennis. It should be added that when the Messrs Birkmyre wished to adopt night working they immediately doubled the shift of European assistants, who now number 17, being the largest European staff in any one of the Calcutta Mills, although the Samnuggur, Titaghur, and Victoria taken together muster 28.

MILLS IN CALCUTTA.

Having given notes of five Mills on the Hooghly at distances ranging from 12 to 24 miles above Calcutta, I may now do the same respecting the Mills in the immediate neighbourhood of Calcutta itself. Invitations were given me to visit other establishments on the Lower Hooghly, but time, unfortunately, prevented my accepting them.

I.—THE UNION MILL

at Sealdah having been acquired on very favourable terms, after an unfortunate history as the Oriental Mills, it has been since 1882 one of the most profitable concerns in or near Calcutta. Beginning with 1883 its dividends aggregate 313 per cent., or an average of 25 per cent. for 12½ years. Messrs Bird & Co.—represented by Mr Colville—are the commercial, and Mr James Thompson the practical, managers. We were welcomed by both these gentlemen. The last time we had met Mr Thompson was at Oaklands, near San Francisco, in 1876, when he was in charge of a small jute mill there worked by Chinamen. It was nearly dark when we arrived at the works, and we soon found that their large dividends have been earned without resorting to the electric light. Mr Colville and Mr Thompson are not believers in night work. They consider the old method of working all the year round from daylight to dark the most satisfactory and the most profitable. At some of the Mills trial was made when the electric light was adopted of working the people up to nine o'clock at night, but they soon rebelled, and would not work beyond eight o'clock. They also required to be paid an extra rate for the time after sunset. It was questionable whether good work could be obtained from tired workpeople, and when the cost of the electric installation, wear and tear, renewals, and extra rate of wages were all taken into account it was very doubtful whether there was any advantage in using the electric light. The Union stops an hour before dark on Saturdays to permit cleaning up to be done. With a dense population all round, this Mill has the advantage of an abundant supply of labour. As a rule the natives prefer to work under Europeans rather than their own countrymen, as they have con-

fidence in being fairly and justly treated. The head of each department is a European. Being quite near the Calcutta foundry establishments, all castings are obtained from them; parts for repairing spinning-frames, &c., are got from Low, of Monifieth; and for preparing machinery from Fairbairn, of Leeds. New machinery is at present being ordered from Robertson & Orchar, whose representative, Mr John P. Robertson, we met in the office.

GROUP OF NATIVE TRADESMEN.

The children between nine and fourteen work in two shifts here. The first set work from daylight till nine o'clock, come back at

twelve, and go away at three in the afternoon. The second set come at nine, work till twelve, come back at three, and go on till dark. The women have an extra set relieving them in a similar way. The proportion of women to men is comparatively small. A great deal of the work done in the Mills at home by women is done here by men. The spinning is all done by boys and men, and the weaving by men. Out of 2250 daily employed only about 600 are females, and these chiefly in the preparing and finishing departments. The sack-sewers are almost all women, married to men who work in the Mill. They go home when they choose to cook for their husbands and families, and then return to the shed. They are paid by the bundle of sacks.

Happening to be at the gate when the hands were leaving for the night, it was curious to watch how slowly and deliberately they all walked out. There was no running or pushing, but men and women alike walked past with characteristic quietness almost amounting to solemnity. One poor woman seeming to be in distress, Mr Thompson beckoned to her to speak to him, when she explained that her son was ill and had to be taken to the Hospital. Mr Thompson spoke a few words of sympathy and encouragement, for which she seemed grateful, and he then guided me a short distance to his handsome residence, where we waited to shake hands with Mrs Thompson (a native of Rattray), who had been out driving, and who was formerly a near neighbour of a friend to whom we wished to report that we had seen both her and her husband.

II.—THE HOWRAH MILLS

are the largest single Mill and Factory in India, with 650 looms and 12,152 spindles. They are on the opposite side of the river from Calcutta, but practically in the city, of which Howrah is an important part. The managing agents are Messrs Ernsthausen, Ltd., who are represented by Mr Bleek, an intelligent German, well known in Dundee. Mr Wallace is the commercial and Mr Beat the mechanical manager at the Mill. It is a large, and since 1887 has been a prosperous, concern. The area of the compound is 27 acres. The area of floor space covered by mill, factory, and finishing machinery is 4¼ acres. The numbers of native hands employed are—men, 2500; women, 850; and children, 550—making a total of 3900. The average wages paid per month to these is 49,000 rupees, being an average of 12 rupees 5 annas, or, say, 14s 6d each for four weeks, equal to 3s 7½d per week. The average daily output is:—

Hessians, ...	...	41,000 yards, or	13½ tons.
Sacking, ...	...	101,000 ,,	47½ ,,
			61 tons.

The annual jute consumpt is 540,000 maunds, or, say, 108,000 bales of 400 lbs. each.

The European staff is exceptionally large, there being 12 overseers in addition to the resident manager. The bonus system is carried as far as possible all through the establishment. The assistants have a bonus on the out-turn of yarn and cloth, as have the spinners and weavers on the number of cuts. There has never been a strike at the works for a single day. The hands give no trouble. At the New Year they decorated the whole of the works in Oriental style with coloured banners and strange devices on paper, in honour of Mr Beat, who is very popular with them. The works are conveniently situated for obtaining an abundance of hands. The native women, as becomes city dames, are many of them resplendent with silver ornaments and jewels. With respect to the numbers employed in excess of those required in the Dundee Mills, an approximate estimate was given to us as follows:—Batching, one-third more; carding, one-fourth; drawing, none; roving, one-third; spinning, one-fourth; winding, none; weaving, one hand for each loom; storing and finishing, one-third; engines and boilers, one-third; and mechanics, one-third. There are 86 sewing and 26 hemming machines in the finishing department. A new calender, 102 inches wide, has been erected recently by Urquhart & Lindsay. It is a heavy chesting calender, double-geared, steel levers, with patent rack gear, and is doing extra good work. The electric light is only used here to secure a uniform length of day winter and summer, and the Mill does not run on Saturdays after six o'clock.

We saw one peculiar sight at Howrah—six long stacks or peels of Jute in the open air, where they would not have been if there had been any fear of rain. Two thousand tons were stacked in this way. Most of this was jute in drums, and would be worked off before the go-downs were touched. These were all full to the doors, there being 10½ months' supply within the compound. It would obviously be a wise expenditure to erect sufficient go-downs to make stacking in the open air unnecessary. The Mechanics' Shop here is very large and complete—the largest we have seen.

In concluding these notes of visits to the Mills I must express my regret, first, that it was impossible for me to visit all the Mills on the Hooghly; and, secondly, that being unskilled in technical knowledge of mill management and machinery, I have probably made some errors, which I hope will be condoned as being quite unintentional.

VISIT TO A JUTE PRESS.

When jute is landed in Dundee, carefully assorted in compact 400 lb. bales, under certain marks, few people have any idea through what numerous hands and how many stages it has passed before it was shipped in that form. To pass over the growing and retting and removal from where it is grown, let us take a Jute Press. Our friend, Mr James Duffus, well known to the Dundee buyers, takes us early in the morning to the Nasmyth Press, where—although what is considered the busy season is past—we witness a series of animated scenes. First of all, drums of jute are being rapidly carried from a boat on the river on the heads of coolies, who come to the go-down in swift succession. Anywhere at home barrows or trollies would be used, but here labour is so cheap that such vehicles are dispensed with. A man carries 100 bundles a considerable distance for little more than 6d, and when it can be done at that rate it is unnecessary to spend money on mechanical appliances. We enter a sorting shed where there is a crowd of men and women working in small companies of six or seven, sorting what is known as Daisee jute. Daisee simply means local. A good deal of jute is grown within five miles of the Jute Presses at Calcutta. Men go round to the villages and buy the small lots grown by the villagers on their patches of ground. This Daisee jute is generally dark in colour, with various shades of dinginess, otherwise it is a good quality of fibre, and of great length. Its defect of colour is attributed to being retted in tanks of stagnant water, but it is well suited for goods in which fine colour is not required, and dyes well for carpets. When we visited the Press quantities were being sorted for Dundee and Tayport. Some of the fibre was of great length—not less than 16 feet. Although dark in colour, it is worth £11 per ton as compared with fine Naraingunge at £13. Coming from different districts within 20, 30, and 40 miles of Calcutta, there are many varieties of Daisee, both in quality and colour, and every handful of it is carefully sorted, so that the made-up bales are as nearly as possible of the same quality.

Before coming to the Press this class of jute passes through a considerable number of hands. The native merchants who buy it from the cultivators are called *Beparri*, and they travel all over the country, as far down as Diamond Harbour, buying from the small farmers, who are generally indebted to them for advances. These *Beparri* sell the jute in drums. One of the first things done in sorting is to cut off—it may be said to chop off—the root ends. The long cuttings are sold to the local Mills, and the short cuttings are shipped to America for paper-making. The men employed are up-country men, who come for the pressing season. They work for about eight months. Coming long distances, they do not bring their women

with them. When they return home they cultivate their rice plots while the new crop of jute is growing. The three distinctive kinds of jute passing through the Presses are :—Naraingunge, worth at present about £13 ; Serajgunge, £11 ; and Daisee, £10 10s. The Press is at present preparing these different kinds for shipment, not only to Dundee, but also Leghorn, Trieste for Vienna, and Hamburg for Bohemia.

After being carefully sorted and conveyed to the Presses it is interesting to watch the conversion of the loose jute into finished hard-pressed bales. You stand near one of Watson's Patent Hydraulic Presses made to exert a pressure equal to 1600 tons dead-weight—a very powerful-looking machine. There is a box 17 feet deep, 4 feet long, and 16 inches wide, into which a man enters. The fibre is placed in to a certain depth and arranged by the man as the box descends, he mounting upon the jute. As soon as the proper quantity is filled in he gets out, and the pressure is made. Then the box opens, and the jute is left on a kind of gridiron arrangement, where it is quickly lashed in the manner in which it is to be shipped. While this is being done the jute is being filled again into the box for a second bale, so that not a moment is lost, and the whole process is carried on and finished with great rapidity. In addition to the Watson Presses there are five of Nasmyth's, and in the busy season the out-turn of bales is very large. Twenty years ago, when Jute was pressed by hand-screws, the bales weighed 300 lbs. ; with the Nasmyth Press the weight was increased to 350 lbs. ; and now, with the Watson Press and improved "Nasmyths," the regular weight is 400 lbs.

THE JUTE BAZAAR.

Mr Duffus next took us across the river to see the Jute Bazaar, consisting of a large area of go-downs or warehouses, with narrow streets and lanes running between them. In the main streets are several small Hindoo temples, where the natives do poojah—*i.e.*, attend to their devotions—with great regularity. It is a curious fact that Dundee contributes considerably more to the maintenance of these temples and their priests than it gives for missionary purposes. This is done indirectly. There is a fixed charge on all the bales of jute sold in the Bazaar for several purposes, in which the upholding of the temples is included. The Jute buyers, either personally or through their brokers, go to the Bazaar and see the native sellers, who take them to their go-downs to see the Jute they have stored up for sale. Not a word is spoken with regard to price. The native dealers place their hands under their "chudders," and figure the price of the parcel with their fingers, when if they come to terms the bargain is concluded. It having transpired that we were to visit the Bazaar, we were honoured by the native dealers all meeting us in their best attire, while Mr Duffus held an informal reception in one of the principal go-downs. Some of the dealers are venerable in age and appearance, others middle-aged or comparatively young, and all evidently intelligent and acute in the transaction of business. We were informed that never probably had there been so much Jute in the Bazaar as at the time of our visit. The stock was estimated at 200,000 bales of 400 lbs. each, or about 40,000 tons. One of the dealers alone held 30,000 bales, or 6000 tons. The fact that they can hold such large stocks indicates their wealth. Years ago they could not have kept back their Jute in this way, business being then much more from hand to mouth. This being nearly the end of the season, the natives were unwilling to sell at the price of the day, believing that it will go higher. Their reasons for this are that there having been three good crops in succession, the probability is the fourth will be a short one, and that, as there has been very little snow on the mountains, there will be a want of rain and moisture next season. Time will show whether they have rightly diagnosed the situation. During the height of the Jute season the railway brings to the terminus 80,000 drums of Jute every day. At present it is bringing not more than 20,000 drums.

All the transactions in purchasing jute for Dundee and elsewhere are accurately known and reported to the Calcutta buyers every day. The money spent in telegraphing is very considerable. One well-known firm spends at least £5000 a year. The time actually taken by an electric telegram between Calcutta and Dundee averages between

1½ and 2 hours. Calcutta is six hours in advance of Dundee time, so that a message sent from Calcutta at one or two o'clock in the afternoon is on the merchant's desk in Dundee at nine o'clock in the morning, while all the business done in Dundee on, say, the 1st of the month, is reported back to Calcutta, and appears in lists regularly supplied to all interested on the following morning.

Our interview with the dealers in the Bazaar, although it did not lead to business, was very interesting. A few complimentary remarks passed on both sides, which Mr Duffus kindly interpreted, and we then shook hands and said farewell.

THE BURNING GHAT.

Not far from the Jute Bazaar on the banks of the Hooghly is a neat erection, which encloses the principal Burning Ghat. A Registrar records the name, age, and cause of death of every body brought to be burnt. The process is one of the simplest forms of cremation. There is no scientific furnace, but simply a pile of wood. The municipality makes a fixed charge for the wood and the use of the building—about 4s for the poor and 8s for middle and wealthy classes. The latter have a more liberal allowance of wood, and their friends often spend considerable sums on spices. In other respects a funeral is very cheap. The body is carried with only a slight covering by four men on a light bamboo frame.

The morning is the time preferred for cremation. Fever being rife in the district at the time of our visit, six bodies had just been or were being burnt, and two more were ready for the piles to be erected. We neither saw nor smelt anything disagreeable. A very intelligent native who had just attended the obsequies of his aunt freely entered into conversation with us, and explained that it is only in the case of the very poor who cannot afford to pay for a sufficiency of wood that the body is doubled up so that less wood may be used. It shows how much mankind are the creatures of habit—that the Hindoos consider burning on the banks of the Ganges a sure road to Paradise. Sanitary reasons, especially in great cities like Calcutta, are certainly in favour of this mode of disposing of the dead.

WORKING BY THE ELECTRIC LIGHT.

The Hastings Mill remains the only one in which the electric light is used for what is known as all night working. There the engines run 22 hours out of the 24. It is not thought probable that that system will be generally followed. There are some seven Mills which have adopted the electric light for the purpose of making the working day uniform winter and summer from six in the morning till eight at night. But the majority have not installed the electric light, and at present, at all events, do not contemplate installations. I found a number of the oldest and most experienced Managers, whose Mills, moreover, are yielding excellent returns, decidedly of opinion that the old system of working from daylight to dark is in every way the most suited to the habits of the workpeople, and in actual result most economical and profitable. Not only so, but even those who are using the electric light to a great extent concur with them, and if a binding agreement could be effected, or if a Factory Act could be passed putting all on the same footing, a return to the sunrise to sunset method of working would be welcomed. Longer hours do not mean equally satisfactory work or equally satisfactory production. They do mean more wear and tear, a higher rate of wages, and more or less dissatisfaction on the part of the workpeople. They do also mean more pressure on the European

assistant, whose life and health are often very important considerations. If the Mill Managers could act on their own better judgment there would be a general return to daylight working by those who are now working with the electric light. But then trade jealousy and rivalry come in. One concern makes what seems a forward movement, and another does not like to lag behind. The electric light is a bright idea.

GROUP OF SPINNING-ROOM SHIFTERS, who are paid at the rate of 1s 4d to 1s 8d per week.

The same plant will yield a larger out-turn. More orders can be taken, and the transactions of the year will sum up to more figures. Moreover, if any extraordinary demand should arise, then with the electric light a spurt can be put on and more orders supplied.

Such are the influences and considerations which have led to the installations. Probably if the markets should again be overstocked there would for a time be a disuse of the light, and a return to the old system. So far as Dundee is concerned, however, it is immaterial. The extension of the Jute Mills in Calcutta depends upon their dividend earning power, altogether irrespective of this or that method of working. If legislation were invoked to diminish the hours the machinery runs, it would simply mean the erection of more Mills and machinery to supply the demand. As long as large profits can be earned in the manufacture, those who have money in India to invest will endeavour to obtain a share of those profits, and the general profitableness of the Indian Mills does not result from electric light installations, but from the cheapness of labour, proximity to the jute growing

districts, and the nearness of the Eastern markets.

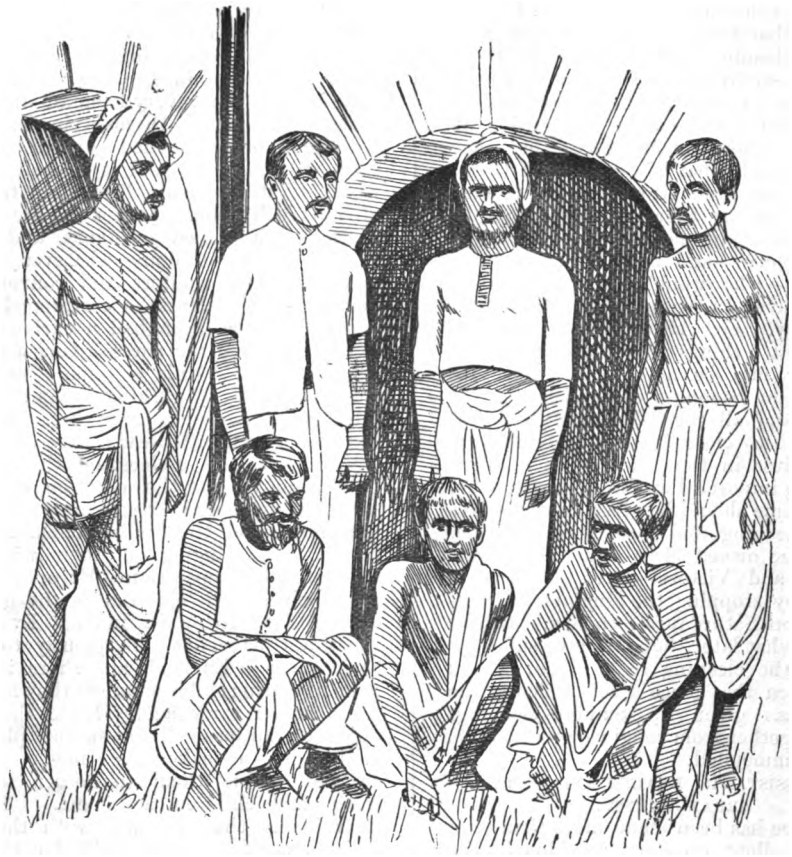
SUNDAY CLEANING AND REPAIRS.

There is one undoubted blot on the management of a number of the Calcutta Mills. It is the running of them so late on Saturdays that Sunday mornings have to be used for cleaning and repairs. No doubt these are done by the natives, but they need to a certain extent European supervision. We were told there was no compulsion on the latter to enter the Mill gates, but they know quite well what is expected of them, and that if any kind of work is being done they ought to be there to look after it. There is not a European, and especially a Scotch foreman—and most of the foremen are Scotch—who would not vastly prefer not to have to enter the Mill gates on Sunday. For their own sakes, in order that things may go smoothly, that there may be no genuine cause for dissatisfaction amongst the assistants, the proprietors of all the Calcutta Mills should make a rule to close them entirely on Sundays. Unless in the case of some accident demanding important and necessary repairs, sufficient time should be given on Saturdays for the cleaning and repairs to be done. The Dundee owned Mills—the Samnuggur, Titaghur, and Victoria—have set a good example by stopping the engines at half-past two on Saturday afternoons. Others stop somewhat later, but still give sufficient time for the cleaning to be done. I am glad to learn that since I left Calcutta the Howrah has given up Sunday cleaning. Apart altogether from religious grounds this is to be commended.

MILL ASSISTANTS' HEALTH AND SOCIAL ARRANGEMENTS.

Reference has been made more than once to the excellent quarters provided in the compounds for the Mill Managers and foremen. The latter chum together in a large bungalow, where each has a spacious room for himself and the use of a large ante or reading, billiard, and smoking-room. There is also generally a fine tennis court and space for athletics close at hand. At home such accommodation would be thought extravagant; in India it is all needed. Not only have the assistants long hours—from start to finish—whatever the intervals may be; but the heat of the hot and the warm moisture of the rainy seasons are very trying to the ordinary European constitution, even with the best sanitary conditions. If there is any weakness in a man's constitution the Calcutta climate will find it out, and unless he is exceedingly careful himself, and very well attended to, he has not the same chance of recovery from an attack of illness as at home. Diseases in India are more acute or a weakened system has less recuperative powers, and it is well known what fatalities occur. One of the troubles of India Mill management is the breakdown in the health of good assistants, and hence the importance of doing whatever can be done for their comfort and convenience. While visiting Calcutta, a correspondent of one of the newspapers had a curious letter to the effect that the curse of God would be be upon the Mills so long as they had Sunday working and prohibited the assistants marrying. Allusion has been made already to the Sunday working. I understand there is no prohibition against the marriage of assistants, but the social arrangements of their bungalows and the Indian climate do not favour men bringing out their wives and families. The separation of Europeans from their wives and children is the greatest drawback to living in India. Even the wealthiest have not infrequently to keep their wives in England, and there is little hope of rearing children unless they are sent home at an early age. Hence the great object of Europeans living on the plains of India is to make as much money as will enable them to return to their wives and children at home. This is unavoidably the case also with the Mill assistants. The houses built for them in the compounds are adapted to the climate. The ordinary workmen's houses in Scotland would not do in India, and a system of a considerable number of men, women, and children living together in one large household is unsuited to the Scottish character and habits of life, to say nothing of other sufficiently obvious reasons. Altogether the present arrangements for the assistants do not seem to admit of much improvement.

STATISTICS OF PRODUCTION AND DISTRIBUTION



WEAVERS—BENGALI AND HINDUSTANI—who are paid at the rate of 5d to 7½d per 104 yards of Hessian according to width; and 4½d to 5d per 106 yards of Sacking—each receiving a Bonus for a certain number of cuts.

I was able to forward from Calcutta early in the New Year, through the kindness of Messrs Poppe, Delius, & Co. and of Mr Shirley Tremearne, the editor of *Capital*, valuable tables relative to the extensions of Jute Mills in India and to the exports of gunny bags and hessian cloth, which, taken together, exhibited with remarkable fulness the growth (1) of the productive machinery and (2) of the mercantile distribution of the jute goods manufactured in India. Those tables were no doubt carefully scanned by all interested, but I may here point out some of the striking features. These are:—I. The increase in the number of looms. Stated roundly, there are now 10,000 looms at

work. Since 1878 the number has more than doubled. The increase is shown at different periods as follows :--

Years 1877,	number of looms,	4,163
1878,	,, ,,	4,877
1883,	,, ,,	5,681
1884,	,, ,,	5,996
1887,	,, ,,	7,565
1890,	,, ,,	7,964
1892,	,, ,,	8,500
1895,	,, ,,	9,841
1896,	,, ,,	10,006
,,	next Jute Season,	11,480
March 1897,	,, ,,	13,289

Here it may be noted that it took ten years —from 1877 to 1887—for the number of looms to increase 3400; and nine years more—from 1887 to the beginning of this year—to increase 2500 more; whereas the next two Jute Seasons alone will give an increase of 3283 looms.

We do not have the materials for showing the corresponding increases in the numbers of spindles. They are generally reckoned at 20 spindles per loom. The estimates of increase in looms, spindles, and consumption of Jute in the Indian Mills from January this year to March 1897 are very striking :—

Total Working.	Looms.	Spindles.	Estimated Consumpt'n 400 Lb. B'ls.
January 1896,	10,006	206,549	1,888,818
Next Jute Season,	11,480	233,646	2,063,270
March 1897,	13,289	270,206	2,360,712

To all who consider what these figures represent, the additions now contemplated and in progress, both in machinery and consumption of Jute, must be startling. Sixteen out of thirty-four firms are engaged in the extensions. First of all there are the seven new Mills. Messrs Begg, Dunlop, & Co., of the Alliance Mill, will contribute 300 looms and 6080 spindles; Messrs Duncan Brothers, of the Anglo-Indian Jute Factory, 360 looms and 7200 spindles; Messrs Anderson, Wright, & Co., of the Khardah Company, 300 looms and 6000 spindles; Messrs Andrew Yule & Co., of the National Mills, 300 looms and 6000 spindles; Messrs Finlay, Muir, & Co., of the Calcutta Twist Mill, 2460 spindles; Messrs Bird & Co., of the Standard Mills, 240 looms and 5600 spindles; and Messrs Gordon, Stewart, & Co., of the Gordon Twist Mill, 1800 spindles.

Then there are the extensions of the Mills already established :—The Barnagore, Messrs Geo. Henderson & Co., 234 looms and 4680 spindles; the Budge Budge, Messrs And. Yule & Co., 300 looms and 6000 spindles; the Clive, Messrs Gladstone, Wylie, & Co., 150 looms and 3000 spindles; the Ganges, Messrs Macneil & Co., 137 looms and 2736 spindles; the Gourepore, Messrs Barry & Co., 200 looms and 4200 spindles; the Howrah, Messrs Ernsthausen, Ltd., 49 looms; the India, Messrs Mackinnon, Mackenzie, & Co., 54 looms and 1620 spindles; the Kamarhatty, Messrs Jardine, Skinner, & Co., 139 looms and 2976 spindles; the Seebpore, Messrs Apcar & Co., 300 looms and 5800 spindles; the Soorah (native), 20 looms and 400 spindles; the Titaghur, Messrs Thos. Duff & Co., Ltd., 208 looms and 3965 spindles; and the Victoria, 400 spindles. The mere enumeration of the Mills and firms shows how general the movement is. Some of it may possibly be owing to rivalry or speculation, but in the main it must be founded on a conviction that there is still room for a large expansion of the Indian Jute trade.

The growth in the exports of Gunnies and Hessians from Calcutta hitherto has been wonderful. As in all other trades, there have been dull years. Some of the former extensions have been followed by unprofitable periods. Compared with 1893 and 1895, the years 1892 and 1894 were slow and inactive, but over a number of years the movement has been rapidly forward. The monthly average export of gunny bags has increased from 13,412,369 to 17,813,561, and the totals for the two years from 160,948,425 to 213,762,740. The Burmese Ports in 1895 took 17,930,425, against 15,457,364 in 1892; the Indian Ports, 30,074,484, against 25,664,530; and the Straits and China, 26,957,047, against 19,114,589. The United Kingdom was almost stationary — 22,835,174, against 22,812,630— Liverpool being three and a half millions less, while London received more than a compensating quantity. Dundee took 174,100, against only 750 in 1892; and the Clyde, 217,800, against none. There has been a large increase to the Continent of Europe — 7,278,100, against 2,970,250. Hamburg alone took 4,588,150,

against 1,733,050; Antwerp, 1,186,650, against 649,200; Marseilles, 261,300, against 109,700; Trieste, 739,600, against 126,300; and Salonica, a first importation of 265,200. The largest increase of all is that of the Californian Ports, to 47,291,675 from 30,653,046. North and South American Ports, Egypt, the Levant, the Cape, Mauritius, and West India all show large increases.

The development of the Hessian Cloth manufacture in India is in some respects the most threatening and formidable. It is for Hessians that the new Mills and extensions are chiefly intended. Of Hessians last year the United Kingdom took from India 869,641 pieces of 100 yards each, against 320,664 in 1892; the Continent, 158,170, against 14,778; New York, 441,236, against 173,559; New Orleans, 216,354, against 52,019; Philadelphia, 74,621, against 49,645; and California, 93,015, against 45,443. The figures thus show that Calcutta is everywhere not only aggressive, but advancing—not only seeking but acquiring new markets of which formerly Dundee had sole possession.

Another branch of the statistical position comprises the capital, profits, reserves, and dividends of the Indian Jute Mills, but this must be dealt with in the next paper.

CAPITAL—RESERVES—DIVIDENDS.

By the assistance of Mr Tremearne, I am enabled to furnish the most complete table hitherto published of the financial position of the Jute Mills owned in Calcutta, and whose affairs are well known there. Of the Mills owned in the United Kingdom comparatively little is known, and authentic information is difficult to obtain. It will be seen that the capital is made up in various ways. In some instances it is held in one denomination of shares and debentures; in others there are ordinary and preference shares and debentures; in two cases there are no debentures. The reserve and other funds differ very considerably in relation both to the paid-up capital and the block accounts. These last also differ in relation to the number of looms. The most profitable concerns are those in which from various causes and in various ways the ordinary capital account is very small in proportion to the productive power.

It may be noted that there have been dull times and very lean years in Calcutta as well as in Dundee. Between 1883 and 1888 there were three wretched years and one only a little better. One of the largest dividend-paying concerns largely owes its profitableness to the small sum paid for it on reconstruction after bad times. This is a feature to be kept in view. It does not follow because there may be too large extensions at a particular time, from which shareholders may suffer, that the industry itself will be permanently affected. New men come in and obtain works much below cost price; trade grows, prices improve, and large dividends are earned. The following is a brief account of the establishment of the India Mills.

Up to the year 1872 the Calcutta Jute Mill industry may be said to have been in its infancy. There were only then some four Mills in existence—the Rishra Mills, 260 looms; the Borneo Company, about 400 looms; the Gourepore Company, with about 200 looms; and the India Jute Company, 100 looms. In 1872 the Borneo Company was floated into the Barnagore Company, Limited, with a capital of £400,000, and the dividends which were declared for the first year—namely, some 25 per cent.—apparently whetted the appetites of other merchants.

In the year 1873 there was a very large development—viz., the Budge-Budge Mills, registered 1st April; Fort Gloster, the Champdany, a Glasgow Company, date not

exactly known; Seebpore, on the 31st December 1873; and Samnuggur, a Dundee Company.

In 1874 the Oriental Company was registered in July, the Howrah on 14th July. Messrs Birkmyre Brothers were the first home manufacturers to take the bull by the horns and transfer their Mill from the Clyde to the Hooghly. The Rustomjee Twine Canvas Company, Clive Mills, and Asiatic were also floated in 1874. The Ganges, a London Company, was floated in 1875, and on 28th September 1877 the Kamarhatty Company was formed.

In 1880 there was a great collapse in the industry consequent upon over-production and the Calcutta Mills not having made a market for their produce, for up to this time the demand was principally local.

In 1880 the Calcutta Jute Mills, the Oriental Jute Mills, and the Rustomjee Twine and Canvas Company succumbed.

The Calcutta Jute Mills were bought by the Champdany Company, and have ever since been worked by them. The price paid was about Rs.5,00,000 for a Mill of 260 looms. This Mill was originally the Rishra Yarn Mill.

The Oriental Mill was sold still cheaper. It contained 350 looms. It was bought by the Union Mills Company for Rs.3,50,000, and, having the advantage of very cheap capital, has since been a remarkably prosperous concern.

The Rustomjee Twine and Canvas Company was purchased by Mr Moran. He turned it into the Goosery Jute Company; it was enlarged, and some few years after collapsed, and was bought by a native called Chunder Ramjee. He in his turn sold it to the Central Jute Mills Company, and it now contains 350 looms.

In 1883 there was another slight expansion—the Hooghly Mills and Kanknarrah Mills were floated in Calcutta, and the Titaghur and Victoria in Dundee. Since then there have been no new Mills, except the Lower Hooghly and Chandernagore, until the last few months; but considerable extensions have been made to the existing Mills, and are being made. Early in 1895 the Khardah Mills were floated, and in August last year the Standard Jute Mills were floated, followed by the National, the Alliance, and the Anglo-Indian. These Mills are in course of erection.

The following is a statement showing the years of the establishment of the Indian Jute Mills:—

		Looms Now.
1855.	Rishra Yarn, now Wellington Mills (1881), ...	260
1858.	Borneo Co., now Barnagore Co., July 1872 (400 looms), ...	799
1862.	Gourepore Co. (216 looms), ...	416
1869.	India Jute, ...	300
	Serajgunge, ...	306
1873.	Budge-Budge, 1st April, ...	460
	Fort Gloster. 6th May, ...	400
	Champdany, ...	430
	Seebpore, 31st December, ...	500
1874.	Samnuggur, 6th August,... ...	560
1874.	Oriental, July, ... (Now Union, October 1880.)	350
	Howrah, 14th July, ...	600
	Hastings, ...	515
	Rustomjee Twine, now Central, August 1890, ...	350
	Clive,...	163
	Asiatic, now Soorah, ...	153
1875.	Ganges, ...	413
1877.	Kamarhatty, 28th Sept.,... ...	320
	Victoria, ...	374
1882.	Hooghly, ...	815
	Kanknarrah, 30th Dec., ...	420
1883.	Titaghur, August,...	643
	NEW MILLS.	
1895.	Kardah, ...	300
	Standard, August,...	240
	National, 11th Sept., ...	300
	Alliance, Sept., ...	300
	Anglo-India, Oct.,...	360

Referring to the following table of dividends, while there are a few comparative blanks, it is doubtful whether, taking the majority of the concerns, there are any equal number in any textile industry in this country that have been as profitable. For the eight years, 1888 to 1895 inclusive, the Budge-Budge has divided 125½ per cent., or an average of 15⅝ per cent.; the Gourepore, 108, or an average of 13½ per cent.; the Howrah, 95, or close upon 12 per cent.; the Kamarhatty, 177½, or upwards of 22 per cent.; and the Union, 250, or 31¼ per cent. per annum. Not only have these dividends been paid, but considerable sums have been carried over and large reserves accumulated. Figures like these, we suspect, are enough to make home manufacturers' mouths water. In the home textile trades for the same period of years such returns have been unheard of and unknown.

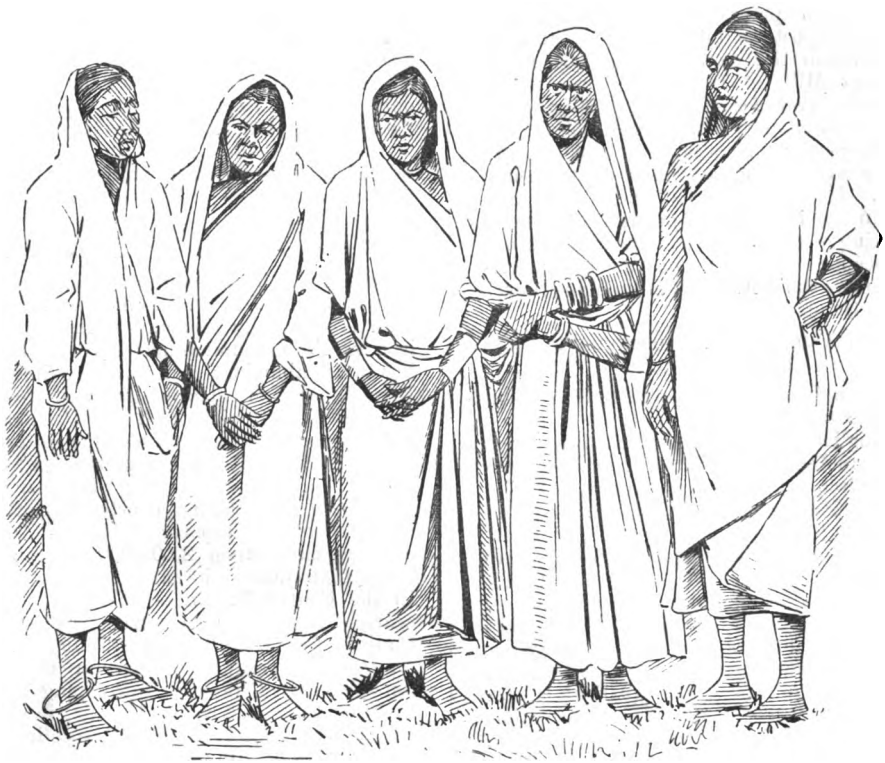
CALCUTTA-OWNED JUTE MILLS.

Names.	Managing Agents and Secretaries.	Paid-Up Capital.	Debentures.	Reserve and other Funds.	No. of Looms.	Spindl's	Block Account.	Paid-Up per Share.	Closing Quotations.
Barnagore, ..	Geo. Henderson & Co., ..	£400,000	£75,000	£13,000	799	18,406	£370,000	£10	118
		Rs.18,00,000 Ordy.	Rs.	Rs.			Rs.	Rs 100	Rs. 145
Budge-Budge, ..	A. Yule & Co., ...	9,00,000 Pref.	6,00,000	12,10,453	460	9,808	31,35,660	100	127
Central, ...	Do., ...	3,50,000 Ordy.	7,00,000	3,35,000	365	7,120	15,86.409	100	123
		3,50,000 Pref.							127
Clive, ...	Gladstone, Wyllie, & Co., ..	6,00,000	2,50,000	—	163	4,524	11,53,487	100	84
		2,07,050						70	46
Fort Gloster, ..	Kettlewell, Bullen, & Co., ..	7,00,000 Pref.	6,00,000	1,00,000	400	7,900	17,37,299	100	125
		7,00,000 Ordy.							146
Gourepore, ..	Barry & Co..	12,00,000	4,00,000	9,14,819	415	8,200	21,32,351	100	137
		1,20,000						15	25
Hooghly, ...	Gillanders & Co., ...	16,80,000 Pref.	12,00,000	2,39,475	815	16,020	46,07,502	100	129
		16,80,000 Ordy.						120	120
Howrah, ...	Ernsthausen, Ltd., ...	8,75,000 Pref.	Nil.	11,13,062	600	12,600	33,87,574	100	130
		17,50,000 Ordy.							144
Kamarhatty, ..	Jardine, Skinner, & Co., ..	4,00,000	9,55,405	14,94,547	320	6,452	25,95,616	50	165
Kanknarrah, ..	Do., ..	9,10,000	8,00,000	7,24,402	420	8,448	22,18,474	65	98
Seebpore, ...	Apcar & Co., ...	5,00,000 Pref.	12,00,000	10,01,060	500	9,400	27,55,405	100	126
		5,00,000 Ordy.							155
Serajgunge, ..	A. Yule & Co., ...	5,00,000 Pref.	5,00,000	60,000	306	6,098	15,78,760	100	118
		5,87,250 Ordy.						100	N
Union, ...	Bird & Co., ...	9,00,000	Nil.	6,25,000	375	7,100	11,11,806	75	210

Names.	Managing Agents and Secretaries.	Profit and Loss carried over	Dividends per Cent. for Year											
			1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.
Barnagore, ..	Geo. Henderson & Co., ..	£10,852	12	Nil.	Nil.	Nil.	5	10	7	6	7½	5	7	Nil. *j*	10 *j*
		Rs.													
Budge-Budge, ..	A. Yule & Co., ...	50,352	17½	2½	Nil.	Nil.	5	10	10	12½	16¼	10	38¾	10*a*	18*a*
Central, ...	Do., ...	1,479	—	—	—	—	—	—	—	4	8	Nil.	5	3	11
Clive, ...	Gladstone, Wyllie, & Co., ..	200	—	—	—	—	—	—	—	—	—	—	—	Nil.	5*k*
Fort Gloster, ..	Kettlewell, Bullen, & Co., ..	5,668	7½	Nil.	Nil.	Nil.	Nil.	Nil.	7	9	7	7	7	7*b*	7*b*
											13½	5	6	3*b*	20*b*
Gourepore, ..	Barry & Co., ...	4,317	12	3	Nil.	3	12	20	17	14	13	8	10	10	16
Hooghly, ...	Gillanders & Co., ...	3,427	Nil.	Nil.	Nil.	Nil.	Nil.	—	—	—	—	—	7	7	3½†
								10	10	10	10	10	5	5	2½†
Howrah, ...	Ernsthausen, Ltd., ...	10,007	15	Nil.	Nil.	Nil.	10	—	—	—	7	7	7	7	7
								14	15	13	12	3	10	8	20
Kamarhatty, ..	Jardine, Skinner, & Co., ..	2,30,196	35	Nil.	Nil.	Nil.	10	20	30	7½	37½	7½	30	12½	22½
Kanknarrah, ..	Do., ..	1,80,475	Nil.	Nil.	Nil.	Nil.	Nil.	5*i*	6*i*	3*i*	7*i*	3*i*	4*i*	4*i*	10*i*
Seebpore, ...	Apcar & Co., ...	.....	6	Nil.	Nil.	Nil.	Nil.	—	8	8	8	8	8	8	8
								9	7	9	8	8	9	8	10
Serajgunge, ..	A. Yule & Co., ...	1,337	—	—		—	—	—	—	—	—	—	—	—	7 *f*
															6 *f*
Union, ...	Bird & Co., ...	21,254	30	20	Nil.	3	26⅔	70	30	26⅔	26⅔	16⅔	23⅓	20	36⅔

(*a*) Year ended 31st October. (*b*) Year ended 30th November. (*f*) Year ended 30th Septembe
(*j*) Year ended 31st August. (*k*) Year ended 31st January. (*i*) Per share. † First half 1895.

GOVERNMENT INSPECTION OF FACTORIES.



JUTE SELECTING, PREPARING, AND WINDING WORKERS, whose wages are from 2s 4d to 3s 6d per week for Selectors, and from 1s 9d to 2s 11½d for Preparers. Winders are paid—Hessian Warp, ¼d per 9 bobbins; Hessian Cops, ¼d per 38 lbs.; Sacking Warp, ¼d per 10 bobbins; Sacking Cops, ½d per 42 lbs.

Mr Walsh, who is designated Special Inspector of Factories, has held his appointment since March 1891. He had been previously in charge of a large Government workshop. The Government thought either a Medical Man or a Mechanical Engineer most suitable for the office, and they ultimately selected Mr Walsh, who has discharged his duties very satisfactorily. His annual Reports are very complete. The Managers of Mills are required to report any accidents that occur. A great deal has been done in the way of fencing machinery, but all new machinery now sent out from England and Scotland is so well guarded that nothing requires to be done. The Civil Surgeon is the authority with regard to the ages of children. He gives a certificate, and if it cannot be produced a child is dismissed. Women and children have not been thrown out of employment to any considerable extent by the enforcement of the Factory Acts regulations. The Inspector does not give notice of his intended visits. There is no disposition on the part of the Managers to evade the Act. In one

case there was a prosecution and a small fine, as the Magistrate was satisfied the evasion was not intended. With regard to the arrangement of shifts, the Managers submit their proposed hours of working, and the Inspector's duty is to see that they come within the Act. In the case of the Hastings Mill, at first there was not a proper interval of rest during the night, but when pointed out it was at once set right. The Inspector find sthat the Managers are quite ready to adopt any suggestions he may make. He is aware that there is working on Sundays in a number of the Mills for the repairing of machinery and cleaning up, but he does not consider he has power to interfere under the Act. The mill engines never run on Sundays.

SCOTCH AND ENGLISH MACHINERY IN THE CALCUTTA MILLS.

The engines, boilers, and machinery in the Calcutta Mills are all by the best Scotch and English makers. The Dundee engineers — Messrs James Carmichael & Co., Robertson & Orchar ; Urquhart, Lindsay, & Co. ; Charles Parker & Sons—J. F. Low, of Monifieth ; Lawsons & Fairbairns, of Leeds, and others have their hands full of orders from Calcutta, where the newest and best types of engines, spinning frames, looms, and preparing and finishing machines are to be seen. It does not pay to order any but the best plant when it has to be sent 7000 miles. The quality is far more important than the price, but there is little difference even in price, the cost of carriage to India only being about 20s per ton. It is said that the Calcutta men renew their machinery very frequently, not waiting till it is run down or worn out. The Mills are equipped with the best of everything that can be got—the best belting, leather goods, and furnishings of every kind. This is required by the climate, which is very trying not only to men but to things—the wet season soaking and the hot season roasting everything. Only the best materials are worth having in India.

DUNDEE FRACTIONS.

The manner in which the Dundee merchants carry on their bargains in fractions appears to strangers simply ludicrous. The selling of cloth by the yard, and of sacks by the individual sack, has led to this really absurd method of selling by so many twelfths or twenty-fourths. In Calcutta all transactions are by the hundred yards or hundred bags, and resort to fractions is unnecessary and unknown. These Vulgar Fractions should be banished out of the Cowgate as out of date and behind the times. One or two leading manufacturers should set the example of selling by the hundred, and the puzzled office boys who make out the invoices would bless them.

INCREASED PRODUCTION OF INDIAN COAL.

India is both a carboniferous and metalliferous country to an extent much larger than is generally known. Both coal and iron are to be found almost all over India, but most abundantly and in proximity in Bengal. I am mainly indebted to Dr George Watt's Review of Mineral Production in India for 1894 for the following interesting facts :—The total quantity of coal turned out in India during that year was 2,774,093 tons, being nearly four times more than is imported. Bengal alone produces close upon 2,000,000 tons, being more than double its production in 1878. In the Central Provinces the quantity has nearly trebled since that year. The Punjab, Assam, and Central India, beginning their productions within the last ten years, are rapidly developing their coal fields. The Nizam's dominions, which only yielded 3259 tons in 1887, rose in 1894 to 240,525 tons. It seems probable that the Nizam coal will entirely check the imports of English coal into Bombay, as the Bengal coal is doing at Calcutta. In 1890-1 the imports of English coal into India were 817,004 tons ; three years later they were reduced to 519,007 tons. Not only are the imports of English coal diminishing, but the exports of Bengal coal are rapidly increasing to Bombay, Madras, and especially to Burmah. The British India and other Navigation Companies are running colliers regularly laden with Bengal coal. It is said that the great coal strikes in England have largely encouraged the growth of the production and exportation of Indian coal. As to quality, the carbon in Bengal coal varies from 70 to 83 per cent., the larger

proportion being 70 per cent., as against —Scotch, 79 per cent. ; Northumberland, 80 per cent. ; and Welsh, 80 to 83 per cent. It is not so clean, and leaves much more ash than British coals, but the difference in price is so great that it is rapidly displacing the latter.

BURMAH PETROLEUM.

There is much in Dr Watt's Review that will interest jewellers with regard to gold and precious stones, and chemists as to chemical products ; but practically the production which next to coal is becoming most important commercially is that of petroleum in Burmah. In 1894 it amounted to nearly 11,000,000 gallons, an increase over the average of the three years preceding of 31 per cent. Petroleum is said to have been worked in Burmah for upwards of 2000 years, and there seems to be an unfailing supply. Much of the oil is of high quality, and can be burned in lamps in its crude state. The consumption of mineral oil in India is increasing with marvellous rapidity, and petroleum oil is likely to become one of the leading exports of Burmah.

A NATIVE VIEW OF THE MILL SYSTEM.

In a conversation with Mr Ashutose Ray, Deputy-Chairman of the Municipality of Titaghur, a native of superior intelligence, and who, as a building contractor, has special knowledge of the subject, I learned from him that the extension of the Mills near Calcutta has been a great benefit to the local building trade. The brickmaking industry has considerably increased. There has also been an increase in the wages of the brickmakers and bricklayers. Formerly brickmakers were paid 12 annas, but now they receive 18 annas per 1000—an increase of 6 annas, or 50 per cent. more. Bricklayers, who formerly had 8 or 10 rupees per month, now earn from 12 to 18 rupees. Finding that Mr Ray was well informed on many points beyond his own business, I further noted his observations, as follows :—

SPINNING AND WEAVING.

There has always been a caste in India whose occupation was the making of cloth, but the extension of the Jute industry has made so great a demand that the caste could not supply the labour required, and now every man who chooses can become a weaver. The local people consider the work in the Mills very lucrative, and have given up their old caste vocations and obtained employment in the Mills. Their condition has greatly improved. There is or need be no poverty at present. In former times the people often suffered privation when rice was dear. They are now well off and able to save money. They hoard silver and wear ornaments, showing that they have more money than they need for food or clothing. They are also beginning to put money into the Post Office Savings Bank, which will take from a depositor as little as one rupee. They send considerable sums away to their friends in the country. At the local Savings Bank every Monday morning as many as 100 remittances are sent to their friends, and every day there will be 20 to 30 remittances. The number of deposit accounts is not large, but they will no doubt steadily increase in numbers and amount.

GAMBLING AND MISERY.

Asked whether it was true that gambling prevailed amongst the natives, Mr Ray said it unfortunately did, and was the cause of much trouble to those who were addicted to it. There was a class of money lenders who charged 2 annas per rupee per month, equal to a rupee and a half, or 150 per cent. for twelve months. The borrower did not seem to think 2 annas a month a large rate of interest, and would borrow from 1 to 5 rupees, with the result that when once he got into the hands of the money lender he seldom, if ever, got clear of him again. The lender can enforce his claims by law, but the

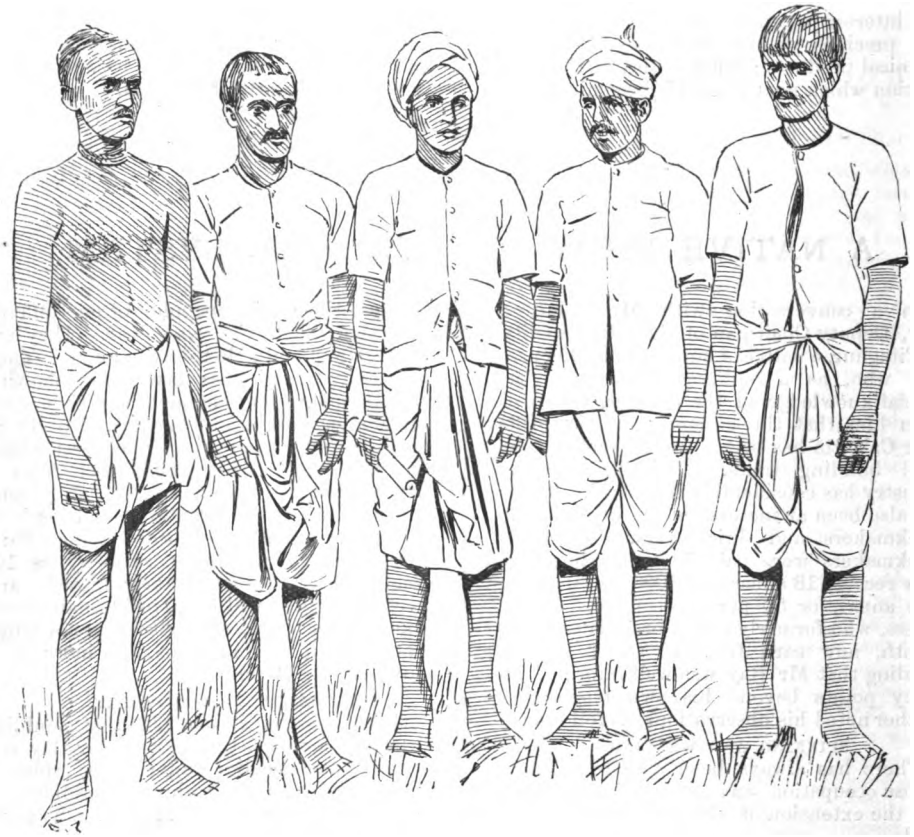
Court after decree limits the rate of interest to 6 per cent. The gamblers were sometimes industrious people, and it was a pity to see their earnings go in this way.

SCHOOLS AND HOLIDAYS.

The population of Titaghur is now 8000. It has three schools conducted by native teachers. The parents are becoming more anxious for their boys to go to school. As to the general condition of the people, not only had they higher wages than formerly and more regular employment, but more comfort and greater ease. They had their own holidays, but they appreciated the English Sunday as a day of rest, and they also made it their market day.

HINDOO TEMPLES AND CHARITIES.

Asked respecting a neighbouring Hindoo Temple, Mr Ray said the Shastras enjoined that wealthy persons should erect Temples and leave money to be dispensed at them in charities. Their Temples are thus centres of beneficence. The one near Titaghur was an example of this. A wealthy lady named Jagadumba Dasi left property for the building of the temple, and



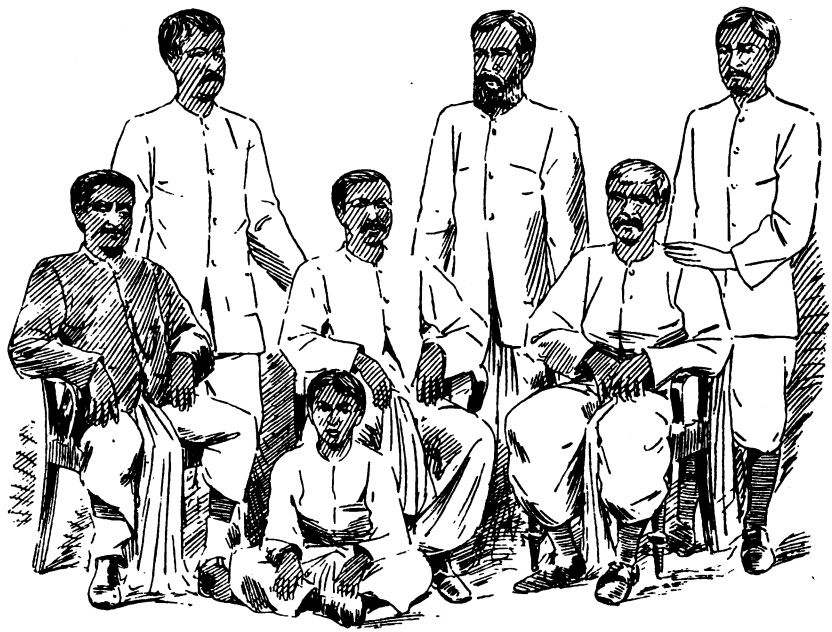
JUTE CUTTERS, who earn from 2s 5d to 5s 4½d per week.

equal to 15,000 rupees a year first to uphold the building; 2d, to maintain two priests, who yearly received 100 rupees; and 3d, to make a daily distribution of rice, after it had been cooked and placed before the goddess, for 50 old and infirm people. This was the general character of the temples. They were not merely places of worship, but were endowed for the benefit of the poor and afflicted.

RELIGIOUS AND LITERARY INSTITUTIONS.

Both the Established and Free Churches of Scotland have excellent ministers in Calcutta. I visited the General Assembly's Institution, over which the Rev. Principal Morrison presides, assisted by Professor A. B. Wann and others, and had the pleasure of addressing the students, who were assembled in a large hall in the commodious Institution building. The educational work here is greatly appreciated by many native youths in preparing for their University classes. The St Andrew's Guild, of which Mr John Clarke is President, and Mr William Mair Hon. Secretary, and which is affiliated with the Church of Scotland Young Men's Guild, includes a large number of intelligent young Scotsmen in its membership. There is also a Leisure Hour Club and a Library for reading and reference. All these Societies have papers read and discussions as at home. In connection with the Free Church of Scotland, a work on behalf of the moral and spiritual welfare of the Scotchmen in the Jute Mills up and down the river was begun in November 1894. Most of the Mills being too far distant from Calcutta to allow of the men coming conveniently into town to church, the Rev. D. Reid engaged the services of an assistant, Mr H. Arnott, whose work it is to hold a religious service, sometimes two services, each Sunday at five or six centres in rotation, and to visit the men at least two days a week. Services are now regularly held at Kanknara, Gourepore, and the Victoria Mill; at Serampore; at Barnagore and Bally; at Howrah, Seebpore, and the Lower Hooghly Mill; and at Budge-Budge and Fort Gloster. The average attendance at these services is over a dozen. Many of the men have expressed their appreciation of the work. The following firms contribute to the support of the scheme, which it is hoped may yet be considerably extended:—Messrs Jardine, Skinner, & Co., Messrs Apcar & Co., Messrs Andrew Yule & Co., Messrs Barry & Co., Birkmyre Bros., and Messrs Thos. Duff & Co. The Kumbuliotola Boys' Reading Club is a native Institution of an exceedingly promising character, the young Baboos who are on the Managing Commmittee evincing great eagerness to acquire literary information and to strengthen their already useful Library. I was present at the anniversary meeting, over which the Hon. J. Woodburn, C.S.I., presided, and which was addressed by Sir Alexander Miller, member of the Legislative Council, myself, and two native Princes. The meeting was held in a large theatre, which was crowded on the occasion, and a very amusing incident was that the manager of the theatre, being called on for a speech, criticised what had been said by the other speakers. Speaking in Bengali, it was, of course, in an unknown tongue to most of those on the platform, but it was evidently very entertaining to the audience.

SUMMARY OF FACTS RESPECTING THE CALCUTTA JUTE MILLS.



THE OFFICE NATIVE STAFF.

Jute has been a product of India from time immemorial, and grown, used for various purposes, and manufactured by the natives long before it was introduced into Europe.

The supply of Jute has hitherto equalled the demand, and appears practically unlimited.

Daisee Jute grows in the immediate neighbourhood of Calcutta, and the finer qualities in the Naraingunge and Serajgunge districts, from 100 to 300 miles distant.

Those districts are connected both by railway and river communication with the Calcutta Mills. Many of the Mills have railway sidings, which bring trains of waggons laden with Jute or coal direct to the godowns or coal sheds.

All but one of the Mills have jetties into the river, to which jute is brought in flats, and from which goods are sent off in barges to be shipped below the bridge for exportation.

All the Mills have thus either direct railway or river communication or both.

The comparative cheapness of land has enabled them to obtain large compounds of upwards of 20, 30, and some nearly 40 acres,

on which there is ample space for the buildings, which, excepting in the case of three of the factories, are all on the one-flat system.

The buildings are spacious, lofty, well ventilated, and well supplied with water.

The engines and machinery are first-class, and thoroughly up to date in respect of improvements.

The Calcutta Mills all use Indian coal, costing delivered at the works not more than 10s per ton.

Many Mills have their own foundry, and all have a mechanics' shop, where all the small castings and repairs are done by natives, who are expert mechanics, under the supervision of the chief engineer.

The average wages of the native men, women, and children for a month, roundly speaking, are not more than for a week in similar Mills in Dundee.

Against the extraordinarily low wages has to be set, so far as it goes, the employment of about one-third additional hands.

The salaries of the European managers and foremen are fully double what they are at home. To these have to be added the cost of travelling expenses out and home.

The first cost of the Mills and plant may be reckoned about Rs.6000 per loom.

This is now being met by the relatively larger production since the adoption of the electric light by working steadily 14 hours instead of 10 per day, as in Scotland.

The adoption of the electric light, however, having regard to first cost, wear and tear, increased rate of wages, and various other considerations, is not considered an additional means of profit.

Managers, assistants, and native workpeople generally would prefer the old method of daylight working, under which some of the largest dividends are still earned.

Diminished production from existing machinery would, however, simply mean the further extension of machinery in proportion to the demand for goods.

The shift system is adapted to, and, indeed, has sprung out of the habits of the natives, who dislike continuous working for a whole day, and prefer considerable intervals of rest.

As shown by the official registers, no woman is employed altogether more than 10 hours in one day, and no child more than 7 hours.

The sanitary arrangements are generally superior to those in the Mills in the United Kingdom.

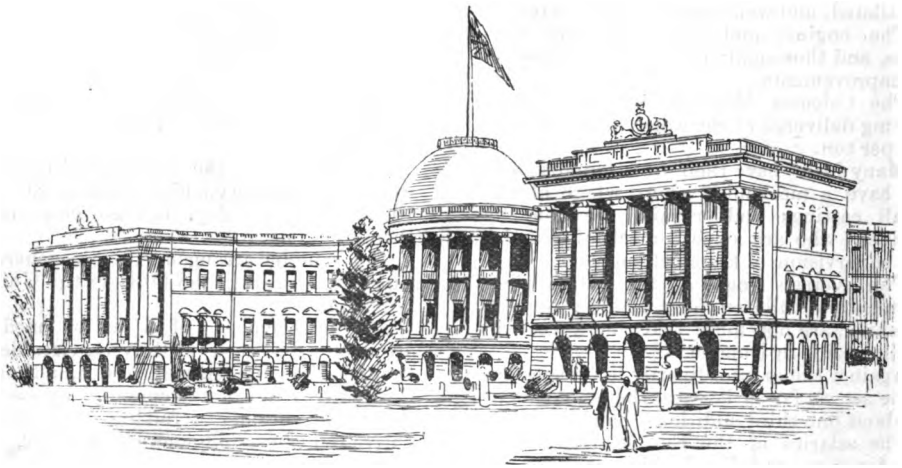
The engagement of a native medical attendant for each Mill is serviceable in keeping the employees in health, although the natives do not generally appreciate skilled attention, preferring their simple native remedies, religious observances, and charms.

Great attention is paid to the health and comfort of the European assistants, who are liberally paid, and provided with excellent accommodation and means of recreation. The trying character of the climate in the hot and rainy seasons requires this.

The assistants have long hours, and in some of the Mills Sunday cleaning and repairs interfere with the full enjoyment of the day of rest.

In some of the best Mills the gates are not opened on Sundays, and earlier closing on Saturdays is being gradually extended.

CHAMBER OF COMMERCE and ROYAL EXCHANGE.



GOVERNMENT HOUSE, CALCUTTA.

The Bengal Chamber of Commerce is perhaps the most perfect in its organisation and most useful in its action of any Chamber outside of London. It is thoroughly representative of the various mercantile, manufacturing, and maritime interests of Calcutta. It is liberally supported. Its meetings are largely attended. It has conveniently situated and commodious premises in the building formerly occupied by the Oriental Bank, the ground floor of which is appropriated to the Exchange. Its officers are remarkably able, well informed, and competent men, whose reports and documents fill two goodly annual volumes, making commercial guide-books of no ordinary value.

The constitution and organisation of the Chamber are worthy of special notice. Its membership includes every important commercial firm in the city, to whom are added as honorary members a number of Government and other officials whose duties are connected with commerce, railways, and navigation. On the other hand, it has a representative on the Viceroy's Legislative Council and on the Council of the Lieutenant-Governor of Bengal, besides four representatives on the Port Trust and on the Calcutta Municipal Corporation. Its President is the Hon. P. Playfair, C I.E., of the firm of Barry & Co., and its Vice-President the Hon. W. B. Gladstone (a nephew of Mr W. E. Gladstone), of the firm of Gillanders, Arbuthnot, & Co., who along with six other gentlemen, including representatives of Ralli Brothers, the Eastern Bengal Railway, and the Agra Bank, form the General Committee. It has Committees and Sub-Committees dealing with the affairs of the Royal Exchange, Piece Goods, References, Shipping, and Finance. But in some respects the most valuable parts of the organisation are the separate Committees, varying from 4 to 11 in the number of their members, representing the separate interests of the

Indian Tea Association,
Indian Tea Fund,

Darjeeling and Dooars,
Calcutta Tea Traders' Association,
Indian Jute Manufactures Association,
Calcutta Hydraulic Press Association,
,, Import Trade Association,
,, Fire Insurance Agents' Association
,, Marine ,, ,,
,, Wheat and Seed Trade Association,
,, Wine, Spirit, and Beer Association,
,, Baled Jute Association,
Indian Mining Association, and
Indian Paper Makers' Association.

Each of these Committees meets in one of the Committee Rooms of the Chamber. Each has the Secretary of the Chamber for its Secretary and the services of the assistants and the clerks at its disposal. Each contributes such a sum to the expenses of the Chamber as fairly meets its obligations. Later on I shall refer more particularly to the proceedings of the Indian Jute Manufacturers' Association in illustration of the operations of these Committees.

The Chamber during the year 1895 had under consideration, among many other subjects, the India Merchant Shipping Bill, the Tariff Act, India Companies Act, Prevention of Accidents on Coal-Laden Vessels, Registration of Cargo Boats, Rules for Towing Vessels, Proprietary Right in Marks of Piece Goods, &c. There are paragraphs in the Report specially relating to Colombo-Grown Jute, Wet Jute Exported to Dundee, Shortage of Jute, Jute Arbitrators, and Export Duty on Jute—the last relating to a rumour which the Government declared unfounded.

One of the most useful and valued departments of the Chamber is the Committee under its general Arbitration Rules. Fifteen cases were dealt with during the year, including a claim for allowance on damaged jute and for short weight; a claim for dead freight in respect of short shipment of jute; a claim for difference of freight on short shipment of jute; two claims for allowance for inferior quality of jute; and a claim for difference in market price of gunnies. The working of the Exchange in connection with the Chamber, as in Dundee, has been found of great advantage.

INCREASED RAILWAY FACILITIES.

Following the enlightened and indefatigable initiative of Mr P. Playfair, the Chamber of Commerce has been most energetic in pressing upon the Government the necessity of extending railways, doubling lines, and increasing the working plant both to the jute-growing and coal-bearing districts. Mr Playfair and a number of his colleagues have travelled long distances visiting these districts and familiarising themselves with their requirements. Mr Clarke, the able Secretary of the Chamber, has written numerous reports, memoranda, and letters to the Government, who control the State lines, and the Companies who direct the lines privately managed. In the past both have needed spurring up. The Chamber has already accomplished much. Fortunately Lord Elgin, the Viceroy, is thoroughly favourable to well-considered extensions such as those recommended by the Chamber. The *vis inertiæ* of old officials has to be overcome. Some of them have got the absurd idea that certain zones of traffic, as they call them, must not be invaded. Meanwhile there are large regions of coal-bearing land and densely populated districts not yet touched by railways which should be opened up, and the opening up of which would add largely both to the business of Calcutta and the welfare of India. Money cannot be better invested than in railways through fertile and populous regions in India.

CALCUTTA AS A SHIPPING PORT.

In 1801 only 224 comparatively small vessels, with a tonnage of 86,395, entered the Port of Calcutta. In 1894-95 the number had increased between four and five fold, to 1029, but the tonnage had increased more than thirty fold, to 2,735,975. The majority of the vessels are of very large size—averaging, it will be seen, 2700 tons. The number of sailing vessels has gone down from 1206 in 1864-65 to 166 in 1894-95; during the same years the number of steamers has increased from 187 to 863. The increase of tonnage has been in spite of the perilous navigation of the Hooghly, in which a number of serious casualties to shipping occur every year, notwithstanding the excellent and costly pilot service. The

shifting and the silting of the channels have led to the Commissioners sending for Mr Vernon Harcourt, C.E., to report on the best means of improving the river. The Commission is charged with having too many nominees of the Government, on whom is thrown the blame of having in former years carried the construction of the Kidderpore Docks and of expensive tea warehouses against the remonstrances of the mercantile community, although apparently those remonstrances were not sufficiently loud or continuous, otherwise the blunder would not have been made. In respect of size, construction, and accommodation these Docks are splendid, but they were not needed, shippers preferring to load and unload their vessels in the tiers or at the jetties in the river. The expenditure for 1894-95 was 12,27,048 rupees, and the income only 3,12,420 rupees—about one-fourth, leaving the other three-fourths as a charge on the port, which is one of the most expensive in the world. An endeavour is being made to confine the import trade to the Hooghly and the export trade to the Docks, but that will be a mere shuffling of the cards. It may help to diminish the apparent loss on the Docks, but it will not add to the volume of business. The complaint is that many of the official nominees, having no experience in shipping or commerce, are apt to take up expensive fads and override the judgment of men of business experience. These Docks have proved a very expensive fad, and will be a burden on the port for many years to come. But for the elasticity of the general trade they would have been ruinous to the welfare of Calcutta as a shipping port.

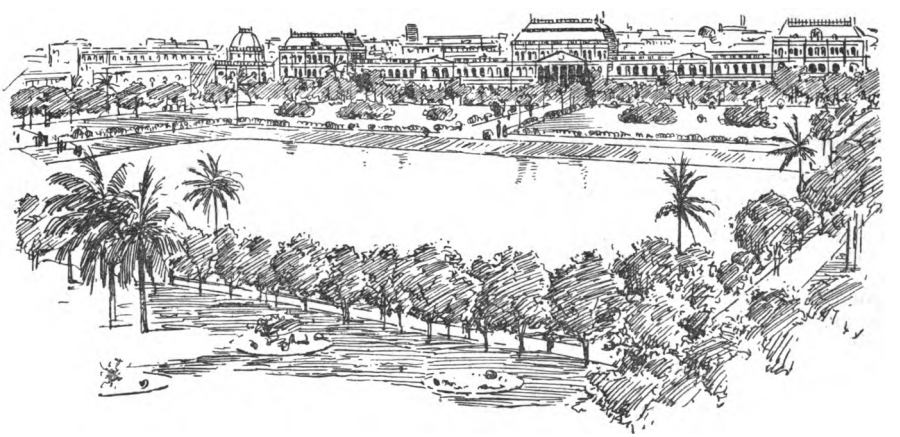
INDIAN JUTE MANUFACTURES ASSOCIATION.

For ten years the owners and agents of the Jute Mills in or near Calcutta have had a powerful Association, of which during my visit Mr George Newall Nairn, of Messrs Thomas Duff & Co., was the active Chairman. The other members of the Committee, as their names indicate, were also Scotsmen —Mr D. C. Blair (of Messrs Finlay, Muir, & Co.), Mr W. S. Malcolm (Messrs George Henderson & Co.), Mr C. M. Duncan (Messrs Apcar & Co.), and Mr A. Forsyth (Messrs Andrew Yule & Co.). There are 16 members of the Association proper and 37 of the Jute Fabric Brokers' Association. The funds are provided by a voluntary assessment according to the number of looms represented. The main object of the Association is to regulate prices and the terms of contracts, beyond which, however, all matters of general concern, such as the insanitary condition of the Riverine Municipalities, import duties on goods from French territory, questions relating to working hours, labour and wages, mill holidays, arbitration procedure rules, and the Labour Enquiry Commission, are regularly dealt with. In fact, whatever is of interest to the Indian jute industry is recognised as coming within the cognisance and action of the Association. Although the Association has not at all times worked perfectly smoothly, and there have been occasional dissentients from its action, in the main it has been conducted with much unanimity, and as time has gone on the advantage of the mills working together has been more distinctly recognised, and in each succeeding year its decisions have been more fully and loyally observed. These decisions have come to be recognised as the rules of the trade. At present the important question of a uniform contract for the sale of manufactured goods, which was raised three years ago, still awaits final settlement. Two years ago, after seeing the disastrous effects of speculative purchases with regard to new crops, the Mills entered into an agreement not to buy forward any new jute before the first of August; and last year—on May 9th—

it was resolved that the Mills should not buy forward before the 8th June, while they were at liberty to buy actual arrivals in Calcutta or the district, and this agreement continued in force until the 15th September.

A singular question was under discussion last year. The agents of a Mill, which, it was understood, was built by British capital within French territory at Chandernagore, applied to be admitted as members of the Association, but it was held that under the articles the Mill was not admissible. With respect to the same Mill, it had been pointed out in the previous year that goods coming from it into British India were subject under the import tariff to a duty of 5 per cent. *ad valorem*, and the Board of Revenue was communicated with to learn whether the duty was being imposed. Sir James Westland, the head of the Board—who, I may remark, was born in Dundee, his father having been Manager of the Eastern Bank before Mr Sidey—and who is practically the Indian Chancellor of the Exchequer, stated that the Government considered the revenue from the production of the Mill at Chandernagore would be so small as not to be worth the cost of collection. The subject was subsequently brought before the Bengal Chamber of Commerce, which, however, declined taking action with regard to it, and the anomaly still exists that a Mill built on French territory, to obtain the advantage of exemption from the French tariff, also has the advantage of exemption from the Indian tariff. Although the amount of revenue may be small—as goods sent through India for transhipment would not be chargeable with duty—the principle involved is one of importance.

As already stated, the principal object of the Association is to establish uniform prices for the productions of the Mills, and it may interest the Dundee manufacturers to know to what extent their competitors in Calcutta are able to combine for the regulation of prices. For this purpose I quote the last two agreements, with the explanation that Messrs Gladstone, Wyllie, & Co., managing agents of the Clive Jute Mills Co., wrote with respect to the first agreement expressing regret that, in view of their past experience of similar agreements, they could not sign it, although they were quite in accord with the spirit of it, and had every intention of supporting it. With respect to the second they also wrote that they had every intention of supporting the combined action of the Calcutta Mills.



DALHOUSIE SQUARE AND WRITERS' BUILDINGS, CALCUTTA.

The two agreements, which were signed by the representatives of 18 other Mills, were as follows :—

AGREEMENT WITH REGARD TO PRICES OF WHEAT BAGS AND COTTON PACKS.

Indian Jute Manufactures Association,
Calcutta, 14th March 1895.
Wheat Bags and Cotton Packs.

The following Mills hereby agree not to sell, from date hereof up to and including 31st May 1896, wheat bags or cotton packs under the following rates, nor to convert or make cloth into wheat bags or cotton packs on any terms whatsoever during the same period. All wheat bags and cotton packs sales made during the period must be unconditional and without options :—

36×22	11×12	12 oz. Wheat Bags,		@ Rs. 13
85×45	11×12	3¼ lbs. Cotton Packs,		@ Rs. 58
85×45	11×11	3¼ lbs. do.	do.,	@ Rs. 56
85×45	11×10 or 10×11	3 lbs. do.	do.,	@ Rs. 54

AGREEMENT WITH REGARD TO PRICES OF WHEAT BAGS AND CLOTHS.

Indian Jute Manufactures Association,
Calcutta, 9th January 1896.
Wheat Bags and Cloth.

The Association agrees to extend the fixed rate of wheat bags, 36 × 22, 12 oz., at Rs. 13-0 for another year from 1st June 1896 to 1st June 1897, and that this fixed rate applies to all shipments to the western coast of the United States of America; also that all cloth sold for these ports be on same basis, viz. :—11/45, Rs. 11-12, with seven annas difference for every half-ounce up or down.

Beyond these special agreements a series of resolutions passed by the Association beginning in the year 1885 may be said to form a code for the regulation of numerous duties connected with the working of the Mills and their productions. In order to give an idea of the matters dealt with, I may summarise some of the leading decisions as follows :—The Mills undertake in good faith not to offer or sell in any market, whether in India or elsewhere, under the rates fixed at each weekly meeting. In the year following, instead of "India or elsewhere," the words used were "to any closed market," and instead of "each weekly meeting" the words used were "fixed by the Association for the time being." This undertaking includes all sales, whether through brokers or direct to or through the Mills' agents, and under no circumstances shall the Mill pay to the buyer any brokerage, or make any concession whatever which may have the effect of a reduction on the minimum rate. The sales made through the Managing Agents of Companies (unless where regular contracts are passed by brokers) must be reported to the Secretary of the Association on the day of sale, and the rupee price stated. In the event of sales being made direct, and at a sterling price, that price, together with the rupee price, rate of exchange, and freight on which the contract is based must also be reported to the Secretary on the day of sale, such communications being treated by the Secretary as strictly confidential between himself and the Mill. In 1885 regulations were also laid down with regard to the delivery and measurement of bales, to the proportionate sizes and relative prices of different sized bags, and with regard to bags hemmed and unhemmed. A model clause was framed in 1890 to be inserted in all contracts for bags sold f.o.b. On the 30th December 1885 a short time agreement indenture was approved. In January 1890 it was resolved that the full number of looms be worked nine days per fortnight, and the members agreed not to sell, in cases of nine days' production, for any delivery up to 30th June, and of eight days' production, for any delivery between 1st July and 31st December. In the same year it was resolved that a one-inch gauge is the proper instrument with which to count the shotting of goods. In 1894 a standard porter and shotting of 3 lbs. Hessian Cotton Packs was fixed, and later in the same year it was resolved that in all contracts where the actual time of day is important the hour before which delivery is to be made should be defined.

From this summary it will be seen that the Association to a large extent regulates the trade operations of the Mills. I may mention that the report of the Committee for last year, which has just come into my hands, extends over 91 pages, and includes a large amount of correspondence, comprising that which has already been published relative to the resolutions of the Dundee Chamber of Commerce on the work in the Jute Mills in India under the Indian Factories Act. There is also an extensive correspondence with respect to police and sanitation in the districts where the Mills are situated. The following extract from a

letter by the Secretary of the Association to the President of the Labour Enquiry Commission in India is of interest in connection with the probable scarcity of hands when the new Mills come into operation. It also gives an official statement of the rates of wages paid weekly to the natives :—

"From a statement furnished you by the Samnuggur Jute Mills it is shown that 60 per cent. of the total number of their workpeople come from the districts of Patna, Mozufferpore, Arrah, Ghazipore, Monghyr, and Lucknow, and the Committee believe that all Jute Mills there obtain a similar percentage of labour from the districts abovenamed. With all this large influx of labour, however, there are just a sufficient number of workpeople available to meet the requirements of the existing Mills, and the Committee would invite the special attention of the Commission to the fact that there are no less than eight Jute Mills in course of erection, and, besides, large additions are being made to the existing concerns, all of which are expected to be completed and at work during the early part of 1897. These new concerns and additions to existing Mills amount to an increase of 30 per cent. on the present producing power of the Mills, and will afford employment to 25,000 additional workers. There is, therefore, a widening field of labour in the jute manufacturing industry, and the wages offered are of so lucrative a nature that the Committee are confident this fact only requires to be made known in the congested areas up country in order to attract great numbers of workers towards the Jute Mills.

"I subjoin a statement of the several classes of labour obtainable in Jute Mills, the approximate rate of wages, and whether suitable for men, women, or children :—

Nature of Employment.	Wages per Week. Minimum. Rs. A. P.	Maximum. Rs. A. P.	Suitable for
Jute carrying, ...	2 12 0	6 0 0	Men.
Batching, ...	1 4 0	1 8 0	Women.
Jute cutting, ...	1 12 0	2 6 0	Men.
Preparing, ...	1 2 0	1 9 0	Women.
Preparing, ...	1 8 0	2 4 0	Men.
Spinning, ...	1 4 0	2 10 0	Men.
Spinning, ...	0 12 0	1 4 0	Children.
Winding, ...	1 2 0	1 12 0	Women.
Winding, ...	1 4 0	2 4 0	Men.
Beaming, ...	2 8 0	4 0 0	Men.
Weaving, ...	3 8 0	6 0 0	Men.
Finishing, ...	1 4 0	2 0 0	Men.
Sack-sewing, ...	1 4 0	2 4 0	Men, wom'n and children.
General coolies, ...	1 4 0	2 4 0	Men.
Native foremen, ...	6 0 0	12 0 0	Men.

"It would be beneficial to give prominence to such points as the following :—

1. The work is of a light nature, carried on amid cheerful surroundings.

2. The daily working time does not exceed 9 to 10 hours in the case of adults and 7 hours in the case of children, with suitable periods of rest intervening.

3. Wages are paid in cash weekly.

4. That suitable housing accommodation and large bazaars exist in the immediate vicinity of all Jute Mills.'

From the same Report I take the following important table, the significance of which it would be impossible to exaggerate :—

CALCUTTA JUTE TRADE.—EXPORT OF JUTE IN BALES.

Season. August to July.	To United Kingdom. Jute.	Rejections.	Cuttings.	To Foreign Europe. Jute.	Rejections.	Cuttings.	To America. Jute.	Rejections.	Cuttings.	To the Indian Coast. Jute.	Rejections.	Cuttings.	To Australia. Jute.	Rejections.	Cuttings.	Total.
1880-81 ..	12,13,304	23,936	58,027	58,549	100	8	68,962	5,138	2,56,123	16,218	.. 1	.. 5	2,850	404	10	17,03,255
1881-82 ..	16,04,631	35,564	92,677	1,26,391	..	180	51,858	6,024	3,35,063	20,061	..	900	6,398	..	50C	22,79,957
1882-83 ..	21,79,052	21,864	1,05,625	1,35,076	315	20	42,387	8,587	5,32,069	21,174	..	510	4,025	..	682	30,52,746
1883-84 ..	11,79,599	17,103	46,826	54,545	200	..	50,969	2,952	2,76,228	13,377	305	..	3,298	..	1,005	16,46,917
1884-85 ..	16,01,528	26,381	78,511	1,48,673	50	..	98,522	3,212	4,05,393	15,276	50	102	2,800	..	.. 7	23,80,396
1885-86 ..	15,13,090	7,634	13,100	1,30,675	200	.. 2	86,813	9,243	3,91,316	4,811	108	.. 5	1,335	..	..	21,58,436
1886-87 ..	15,93,950	23,637	58,548	1,89,383	143	397	94,349	4,217	3,47,047	4,276	10	..	434	..	..	23,16,391
1887-88 ..	16,72,937	33,228	41,352	2,58,006	818	461	1,35,854	4,720	4,66,477	9,927	30	258	765	..	1,039	26,45,680
1888-89 ..	18,94,996	53,757	1,20,479	3,90,019	2,335	50	1,40,882	3,506	5,73,711	8,819	552	.. 7	281	..	..	29,90,132
1889-90 ..	19,15,405	53,906	1,02,657	4,60,148	300	13,562	1,45,036	5,337	6,01,402	9,607	562	..	530	..	.505	31,27,449
1890-91 ..	18,68,480	50,128	17,165	7,24,55	160	1,015	1,80,265	15,995	5,55,165	10,226	44	..	760	..	750	34,25,871
1891-92 ..	12,34,231	26,587	14,641	3,72,367	2,209	305	1,02,208	2,030	2,14,418	7,941	27	..	600	..	60	19,76,514
1892-93 ..	16,82,560	35,480	49,589	7,40,947	2,387	..	1,89,519	7,460	5,62,332	6,284	427	737	164	..	50	30,77,136
1893-94 ..	15,51,901	51,110	..	6,15,896	3,542	751	53,955	5,822	2,09,459	12,705	403	150	701	..	125	26,29,127
1894-95 ..	17,71,147	47,796	55,686	11,09,719	3,047	5	1,76,298	9,283	4,12,734	17,735	..	..	806	..	514	36,05,770

DETAILS OF THE CALCUTTA MILLS.

Mr SHIRLEY TREMEARNE, Editor of *Capital*.

The Jute Mills of Bengal, like ancient Gaul, may be divided into three parts—1st, private concerns; 2d, public concerns owned at home; 3d, locally-owned concerns. There is only one privately-owned concern—the Hastings Mill. The home concerns are—Champdany Mills, India Jute Mills, Ganges Jute Mills, Samnuggur Jute Mills, Victoria Jute Mills, and Titaghur Jute Mills. These are entirely owned at home. The Barnagore and the Anglo-India Mills are registered at home, but some of the capital is held in Calcutta. The capital of the home-owned concerns, with the exception of the Anglo-India and Ganges, is entirely ordinary. There are no preference or debenture shares, and in the early days of this industry the capital was all found in this way in India. In 1877 Messrs Jardine, Skinner, & Co. hit upon the plan of a small capital and large debenture loans, with the result that the Kamarhatty Company has only a capital of 4 lacs of rupees, while its reserves amount to Rs.14,94,547. Since then one or two concerns have reconstructed on the basis of debentures, preference shares, and ordinary shares, and nearly all the new Companies that have been floated have been upon this basis. Thus the Standard Company has Rs.5,00,000 ordinary, Rs.5,00,000 preference, and Rs.6,00,000 debentures. The National has the same. I now by way of Appendix add the following valuable details respecting the Calcutta Mills, for which I am almost entirely indebted to Mr Tremearne, the Editor of *Capital*, who has spared himself no amount of trouble in preparing them and bringing them up to date. It may be explained that the meagreness of the information respecting the private and most of the home concerns is consequent upon their reports and accounts not being readily available like those of the locally owned.

APPENDIX.

THE WELLINGTON MILLS is the oldest mill in the country. It was started about the year 1855, collapsed in 1869, was resuscitated as the Calcutta Jute Mills in 1870, collapsed in 1880, and is now the Wellington Mills, and contains 260 looms. It is owned by the Champdany Company, who bought it for about Rs.500,000 in 1880.

THE BARNAGORE JUTE FACTORY COMPANY, Limited, own the second mill, and they now contain 769 looms, while 234 are in process of addition. The capital of the Barnagore Company is £400,000, and debentures for £75,000 at 4½ per cent. have just been issued. The agents are Messrs George Henderson & Co. (registered July 1872). This Company has two freehold properties, one on the riverside at Barnagore, about four miles north of Calcutta with 634 looms, and the other at Sealdah, with 135 looms. On 31st August 1895, block account, £370,000. Reserve fund, £13,000.

Profit and loss account credit balance, £10,852, which was carried forward. Dividends:—

	Per Cent.		Per Cent.
1883, ...	12	1891, ...	7½
1884, ...	Nil.	1892, ...	5
1885, ...	Nil.	1893, ...	7
1886, ...	Nil.	1894, ...	Nil.
1887, ...	5	1895, ...	10
1888, ...	10		——
1889, ...	7	Total, ...	69½
1890, ...	6		

The average for 13 years, 5¼ per cent.

GOUREPORE COMPANY, Limited, started in 1862 with only about 216 looms. It has now 415 looms, and 200 looms are in course of addition. The secretaries and agents are:—Messrs Barry & Co. (Originally registered in 1862, re-registered 12th April 1876). For working jute and other fibres into yarn, and manufacturing oil from seed. The property is chiefly freehold, and the mills contain 415 looms. On 31st December 1895, block account, Rs. 21,32,351; Reserve and other funds, Rs. 9,14,819; profit and loss account credit balance, Rs. 4317, after payment of dividend of 8 per cent. for the half-year. The Company is now being reconstructed on the basis of:—

Rs. 800,000 in Debentures.
Rs. 700,000 in 6 per cent. Preference Shares.
Rs. 12,00,000 Ordinary Shares.

This is to find the capital for the 200 hessian looms that are to be erected. The dividends have been:—

	Per Cent.		Per Cent.
1883, ...	12	1891, ...	13
1884, ...	3	1892, ...	8
1885, ...	Nil.	1893, ...	10
1886, ...	3	1894, ...	10
1887, ...	12	1895, ...	16
1888, ...	20		——
1889, ...	17		138
1890, ...	14		

Average for 13 years, 10 2-3 per cent.

SERAJGUNGE JUTE COMPANY, Limited, is situated some miles from Calcutta. It contains 307 looms, and suspended payment some time in 1894. It was reconstructed by Messrs Andrew Yule & Company in November 1894. The capital is—

7 per cent. preference shares, ...	Rs. 5,00,000
Ordinary shares, ...	5,87,250
Debenture capital, ...	5,00,000
	15,87,250

The managing agents are Andrew Yule & Co. (registered 6th November 1894). The property is situated at Serajgunge, and contains 306 looms. On 30th September 1895, block account, Rs.15,78,760-6-1; depreciation account, Rs.60,000; profit and loss account credit balance, Rs.77,392-10-8, from which a dividend of 6 per cent. on ordinary shares was paid after providing for depreciation and the balance of Rs.1337 carried forward.

THE INDIA JUTE MILLS is a Glasgow-owned concern, and was started about 1866. It now contains 300 looms, and its capital is £106,880, with a reserve of £32,500 and depreciation of £52,766. The land and buildings stand at £64,135, the machinery at £84,400. The dividend for 1893 was 6 per cent., for 1894, 5 per cent, and for 1895, 6 per cent. An addition of 46 hessian looms is being made.

BUDGE-BUDGE JUTE MILLS COMPANY, Limited, now contain 460 looms, and 300 looms are in course of addition. The capital is—

7 per cent. Preference Shares, ...	Rs. 9,00,000
Ordinary Shares, ...	18,00,000
Debenture Capital, ...	6,00,000
	Rs. 33,00,000

The agents are Messrs Andrew Yule & Co. (originally registered 1st April 1873). The property is freehold, and the Mills contain 460 looms. On 31st October 1895, block account, Rs. 31,35,660-0-0; Depreciation account, Rs. 12,10,453-11-0; profit and loss account credit balance, Rs. 1,94,352-6-10, from which a dividend of 8 per cent. on ordinary shares for the half-year was paid, and the balance, Rs. 50,352-6-10, carried forward. The dividends for the years ended 31st October have been—

	Per Cent.		Per Cent.
1883, ...	17½	1891, ...	16¼
1884, ...	2½	1892, ...	10
1885, ...	Nil.	1893, ...	38¾
1886, ...	Nil.	1894, ...	10
1887, ...	5	1895, ...	18
1888, ...	10		——
1889, ...	10		150½
1890.	12½		

Average for 13 years, over 11½ per cent.

FORT GLOSTER JUTE MANUFACTURING COMPANY, Limited, were originally 250 looms, and were enlarged to 393 looms a year ago.

7 per cent. Preference Shares, ...	Rs. 7,00,000
Ordinary Shares, ...	7,00,000
Debenture Capital, Rs. 6,00,000 ...	6,00,000
	Rs. 20,00,000

The managing agents are Messrs Kettlewell, Bullen, & Co. (originally registered 6th May 1873). This property is situated about 13 miles south of Calcutta on the bank of the river, adjoining the Bowreah Cotton Mills Company's property, and consists of about 300 biggahs of freehold land. The mills contain 393 looms. On 30th November 1895, block account, Rs. 17,37,299; profit and loss account credit balance, Rs. 1,10,468, from which 3½ per cent. was paid for the half-year on preference shares and 10 per cent. for the half-year on ordinary shares, and the balance of Rs. 5668 carried forward.

This Company was originally floated by R. Macallister & Co. In 1879 the agency was transferred to Kettlewell, Bullen, & Co. In 1891 the shares were divided into preference and ordinary.

The dividends on the ordinary shares for the years ended 30th November were—

	Per Cent.		Per Cent.
1883, ...	7½	1891, ...	13½
1884, ...	Nil.	1892, ...	5
1885, ...	Nil.	1893, ...	6
1886, ...	Nil.	1894, ...	3
1887, ...	Nil.	1895, ...	20
1888, ...	Nil.		—
1889, ...	7		71
1890, ...	9		

Average for 13 years, 5½ per cent.

CHAMPDANY JUTE COMPANY, Limited, was originally 353 looms, is now 430 looms, and 100 looms are in course of addition. The result of the working of Champdany Mills for the year ended 30th April 1890 was a profit of £29,522; for 1892, £10,441; in 1894 a loss of £32,816; in 1895 a profit of £9490. The affairs of this Company are engaging the attention of the Law Courts. These figures include the working of the Wellington Mills. The agents are Messrs Finlay, Muir, & Co.

The SEEBPORE JUTE MANUFACTURING COMPANY, Limited, registered 31st December 1873, commenced with 250 looms, and has been gradually extending to 500 looms, while further extensions of 300 looms are in progress.

8 per cent. preference shares, ...	...Rs. 5,00,000
Ordinary shares, ...	5,00,000
Debenture capital, ...	12,00,000
	Rs. 22,00,000

The agents are Messrs Apcar & Co. (re-registered 1st December 1890). The property is freehold, and situated at Seebpore, on the bank of the river opposite Calcutta. The mills contain 500 looms. On 31st December block account, Rs. 27,55,405; reserve and other funds, Rs. 10,01,060. A dividend on ordinary shares of 5 per cent. was paid. An additional 300 looms are under construction. The share capital was divided as above in 1890. The dividends on the ordinary shares have been—

	Per Cent.		Per Cent.
1883, ...	6	1891, ...	8
1884, ...	Nil.	1892, ...	8
1885, ...	Nil.	1893, ...	9
1886, ...	Nil.	1894, ...	8
1887, ...	Nil.	1895, ...	10
1888, ...	9		—
1889, ...	7		74
1890, ...	9		

or for 13 years an average of 5⅔ per cent.

THE SAMNUGGUR JUTE FACTORY COMPANY, Limited.—This is one of the concerns owned and managed in Dundee. It commenced in 1875 with 150 looms, and has been extended from time to time. At present it has 560 looms working. The paid-up capital of the Company is £200,000, and it is well understood to have paid substantial dividends to its shareholders, but its accounts have not been published.

THE UNION JUTE COMPANY, Limited, have 350 looms, and 24 looms are in course of progress. The managing agents are Messrs Bird & Co. (Registered 5th October 1880.) The property of this Company is freehold, and is situated at Sealdah, near the Eastern Bengal Railway terminus. On 31st December 1895, block account, Rs. 11,11,806; reserve and other funds, Rs. 6,25,000; while Rs. 21,254 was carried forward after payment of a dividend of 16⅔ per cent. for the half-year. This Company was originally the Oriental Mills, with a capital of Rs. 19,00,000, floated by R. Macallister & Co. The agency was transferred to H. S. Cox & Co. in 1878, and it collapsed in 1880. The dividends paid have been—

	Per Cent.		Per Cent.
1883, ...	30	1891, ...	26⅔
1884, ...	20	1892, ...	16⅔
1885, ...	Nil.	1893, ...	23⅓
1886, ...	3	1894, ...	20
1887, ...	26⅔	1895, ...	36⅔
1888, ...	70		—
1889, ...	30		329⅔
1890, ...	26⅔		

Average for 13 years, 25⅓ per cent.

THE HOWRAH MILLS, originally started with 275 looms, and have been gradually increasing until they number 600 looms, and 60 are in course of progress.

7 per cent. Preference Shares, ...	Rs. 8,75,000
Ordinary Shares, ...	17,50,000
	Rs. 26,25,000

The managing agents and secretaries are Messrs Ernsthausen, Limited. (Registered 14th July 1874.) The property is leasehold, and is situated on the bank of the river at Howrah. On 31st December, block account, Rs. 33,87,574; wear and tear account and reserve fund, Rs. 11,13,062; profit and loss account credit balance, Rs. 10,007, after payment of a dividend of 10 per cent. on ordinary shares. The capital of the Company was originally Rs. 14,00,000, but this was increased to Rs. 17,50,000. In 1890, bonus shares were issued for Rs. 875,000; equal to a dividend of 50 per cent. The dividends have been—

	Per Cent.		Per Cent.
1883, ...	15	1891, ...	12
1884, ...	Nil.	1892, ...	3
1885, ...	Nil.	1893, ...	10
1886, ...	Nil.	1894, ...	8
1887, ...	10	1895, ...	20
1888, ...	14		—
1889, ...	15		120
1890, ...	13		

Average for 13 years, 9 per cent., and bonus of 50 per cent.

THE HASTINGS MILLS COMPANY, Limited, commenced with 220 looms, and was extended some years ago to 550 looms. It is owned by Messrs Birkmyre Brothers.

The CENTRAL JUTE MILLS COMPANY, Limited, now contain 350 looms.

Capital, ...	...Rs. 7,00,000
Debenture Capital, ...	7,00,000
	Rs. 14,00,000

The managing agents are Messrs Andrew Yule & Co.. (Registered August 1890.) The property of the Company is situated at Goosery. The mills contain 350 looms. On 31st December, block account, Rs. 15,86,409; reserves, Rs. 335,000; profit and loss account credit balance, Rs. 1479, after paying a dividend of 5 per cent. The dividends paid have been—

	Per Cent.		Per Cent.
1890 (2d half),...	4	1894, ...	3
1891, ...	8	1895, ...	11
1892, ...	Nil.		—
1893, ...	5		31

Average for 5½ years, nearly 6 per cent.

This concern has been in five hands, viz.:—Rustumjee Twine and Canvas Co., Mr Moran, Goosery Jute Mills Co., Chunder Ramjee, and Central Mills.

THE CLIVE JUTE MILLS COMPANY, Limited, contains 160 looms, and an addition is in progress of 150 looms. The managing agents are Messrs Gladstone, Wyllie, & Co. (Registered 1st August 1894.) The property of this Company is situated at Garden Reach, and the mills contain 162 looms. An additional 100 to 150 looms are in course of erection. On 31st January 1896, profit and loss credit balance, Rs. 200, after paying a dividend of 2½ per cent. for the half-year; block account, Rs. 11,53,487; capital, Rs. 850,000; debentures, Rs. 250,000.

THE ASIATIC JUTE MILLS is now the property of natives, and is called the Soora Mills. It has been but a makeshift from the first, and is too small to do much good. It has 153 looms.

THE GANGES MILLS were started in 1875 by Messrs Macneil & Company, and now contain 413 looms, and 137 are in course of erection, which will bring the total to 550. The ordinary capital of the Company is £160,000, of which £140,536 is called up. The preference capital is £40,000 and the debentures £50,000. The mill block stands at £184,000, or £445 per loom, but this includes engine-power and buildings for 550 looms. The profit for the year is £18,161; dividend on ordinary shares, 2½ per cent.

THE KAMARHATTY JUTE MANUFACTURING COMPANY, Limited, contain 320 looms, and 139 are now in course of erection. Capital, Rs. 400,000. The managing agents are Messrs Jardine, Skinner, & Co. (Registered 28th September 1877.) The mills are situated about 8 miles north of Calcutta on the bank of the river Hooghly, and contain 320 looms. On 31st December, block account, Rs. 25,95,616; reserve account and depreciation fund account, Rs. 14,94,547; profit and loss account credit balance, Rs. 2,30,196 after paying a dividend of 7½ per cent. for the half-year. An extension of 142 looms is being arranged for. Debenture capital, Rs. 3,50,000 and £35,000. Dividends paid—

	Per Cent.		Per Cent.
1883, ...	35	1891, ...	37½
1884, ...	Nil.	1892, ...	17½
1885, ...	Nil.	1893, ...	30
1886, ...	Nil.	1894, ...	12½
1887, ...	10	1895, ...	22½
1888, ...	20		—
1889, ...	30		222½
1890, ...	7½		

Average for 13 years, 17 per cent.

THE HOOGHLY MILLS COMPANY, Limited, commenced with one mill of 300 looms. This has been extended to 455 looms, and another mill, called the Lower Hooghly Mill, has been built, with 360 looms. The total looms, therefore, erected by this Company is 815.

7 per cent. Preference Shares,	...Rs. 16,80,000
Ordinary Shares, ...	16,80,000
Debenture Capital, ...	12,00,000
	Rs. 45,60,000

The managing agents, are Messrs Gillanders, Arbuthnott, & Co. (Registered 1882.) The property of this Company is situated at Garden Reach, about 3½ miles from Government House, Calcutta. On 31st December 1895, block account, Rs. 46,19,396.

Dividends paid—

	Per Cent.		Per Cent.
1883, ...	Not working.	1891, ...	10
1884, ...	Nil.	1892, ...	10
1885, ...	Nil.	1893, ...	5
1886, ...	Nil.	1894, ...	5
1887, ...	Nil.	1895, ...	5½
1888, ...	10		—
1889, ...	10		65½
1890, ...	10		

Average for 12 years, 5½ per cent.

The report for the second half of 1895 showed a profit of Rs. 119,414, which just covered a deficiency in the stock of jute, and the agents paid a dividend of 3 per cent. out of their commission.

THE KANKNARRAH COMPANY, Limited, started with 320 looms, but has extended to 420.

Capital, ...	... Rs. 9,10,000
Debenture Capital, ...	8,00,000
	17,10,000

The managing agents are Messrs Jardine, Skinner, & Co. (Registered 30th December 1882.) The property of this Company is held on perpetual leasehold, and is situated on the bank of the river Hooghly near Kanknarrah Station on the

Eastern Bengal State Railway. The mills contain 420 looms. On 31st December 1895, block account, Rs. 22,18,474. Reserve funds, Rs. 7,24,402. Profit and loss account credit balance, Rs. 1,80,475, after paying a dividend of Rs. 5 per share. Dividends paid—

	Per Share.		Per Share.
1885 (2d half),	Nil.	1892, ...	3
1886, ...	Nil.	1893, ...	4
1887, ...	Nil.	1894, ...	4
1888, ...	5	1895, ...	10
1889, ...	6		—
1890, ...	3		42
1891, ...	7		

Average per share for 10½ years, 4 per share of Rs. 65.

VICTORIA JUTE MILLS, a Dundee Company, registered in 1883 with a paid-up capital of £150,000. It has at present 374 looms working.

ALLIANCE JUTE MILLS COMPANY, Limited.—

6 per cent. Preference Shares, ...	Rs. 5,00,000
Ordinary Shares, ...	6,00,000
Debenture Capital, ...	8,00,000
	Rs. 19,00,000

The managing agents are Messrs Begg, Dunlop, & Co. (Registered September 1895.) The property of the Company is situated on the River Hooghly between Samnuggur and Kanknarrah, and the mill is under construction. It is proposed to have 140 sacking and 160 hessian looms.

KHARDAH JUTE MILLS.

Ordinary Capital, ...	Rs. 6,00,000
6 % preference Shares, ...	6,00,000
	Rs. 12,00,000

Debentures will be issued.

The mill is situated at Khardah, some 10 miles above Calcutta. The land cost Rs. 6500, held on perpetual lease. It is to contain 300 looms. The agents are Messrs Anderson, Wright, & Co. The mill is in course of construction. Capital called up to 31st December, Rs. 240,000; expended, about Rs. 61,500.

STANDARD JUTE COMPANY, LIMITED.

Six per cent. Preference Shares, ...	Rs. 5,00,000
Ordinary Shares, ...	5,00,000
Debenture Capital (not issued), ...	6,00,000
	Rs. 16,00,000

The managing agents are Messrs Bird & Co. (Registered August 1895.) The property of the Company is situated at Titaghur, and the mills are now under construction. It is proposed to have 140 sacking and 100 hessian looms, which can be increased later on, if necessary.

NATIONAL JUTE MILLS COMPANY, Limited—

7 % Preference Shares, ...	Rs. 5,00,000
Ordinary Shares, ...	5,00,000
	10,00,000

The managing agents are Messrs Andrew, Yule, & Co. (Registered 11th September 1895.) The property of the mill is situated at Calcutta, and the mills are now under construction. It is proposed to have 200 sacking and 100 hessian looms. The mills will be at Rajpore, about 8 miles below Calcutta, on the other side of the river.

THE ANGLO INDIAN MILLS—

Preference, 6 per cent. ...	£30,000
Ordinary, ...	£90,000
	£120,000

Mill to contain 180 Hessian.
180 Sacking.
360 Looms.

The agents are Messrs Walter Duncan & Co., Glasgow, and Duncan Brothers, Calcutta. The mill will be close to the Alliance Mill, about 20 miles above Calcutta, on the same side of the river.

THE GONDOLPARA JUTE MILL is the one erected in the French settlement of Chandernagor by the Societé Anonyme de Chandernagor. It is a French Company, though the shareholders are understood to be English, and is supposed to have been erected on French ground so that its manufactures may enter France free. It contains 140 sacking and 100 hessian looms. The agents are Gillanders, Arbuthnot & Co., in which firm Mr Gladstone's son is a partner.

TITAGHUR MILLS are an offshoot of the Samnuggur Company, Dundee, and under the same management. The Company was registered in August 1883, and started operations in 1884 with 250 looms. At present it has 435 looms running, and has in process an extension of 208 looms, with provision for a further 100 looms. Its paid-up capital is £200,000.

At the moment some 3300 looms are in course of erection, and of this about 2500 are for hessians. According to Messrs Poppe, Delius, & Company's list in January 1896 there were the following looms at work:—42 inches or under, 6877 looms; over 42 inches, 3129 looms (hessians). The contemplated additions were 894 looms of 42 inches or under, and 2389 of over 42 inches (hessians).

APPENDIX.

A NEW INDUSTRY FOR DUNDEE.

During my visit to India I kept steadily in view the expediency of adding to the Industries of Dundee, the manipulation of other fibres and materials in addition to Jute. The great recommendation of that article is its cheapness; the ease with which it can be manufactured; and the large outturn. But the cheapness and bulkiness of this Indian product favour its being manufactured in India. The cost of transportation, 7000 miles, although it has been reduced to the marvellously low rate of from 20s to 30s per ton, tells heavily on a material selling at £11 to £12, which would be inconsiderable on a material of four or five times the value. Then, while it would be unwise to limit the possibilities of Indian labour, it may be accepted that so long as Indian Mills can be worked profitably on gunnies, burlaps, and hessians the proprietors will be content to leave finer classes of goods, not only of Jute, but of other materials, to be worked in Scotland or England. The future of the Dundee Jute manufacture need not be regarded pessimistically. Apparently the local manufacturers themselves do not despair of it, seeing that they have this season imported more of the raw material than ever they did before. But they will have to work more and more on the finer qualities of goods, and be on the constant outlook for specialties suited to the tastes and requirements of our British colonies and dependencies. Travelling in the East, may be seen numerous articles of domestic utility and ornament in which jute, mixed with other materials, either is or might be used. It would repay our manufacturers to travel more, or, if they cannot do so themselves, to send out their sons or their nephews—if they have eyes in their heads—to see what is going on in the world. They must look abroad, and not be content to wait for orders coming to them for precisely the same kinds of goods they have been making all their lives. Whoever travels far afield now will be surprised to find that the ubiquitous German or the alert Japanese has been there before him. The English commercial traveller lags behind in the race. In many shops in India most of the articles sold bear the inscription "Made in Germany." Further East, Japan is outstripping even Germany.

One illustration of German enterprise may suffice to show how necessary it is for British manufacturers and merchants to waken up. Not very long ago the natives of Calcutta almost all used Manchester cotton goods for their outer garments. The long piece of cotton which, neatly folded and gracefully worn, is the chief adornment, admits of great variety of colour and design, and the native likes variety. Manchester had long made a few well-known kinds. German travellers visited India, carefully studied the native habits and tastes, sent to Germany specimens of native goods, and suggested new combinations, both of design and colour, along with a cheaper make. The German agents and shopkeepers were arranged with to sell the German-made articles, and the result has been that they have taken the market almost entirely from Manchester. The Bengalee is now radiant in various hues of aniline-dyed German cloths. Manchester complains of Indian competition when it is really Germany that it is suffering from—or rather from its own slowness in checkmating German enterprise. It is the same with other articles. I heard over and over again that merchants had sent home to manufacturers in England specimens

of native articles requesting that they should be duplicated by English manufacturers. The answer almost invariably was that they did not make that particular kind of article, but that they could supply another and better. The result was that they did not get the order. A similar application was sent to Belgium or German manufacturers, who at once accepted the order, and supplied the goods. It is thus our trade suffers. British manufacturers will have to get out of the rut into which they have fallen, and to become less rigid in making only what they have always made, or their fathers made before them. They will have to keep their eyes wide open at home, and employ representatives abroad who can see and understand what the people in distant countries need. With the keen competition that now everywhere exists it will be more necessary for business men to extend their outlook, exercise their intelligence, and promptly seize on opportunities which once lost may never be repaired.

In this connection I would recommend every visitor of India who has an eye to business to devote some time to studying the products of the country, and seeing the specimens of native industry in the Economical Museum at Calcutta, which is at present under the highly capable superintendence of Dr George Watt, C.I.E., Reporter for many years on Economic Products to the Government. He has travelled extensively over India, and is probably more familiar with its products than any other person in the country. He is now engaged, and in a few months will have completed, the rearrangement of the museum on a scientific method. Formerly the plan of the Exhibition of Products was geographical, and you had to go through the whole Museum to trace any particular product. Now the product itself, in all stages of development and use up to the last point of manufacture, may be seen in one department, under a well considered and carefully classified system. Taking jute, for instance, there may be seen the various kinds of seeds, stems, leaves, and stages of growth. Then there are specimens of every kind of fibre, with the name of the locality from which it comes, and specimens of every kind of yarn, twist, and cloth into which it is spun and woven, dyed or manipulated. However much a man thinks he knows about jute and jute goods, a visit to this collection would probably add very considerably to his information. It is the same with every other Indian product. Each department will be a physical Cyclopædia, illustrating the valuable Dictionary of the Products of India, to which Dr Watt has been a large contributor.

I have already alluded to the eminent experience and qualifications of Dr George Watt, the Reporter to the Government of India on Economic Products. It is interesting, therefore, to know that, in his opinion, Rhea is a fibre that has a great future, and will take a high position in commerce and manufactures. He considers it eminently attractive to the enterprising intelligence of Dundee, which, by its adoption of jute, has shown it has the skill and energy to turn a workable fibre to good account. A similar application of intelligence and skill would, he believes, demonstrate the immense capabilities of Rhea for manufacturing purposes. At Lyons there are already two or three Mills working on Rhea grown in Algeria, showing that they have overcome the difficulties in extracting the fibre. Many minds are being applied to the best means of extraction, and there is every probability that it will become a manufacturing success. It was stated that in Bombay a Mill was about to be started for working Rhea. There is a Rhea Fibre Cleaning Company and a Ramie Company in that city. Dr Watt had received a circular respecting the Allison Fibre Machine Company addressed from 1625 St Andrew Street, New Orleans, U.S.—a Company formed with a capital of 1,000,000 dollars to work the fibre, which reckoned its value at from 2s 6d to 3s per lb. Mr Walter J. Hollier claims to have invented a machine for extracting the fibre, which costs only £100. On few subjects has Dr Watt so much correspondence as on Rhea, showing the interest now being taken in it, and he is satisfied that its successful introduction as a workable fibre is bound to come. Dundee will therefore be wise to look thoroughly into it and take the lead in turning it to account. If a real earnest effort is

made, whatever difficulty there is will be overcome. It is a fibre the manufacture of which is suited to European intelligence; it is of such value that it will easily bear the cost of freight and home charges; and Dundee in dealing with it would not be troubled with the competition of India.

Dr Watt kindly gave me a copy of a letter he had written to a Glasgow gentleman with reference to some recent correspondence in the *Economist*, in which he says:—

I hold the very strongest opinions as to the desirability of Rhea fibre being allowed to take its proper place in the textile world. What has retarded it far more than anything else has been the success of other textile industries and the corresponding dilettante spirit with which the solution of the difficulties of Rhea has been approached. An army of persons, who each claim to have made marvellous discoveries which they are prepared to sell at a consideration, might fairly well be described as those alone who have tried to overcome the difficulties of the utilisation of this fibre. The French have already organised a fairly large trade in the fibre, so that we may safely assume they have conquered the chief mechanical difficulties. But if this even be an assumption, I am satisfied that Rhea presents no difficulties that enlightened investigators, who take a direct personal interest in attaining their purpose, could not rapidly solve.

As to the Indian area of production and the prospect of an extended cultivation, I may say that my views have slightly changed within the past few months. Rhea can be grown very nearly everywhere in India if treated as a garden exotic. That is, however, a very different condition from its being grown as a field crop and in commercial quantities. There are but two or three localities, so far as I am aware, where the latter condition prevails. Recently, however, I made a tour through Eastern Bengal and Assam with the object of ascertaining if any prospects might be held out of an extended cultivation in these regions. I found it being grown around every village. The cultivators of it belong to the fishermen class, and no prospects of good returns will induce them to extend its cultivation. They raise enough to make their fishing lines, and have no desire to do an hour's more work than will suffice for their daily supply of food. I arrived at the conclusion, therefore, that it was hopeless to look for an extension of production in Ringpore and Dinajpur, though these and the neighbouring districts are highly suitable. I doubt the advisability of any European effort to grow the plant, since, to make the fibre a success, a reduction rather than an increase on the charges of production will have to be made. On entering Assam I found the plant still being produced around the homesteads of the fishing classes. It is well known that no temptation of wages will induce the Assam people to work more than they please. It is on this account that the tea planters have to import foreign labourers. The same spirit prevails throughout all the inhabitants of the region I have named. They will at most only follow, not pioneer in new departures. But I found not a few tea gardens with a few acres of Rhea. I made careful inquiries. I found the fibre could be raised on land not used by the planters; that the labour of cultivation might be obtained from the ordinary staff of the garden; that many planters would be only too glad to try Rhea as a catch crop. I am therefore sanguine that if a real demand for the fibre were to arise, the Assam planters could and would meet it; and I should anticipate that, once the new industry had been proved a success, the natives (especially the time-expired coolies in the neighbourhood of the gardens) may be induced to engage in it. I am therefore sanguine that in Eastern Bengal and Assam there could be organised a large and remunerative trade in Rhea cultivation.—I am, yours faithfully,

GEORGE WATT.

It is important to note that some prejudice has been caused by a confusion with regard to two species of the plant essentially differing in their qualities. The two forms are widely distinct from each other by features of the greatest commercial importance. Rhea proper is a tropical plant, and yields a considerably inferior fibre to China grass, which thrives best in temperate regions. "The temperate plant of China was cultivated in tropical tracts of India, and found to yield little or no separable fibre owing to its growth being arrested with the return of the hot, dry season. That success may be possible with the China plant in the temperate tracts of India, and with the Indian in the moister tropical region would appear highly probable." I may mention that the distinctive features of Rhea and China grass are very fully reported upon in Dr Watt's painstaking and elaborate article in the Dictionary of the Economic Products of India, which deals with the regions of cultivation, the commonest forms of Rhea, the different systems of cultivation, the different conditions of climate and soil necessary for them, the chemistry of this plant, and the yield per acre. Several papers are devoted to a history and description of the Patents taken out for working Rhea. The European uses and recognised properties of the fibre are fully stated. Accounts are given of its

cultivation in Assam, Bengal, Burma, Madras, the Punjab, the North-West Provinces, and Oude. There is also a valuable note on Rhea fibre in No. 6 of the Agricultural Ledger 1894. I shall be glad to place both these papers in the hands of those interested. As the public generally know little of the plant, I may in conclusion quote the following sentences :—"The plant is a perennial, and is not therefore, like jute or sunn-hemp, capable of being restricted in its cultivation to the months of the year suitable to it. During the hot season the plant practically ceases to grow, but with the rains it springs into long succulent stems." Dr Watt is of opinion that, while the natives would grow and attend to the plant, they would not incur any expense in the way of machinery, which would have to be provided for them. The natives "have not even at the present day discovered the economy of time, and hence money value of the commoner appliances of European agriculture. They continue, as their fathers did, to reap their crops with a small pruning hook, to tread out the corn by the feet of the patient bullock, and to look to the breezes that blow to winnow in handfuls their grain."

During my absence in India I saw that the manipulation of Rhea or Ramie was engaging attention in Dundee. I was not able to follow closely all that was said and done with regard to it, but at my request a gentleman who has taken an active interest in the subject, and whose qualifications to deal with it are those of an expert, has favoured me with the following interesting communication :—

Those who speak about Ramie often boast of it superseding flax. Ramie will not do that. No table linen, napkin, or sheet will ever be made of Ramie, so cool, clean, and beautiful as if of flax. Flax will probably hold its own in the future, as it has done for thousands of years. But as cotton has taken so great a place in the textile industries of the world, there is no reason why Ramie should not also become, and become rapidly, a leading staple. In a thousand ways Ramie can be used. Ramie is specially suitable for clothing both for men and women. It is easily spun. It is ductile, and will go into sizes comparable with the finest silk. It is the most easily bleached and dyed of all vegetable fibres yet known. It is a beautiful manufacture, free from dust, and girls might spin and weave it in rooms healthy, lofty, and clean. It is a womanly and pleasant industry. Some months ago Dundee was delighted with the near prospect of something practical being done to introduce the trade. Hitherto the whole, sole, and only difficulty in the way of a rapid extension of the trade has been to get the fibre in quantity at a reasonable price. When the gentlemen who were called together found that the undertaking in which they were asked to embark was a syndicate for growing and preparing the fibre they shrank from it. The public imagined that what was proposed was a Company to spin the fibre. This is still some way off. The trade is growing even with all the disadvantages, but there is no adequate supply of fibre even such as it is. In France, in Belgium, and in England there are Ramie spinning mills, but they work under great difficulties. The treatment of the fibre still leaves much to be desired. The manufacture of Ramie is now in the state in which cotton manufacture was before the invention of the cotton gin. Cotton grows upon a bean. To remove the floss from the seed bean was the difficulty. A multitude of little fingers plucked off what supplied the hand spinners. The inventions of Hargreaves and of Arkwright, however, with the mule and the throstle revolutionised the industry. By a process of curious simplicity the cotton gin solved the difficulty. The pood was separated from the fibre without cost on manual labour, and from this simple invention arose the cotton industry of the world.

The difficulty about Ramie has hitherto been of precisely the same kind. Ramie is a tropical nettle. It grows rapidly, and is most prolific. The stems are cut twice or three times in a year, and are from four to five feet long. They resemble a bundle of umbrella sticks, hard, brown, and glossy. When cut across with a knife the stem is seen to be a tube. This tube is of hard brittle wood. Glued on to it is a skin or glove of glossy brown. This skin is the fibre. At this moment the fibre mostly in use has been peeled off in stripes

by hand, when the stems are newly cut. These long peelings are the Ramie ribbons of commerce, and are sent home to this country. They resemble copper-wire if it were flat. They are hard as copper. The fibres are all glued together as if by a strong gum. Worse still, there is the brown, glossy outside skin, or varnish, which adheres to the fibre. In this state the spinners now deal with it. By this process over 60 per cent., or a good deal more than the half, of these ribbons goes to waste in the process of degumming. This, of course, greatly adds to the cost. The freight must be paid on all this 60 per cent. Worse still; it is obvious that it requires a far more costly process of degumming to treat the Ramie ribbons dry and hard than to treat them on the day they were cut. Then they are soft and pliable, and the gum has not had time to harden. But there is a still greater disadvantage. The fibre, as a matter of course, is more or less injured. The degumming of hard fibre like copper-wire is a much more severe ordeal for it than its treatment when still soft and pliable.

There is still another consideration. The stems now peeled are often imperfectly grown. Fancy making the finest navy canvas from an unassorted mass of flax. Six head and Zabrack mixed with Pernau R and first crown Archangel would make curious line. This is really what Ramie is as yet. When Ramie is quoted—as in a few years it will be—as cotton or flax is quoted the various selected qualities will be named and bracked, and then, not till then, will Ramie have fair play. Even as it is, the yarns and cloth and the fine lace now made from such Ramie as we have all create astonishment.

The difficulty hitherto has been the removal of the fibre from the stem. The Indian Government offered £5000 for a machine. None exhibited were deemed adequate. The offer fell into abeyance. Many inventors were baffled. But one of them (Mr M'Donald), after spending over £10,000 of his own money on costly experimental machines, has hit on a decorticator which does not cost as many pence. It is absurdly simple. It does not clag. It decorticates the stems as fast as one can feed them in. Better still, it largely gets rid by the same operation of the outside skin or varnish. It cannot get out of order. The most ignorant man can work it. One after another can be keyed on a horizontal shaft. There is nothing to hinder a score of men, all standing each on a bench, feeding stems into these machines. In an instant a bundle of dry hard stems, like small walking-sticks, were at the Technical Institute at Dundee decored, and the practical men who witnessed the process were all of them satisfied that the problem of decorticating Ramie is solved. The Boyle patents at present, even with the dry stems, make beautiful fillasse—*i.e.*, white glossy fibre ready for the spinning mill.

Mr M'Donald's proposal was to start a Company to grow Ramie stems in the Straits Settlements and decore them and degum them where they were grown. Dundee did not respond to his idea. Mr M'Grady, with practical good sense, suggested a provisional experiment. In the meantime Mr M'Donald has found more disposition to enter on his scheme in Lancashire and Yorkshire. This is the position of the matter so far as Dundee is concerned. In the meantime tea planters in India, sugar growers in the West Indies, and others who have properties and interests in the Tropics are applying for the use of the decorticator. The patentees state that experiments on a large scale in Algiers show that 100 tons of stems give a little over three tons of pure white fillasse. They say that three crops a year can be cut. Small, light tramways can easily bring the stems to the decorticators. The Ramie ribbons can then at once and easily be degummed by a process not unlike bleaching. The samples of fibre so produced excite universal admiration. And no wonder! They will be spun without any waste, and woven into cloth white as snow. This saves, even on heckled flax line, a waste in spinning of at least 12 per cent., and in bleaching of even more. So that at the price of flax heckled line Ramie would be 20 per cent. cheaper than flax line. Lay down at Dundee a thousand tons of Ramie fillasse, and beyond all question it will sell. Assure spinners that they can rely on steady supplies, and

machiney will at once be found to work it. In Ireland it has been spun, and Dunfermline has woven it into table linen. This has been a natural mistake. Silk machines, not flax machines, are best adapted for Ramie. Besides, just as jute was spun on tow machinery, but slowly found one inventor after another perfecting special machines for jute manufacture, so, no doubt, will be the future of Ramie. The supply of fibre will be unlimited. Every tropical country can produce it. The cost is chiefly the cutting of the stems. Other decorticators may succeed; but for simplicity, cheapness, ease of working with unskilled labour, and complete perfection of work, Mr M'Donald's invention will be hard to beat. What Dundee needs to win the trade is one or two brave men. The industry should have spinning, weaving, dyeing, and even tailoring combined. Ladies' dresses especially, in every texture, mixed with wool and silk, can be produced from Ramie. Twines, cords, ropes, sails, and all kinds of navy stores made from hemp can be made from Ramie. Underclothing, beautiful and soft as silk, as well as the finest lace, are even now made from the imperfect Ramie we have. The industry would at once command the very choicest labour. The works would be clean as is the finest flax-weaving shed. Is it possible that even this trade, neglected by Dundee, may be taken up in Japan or in Bombay, and that we may awaken some morning and find that the industry is prospering, and bringing wages to labour and good dividends to capital, among people more enterprising and adaptable than ourselves?

THE "HOLY MAN" AT BENARES.

A native gentleman at Allahabad writes with reference to the "Holy Man" at Benares, mentioned on page 37:—

"Permit me to say that the Swamijee, so far from being dependent on charity, was himself a man in good circumstances, and of his own free will, and with a view to his moral and spiritual elevation, renounced all his possessions, and chooses, in freedom from all temporal care and anxiety, to live in worldly poverty, but in spiritu wealth. The Holy Man does not accept any *allowance*, for he cares for none. Whether you keep a shell or sovereign as present before him he will never touch it, for it is trash to him. The garden belongs to the Rajah of Amethi, and the attendants are his servants. The Rajah considers himself honoured by seeing the Holy Man remaining there in a hermitage. He has never to care for his food, for thousands of his admirers go and offer it daily, and one whose dish is accepted by the Holy Man thinks himself most fortunate."

EXTENSIONS OF JUTE MILLS IN INDIA.

MILLS.		LOOMS.							SPINDLES.				
		Working.		Contempl't'd Ad'ns						Contemplated Additions.		By March 1897	
				By next Jute Se'sn		By Mar. 1897.							
Name.	Agents or Owners.	Under 42 In.	Over 42 In.	Under 42 In.	Over 42 In.	Under 42 In.	Over 42 In.	Total by March 1897.	Working.	By next Jute Season.	By March 1897.	Total.	Per Loom.
Alipore Jail Mill,	Government,	130	..	..	..	..	..	130	2,340	..	..	2,340	18·
Alliance Jute Mill Co., Ld.,	Messrs Begg, Dunlop, & Co.,	..	..	..	..	140	160	300	..	..	6,080	6,080	20·26
Anglo-India Jute Factory Co., Ld.,	,, Duncan Brothers,	..	..	..	..	180	180	360	..	..	7,200	7,200	20·
Barnagore Jute Mills Co., Ld., and Branch,	,, Geo. Henderson & Co.,	538	261	..	..	..	234	1033	18,406	..	4,680	23,086	22·35
Budge Budge Mills Co., Ld.,	,, Andrew Yule & Co.,	365	95	47	253	..	..	760	9,808	6,000	..	15,808	20·8
Champdany Jute Co., Ld.,	Ditto,	300	65	..	..	..	..	365	7,200	..	..	7,200	19·73
Do. (Wellington Branch),	,, Finlay, Muir, & Co.,	158	272	..	..	..	..	430	8,764	..	..	8,764	20·38
Clive Jute Mills, Ld.,	Ditto,	176	101	..	..	..	..	277	5,544	..	..	5,544	20·09
Fort Gloster Jute Manufacturing Co., Ld.,	,, Gladstone, Wyllie, & Co.,	106	57	..	75	40	35	313	4,600	1,000	1,000	6,600	21·08
Ganges Jute Manufacturing Co., Ld.,	,, Kettlewell, Bullen, & Co.,	330	140	..	..	..	..	470	9,500	..	..	9,500	20·21
Gondolpara Mills,	,, Macneill & Co.,	280	133	..	137	..	..	550	8,564	2,736	..	11,300	20·54
Gourepore Co., Ld.,	,, Gillanders, Arbuthnot, & Co.,	140	100	..	..	..	..	240	4,800	..	..	4,800	20·
Hastings Mills,	,, Barry & Co.,	316	99	..	200	..	..	615	8,200	4,200	..	12,400	20·16
Hooghly Upper Mills Co., Ld. (Upper),	,, Birkmyre Brothers,	305	215	..	..	..	..	520	11,192	..	..	11,192	21·52
Do. Do. (Lower),	,, Gillanders, Arbuthnot, & Co.,	325	130	..	..	..	..	455	9,196	..	..	9,196	20·21
Howrah Mills Co., Ld.,	Ditto,	180	180	..	..	..	..	360	6,824	..	..	6,824	18·95
India Jute Co., Ld.,	,, Ernsthausen, Ld.,	366	234	..	49	..	..	649	12,600	..	..	12,600	19·41
Kamarhatty Co., Ld.,	,, Mackinnon, Mackenzie, & Co.,	260	40	..	54	..	..	354	6,000	1,620	..	7,630	20·
Kanknarrah Co., Ld.,	,, Jardine, Skinner, & Co.,	218	102	37	102	..	..	459	6,452	2,976	..	9,428	20·54
Khardah Co., Ld.,	Ditto,	310	110	..	..	..	..	420	8,448	..	..	8,448	20·11
National Jute Mills Co., Ld.,	,, Anderson, Wright, & Co.,	..	..	..	..	100	200	300	..	..	6,000	6,000	20·
Seebpore Jute Manufacturing Co., Ld.,	,, Andrew Yule & Co.,	..	..	..	..	250	50	300	..	..	6,000	6,000	20·
Samnuggar Jute Factory Co., Ld.,	,, Apcar & Co.,	360	140	..	300	..	..	800	9,400	5,800	..	15,200	19·
Soorah Mills,	,, Thomas Duff & Co., Ld.,	340	220	..	..	..	..	560	11,200	..	..	11,200	20·
Standard Jute Co., Ld.,	,, Budridoss Rampersaud,	134	9	..	20	..	..	163	2,800	400	..	3,200	19·63
Serajgunge Co., Ld.,	,, Bird & Co.,	..	..	..	..	100	140	240	..	..	..	5,600	23·32
Titaghur Jute Factory Co., Ld.,	,, Andrew Yule & Co.,	306	..	..	..	..	..	306	6,098	..	..	6,098	19·92
Union Jute Co., Ld.,	,, Thomas Duff & Co., Ld.,	267	168	..	200	..	..	635	9,135	3,965	..	13,100	20·63
Victoria Jute Mills Co., Ld.,	,, Bird & Co.,	254	122	..	..	..	..	376	7,344	..	..	7,344	19·53
Cawnpore Mills,	,, Thomas Duff & Co., Ld.,	250	124	..	..	..	..	374	7,100	400	..	7,500	20·72
Chittivalsah,	Native Account,	63	12	..	..	..	..	75	1,474	..	..	1,474	19·65
Calcutta Twist Mill,	Messrs Arbuthnot & Co.,	100	..	..	..	..	..	100	1,800	..	..	1,800	18·
Gordon Twist Mill, Ld.,	,, Finlay, Muir, & Co.,	..	..	..	..	..	..	..	2,460	..	..	2,460	..
	,, Gordon, Stewart, & Co.,	..	..	..	..	..	..	..	..	..	1,800	1,800	..
		6,877	3129	84	1390	810	999	13,289	206,549	27,097	36,560	270,260	20·34

	Looms.	Spindles.	Estimated Consumption of Jute per Annum in Bales of 400 lbs. each. 300 working days of 13 hours each.
Total working.	10,006	206,549	18,88,818
,, by next Jute season,	11,480	233,646	20,63,270
,, by March 1897,	13,289	270,206	23,60,712

Abstract of Statements Issued up to Date.

April	1877,	..	4,153 Looms.
August	1878,	..	4,877 ,,
November	1883,	..	5,681 ,,
May	1884,	..	5,996 ,,
January	1887,	..	7,565 ,,
January	1890,	..	7,964 ,,
June	1892,	..	8,500 ,,
March	1895,	..	9,841 ,,
January	1896,	..	10,006 ,,

EXPORTS OF CALCUTTA JUTE MANUFACTURES.

EXPORT OF GUNNY BAGS AND HESSIAN CLOTH FROM CALCUTTA, 1ST JANUARY TO 31ST DECEMBER 1895, 1894, AND 1893.

TWELVE MONTHS.

Destination.	1895. Bags.	1894. Bags.	1893. Bags.
BURMAH PORTS—			
Rangoon,	13,331,864	12,393,141	13,659,670
Akyab,	1,632,475	1,648,670	1,552,754
Moulmein,	1,332,400	80,150	860,640
Bassein,	1,118,400	828,000	1,253,550
Chittagong,	515,286	205,880	137,142
Total,	17,930,425	15,884,841	17,463,756
INDIAN PORTS—			
Bombay,	23,700,749	19,274,048	23,165,046
Kurrachee,	1,005,950	828,000	2,397,150
Madras,	2,115,994	2,200,900	2,504,359
Pondicherry,	212,410	702,850	878,450
Coast Ports,	3,039,481	1,961,287	2,914,106
Total,	30,074,484	24,967,085	31,859,110
THE STRAITS AND CHINA—			
Penang,	583,850	644,150	706,700
Singapore,	20,870,747	14,769,620	19,540,390
Hong Kong,	1,940,400	1,016,060	2,041,170
Shanghai,	717,150	—	—
Hiogo,	1,183,200	977,950	570,950
Kobe,	565,400	486,400	390,600
Bankok,	481,500	380,200	1,535,800
Saigon,	142,500	60,300	504,600
Sourabaya,	223,000	137,450	207,250
Samarang,	—	13,700	10,000
Nagasaki,	43,900	91,200	64,100
Yokohama,	8,000	6,290	—
Sarawak,	—	—	5,000
Batavia,	122,500	168,700	65,950
Probolinga,	—	20,000	—
Maccaser,	8,000	—	—
Punakoran,	54,000	—	—
Padang,	10,000	—	—
Foochow,	2,400	—	—
Total,	26,957,047	18,772,020	26,643,010
The United Kingdom—			
Liverpool,	15,314,720	18,957,854	12,774,386
London,	7,108,554	8,001,200	6,393,452
Dundee,	174,100	121,300	115,800
The Clyde,	217,800	260,800	70,000
Hull,	20,000	—	—
Total,	22,835,174	27,341,154	19,353,638
THE CONTINENT—			
Havre,	20,000	—	—
Antwerp,	1,186,650	707,852	807,100
Hamburg,	4,588,150	1,730,600	1,451,500
Bordeaux,	91,400	64,200	207,000
Marseilles,	261,300	161,100	20,300
Trieste,	739,600	777,300	307,400
Salonica,	265,900	—	—
Naples and Leghorn,	—	5,200	2,000
Rotterdam,	74,900	50,000	—
Amsterdam,	50,000	50,000	—
Total,	7,278,100	3,446,252	2,795,300

Destination.	1895. Bags.	1894. Bags.	1893. Bags.
Forward,	7,278,100	3,446,252	2,795,300
Californian Ports,	47,291,675	25,585,930	25,173,650
North American ,,	2,836,860	1,115,000	430,000
South American ,,	15,144,310	8,857,650	11,250,525
Australian ,,	22,099,680	29,208,650	16,778,062
The Cape ,,	8,743,023	4,864,550	7,648,340
Egyptian ,,	5,307,000	3,794,100	5,354,050
Levant ,,	5,043,107	4,447,180	6,192,675
Mauritian ,,	1,395,950	1,908,960	630,300
West Indian ,,	732,850	725,400	727,200
Persian Gulf ,,	665,460	333,460	471,150
Ceylon ,,	114,450	76,100	160,843
Grand total,	213,762,740	171,310,552	171,821,249

SUMMARY.

	1895. Bags.	1894. Bags.	1893. Bags.
January,	27,699,890	14,306,000	15,774,780
February,	16,780,500	18,650,930	16,035,198
March,	15,319,001	13,553,210	16,191,659
April,	18,148,444	14,227,432	11,975,562
May,	17,395,867	12,160,810	13,730,590
June,	14,371,373	10,102,551	14,244,559
July,	15,080,672	12,564,490	15,498,876
August,	16,378,797	16,709,144	12,121,120
September,	10,715,850	13,515,010	18,177,825
October,	15,839,411	14,478,390	6,381,100
November,	14,187,429	14,762,637	13,270,280
December,	31,836,861	16,980,948	18,376,700
Total,	213,762,740	171,310,552	171,821,249
Monthly average,	17,813,561	14,276,880	14,318,437

HESSIAN CLOTH. Pieces each 100 Yards.

Destination.	1895. Pieces.	1894. Pieces.	1893. Pieces.
New York,	441,236	370,469	330,586
New Orleans,	216,354	146,958	91,969
Philadelphia,	74,621	81,985	74,740
Cleveland,	1,920	—	—
Boston,	4,810	—	—
Baltimore,	21,910	8,000	—
California,	93,015	33,562	47,223
South America,	15,775	3,564	2,470
United Kingdom,	869,641	645,538	547,188
The Continent,	158,170	158,573	64,648
Levant ports	56,197	8,245	1,110
Australian ,,	632	1,349	1,970
The Cape ,,	2,589	7,805	1,480
Mauritian ,,	300	180	272
Indian ,,	400	—	100
China ,,	113,344	82,852	103,137
Ceylon ,,	26,988	7,978	18,367
Persian Gulf ,,	9,473	9,471	9,351
Burmah ,,	2,248	70	150
	474	310	363
Total,	1,240,456	922,371	784,236

STATISTICS OF THE INDIAN JUTE INDUSTRY.

In order to make the information respecting the Indian Jute Industry as complete as possible, I quote the following article from the *Dundee Advertiser* of 10th April 1896 :—

A Blue Book was issued yesterday, giving a statement of the Trade of British India for 1894-95. The Blue Book deals very fully with the trade of the country, and shows that the total imports were valued at Rx.79,726,445, compared with Rx.92,382,213 for 1893-94. The total exports during 1894-5 were of the value of Rx.116,973,016, as compared with Rx.110,472,327 for 1893-4. (The values are all given as "Tens of Rupees.") The features of the import trade are a decline (of about 5 per cent.) in merchandise and a very much greater decline in gold and silver. The export trade generally was increased by Rx.6,500,689, or about 5·6 per cent., the increase being largest in gold, which left India in quite abnormal quantities. The references to the trade in jute will be found interesting. The value of the export of raw jute in 1894-5 was Rx.10,575,977, compared with Rx.8,524,130 in 1893-4; and the value of the jute manufactures, Rx.4,210,834, against Rx.3,441,787 in 1893-94. Dealing with the jute trade, the following statement is given. The reports in the last 13 years were as follows (cwt. 000's omitted) :—

	Cwt.	Rx.
1882-83, ...	10,349	5,846,926
1883-84, ...	7,018	4,592,635
1884-85, ...	8,369	4,661,368
1885-86, ...	7,782	4,355,362
1886-87, ...	8,307	4,869,816
1887-88, ...	9,643	6,040,379
1888-89, ...	10,553	7,897,154
1889-90, ...	10,256	8,639,861
1890-91, ...	11,986	7,602,010
1891-92, ...	8,532	6,848,493
1892-93, ...	10,537	7,944,223
1893-94, ...	8,690	8,524,130
1894-95, ...	12,977	10,575,977

A SPECULATIVE CROP.

What was said of this trade in the review of the trade of 1893-94 will bear repetition. It was said that the trade in raw jute "is more speculative and uncertain than any other trade in the country. The crop is grown almost exclusively in a certain limited section of Bengal, and a good season or bad season therefore is the most material factor in the trade. With other crops, such as rice, wheat, and oilseeds, the area over which they are cultivated is so extensive that the effects of a deficient crop in one place are to a material extent not apparent in the general trade, if there has been a fairly good season in other places where the product is cultivated. With jute the case is different, for a bad season or a good season means a good, bad, or indifferent supply, the whole crop being equally affected. The trade consequently from year to year presents the most changing appearance. The crop is relatively small and prices run up, or it is relatively large and prices run down, or—the conditions of the trade favouring all speculative combinations—an abundant supply may be coincident with high prices. The whole business is closely analagous to transactions in the stock and share market." In 1893 the out-turn of the crop was relatively deficient, and, while exports declined, prices were run up to an abnormal point. In 1894 the crop was singularly abundant, and the exports were the largest known, but prices fell materially.

THE EXPORT VALUE.

The declared export values of the last eight years averaged :—

	Rs. per Cwt.		Rs. per Cwt.
1887-88, ...	6-26	1891-92, ...	8-03
1888-89, ...	7-5	1892-93, ...	7-54
1889-90, ...	8-42	1893-94, ...	9-89
1890-91, ...	6-34	1894-95, ...	8-15

DESTINATION OF JUTE.

The destination of the jute has been as follows (cwts. 000's omitted) :—

	1891-1	1891-2	1892-3	1893-4	1894-5
United Kingdom, ..	6745	5184	6133	5469	6842
United States, ..	2716	1573	1928	854	2167
Germany, ...	1433	950	1361	1171	2380
France, ...	295	219	326	335	555
Italy, ...	306	186	288	255	263
Austria, ...	317	149	255	297	423
Spain, ...	137	63	185	125	179

MANUFACTURED JUTE EXPORTED.

The value of the exports of manufactured jute in the last ten years has been :—

1885-86, ...	R. x1,130,808	1890-91, ...	Rx.2,481,960
1886-87, ...	1,151,858	1891-92, ...	2,513,100
1887-88, ...	1,746,360	1892-93, ...	3,237,993
1888-89, ...	2,571,478	1893-94, ...	3,441,787
1889-90, ...	2,791,242	1894-95, ...	4,210,834

The exports of gunny bags and cloth have been as follows (000's omitted in both cases) :—

	Bags.	Cloth.
1885-6, ...	63,760	20,154
1886-7, ...	64,570	12,799
1887-8, ...	74,368	13,683
1888-9, ...	99,791	15,161
1889-90, ...	97,416	37,144
1890-91, ...	98,749	29,854
1891-2, ...	106,231	37,289
1892-3	123,975	40,060
1893-4, ...	131,267	60,670
1894-5, ...	143,444	103,117

The destinations of the bags have been :—

United Kingdom, ..	21,746,768	21,373,644	27,950,803
United States, ..	19,213,800	24,538,500	28,331,800
Australia, ...	23,826,306	20,097,685	27,958,900
China, ...	12,328,050	9,375,750	6,655,850
Straits, ...	15,796,764	19,943,340	15,623,065
South America, ..	8,228,950	9,638,775	12,053,650
Egypt, ...	4,958,520	6,652,450	4,495,300
Other Countries, ..	17,875,828	19,646,683	22,824,952

PROGRESSING BY GREAT STRIDES.

The trade has progressed with great strides year by year since 1889, and the large increase last year has been a great encouragement to the mills, which have done a very profitable business, worked full time, and given good dividends, with the result of a general rise in the value of the shares and extensions of spinning and weaving power, as the appended figures relating to the mills in Bengal show :—

	1891-92.	1892-93.	1893-94.	1894-95.
Number of mills, . .	25	25	26	26
Number of looms,	8,643	8,814	9,417	9,635
Number of spindles,	171,134	177,718	189,080	192,759
Number of persons employed daily,	65,001	66,013	67,931	72,182
Nominal capital (figures incomplete),	Rx.3,104,500	3,409,950	3,444,930	3,696,225

Besides these mills there are two others, one at Cawnpore and one at Vizagapatam, also employed in the maufacture of gunnies, according to the returns, but the Vizagapatam Mill uses the fibre of Indian hemp, not jute.

COMPETITION WITH DUNDEE.

The large exports of bags to the United Kingdom continues. The report would seem to indicate that the time is approaching when Dundee will find it necessary to retire from competition with Calcutta in the line of jute manufacture. There are other lines, however, in which the manufacture of that article can be carried on by Dundee without fear of effective competition from Calcutta, and perhaps those who anticipate the extinction of the manufacturing industry in Dundee as a result of Calcutta competition in the supply of gunny bags will find reason to believe that they have been rash.

Noticeable as is the increase in the export of bags, that of jute cloth is even more remarkable. In five years it has risen from less than 30,000,000 yards to over 103,000,000 yards. About four-fifths of this cloth is shipped to the United States. The distribution of this increasingly important trade last year was :—

United States, ...	80,247,694	Yards.
United Kingdom, ...	15,693,708	,,
China, ...	3,087,550	,,
Australia, ...	736,270	,,
Other countries, ...	3,351,505	,,

IMPORTS AND EXPORTS.

In another part of the Blue Book the following statements are given of the total quantities of jute imported and exported during the five years :—

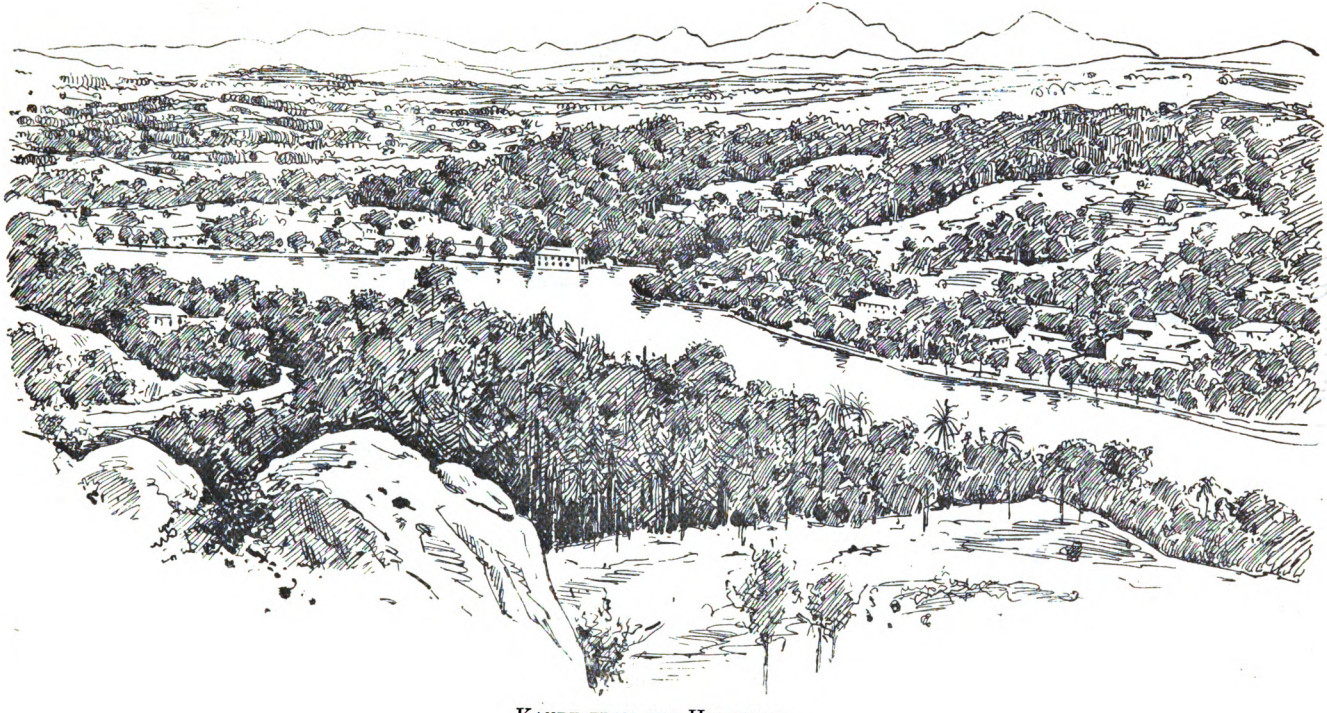
	1890-1.	1891-2.	1892-3.	1893-4.	1894-5.
			IMPORTS.		
ARTICLES—					
Jute Manufactures—					
Gunny bags, No.,	2,607,049	2,775,686	2,900,387	2,523,441	3,236,389
Do. Cloth, yards,	482,456	12,008	39,574	70,863	39,045
Canvas, yards,	—	912,896	1,114,614	1,200,205	467,445
Twist and yarn, lbs.,	—	21,966	3,962	13,341	13,754
Rope and twine, cwts.,	170	549	137	141	127
Other kinds, cwts.,	1,197	276	727	254	890
			EXPORTS.		
Gunny bags, No.,	98,749,416	106,250,612	123,974,986	131,266,827	143,444,320
Do. Cloth, yards,	29,854,029	37,289,300	40,060,110	60,670,094	103,116,727
Rope and twine, cwts.,	6,609	2,482	4,439	5,251	11,899
Other sorts, cwts.,	8,973	619	105	278	10,647

As elaborating the foregoing, the import of jute manufactures from the United Kingdom, the following tables may be given :—

Articles.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
			IMPORTS.		
Jute Manufactures of—					
Gunny bags, No.,	467	—	400	1,762	381
Do. Cloth, yards,	470,206	6,002	31,135	47,510	36,266
Canvas, yards,	*	910,275	1,112,645	1,199,629	464,799
Twist and yarn, lbs.,	*	20,846	3,962	13,341	13,374
Rope and twine, cwts.,	169	360	117	113	106
Other kinds, cwts.,	1,126	225	704	166	361

*Not separately enumerated.

Articles.	1890-1.	1891-2.	1892-3.	1893-4.	1894-5.
			EXPORTS.		
Jute, raw, cwt.,	6,745,308	5,184,268	6,133,416	5,468,740	6,842,462
Manufactures of Gunnybags, No.,	19,640,052	14,461,500	21,746,768	21,373,644	27,960,803
Do. Cloth, yds.,	2,266,750	303,300	2,885,100	10,684,950	15,693,708
Other sorts, cwts.,	9,071	25	4,519	80	6,397



KANDY FROM THE HERMITAGE.

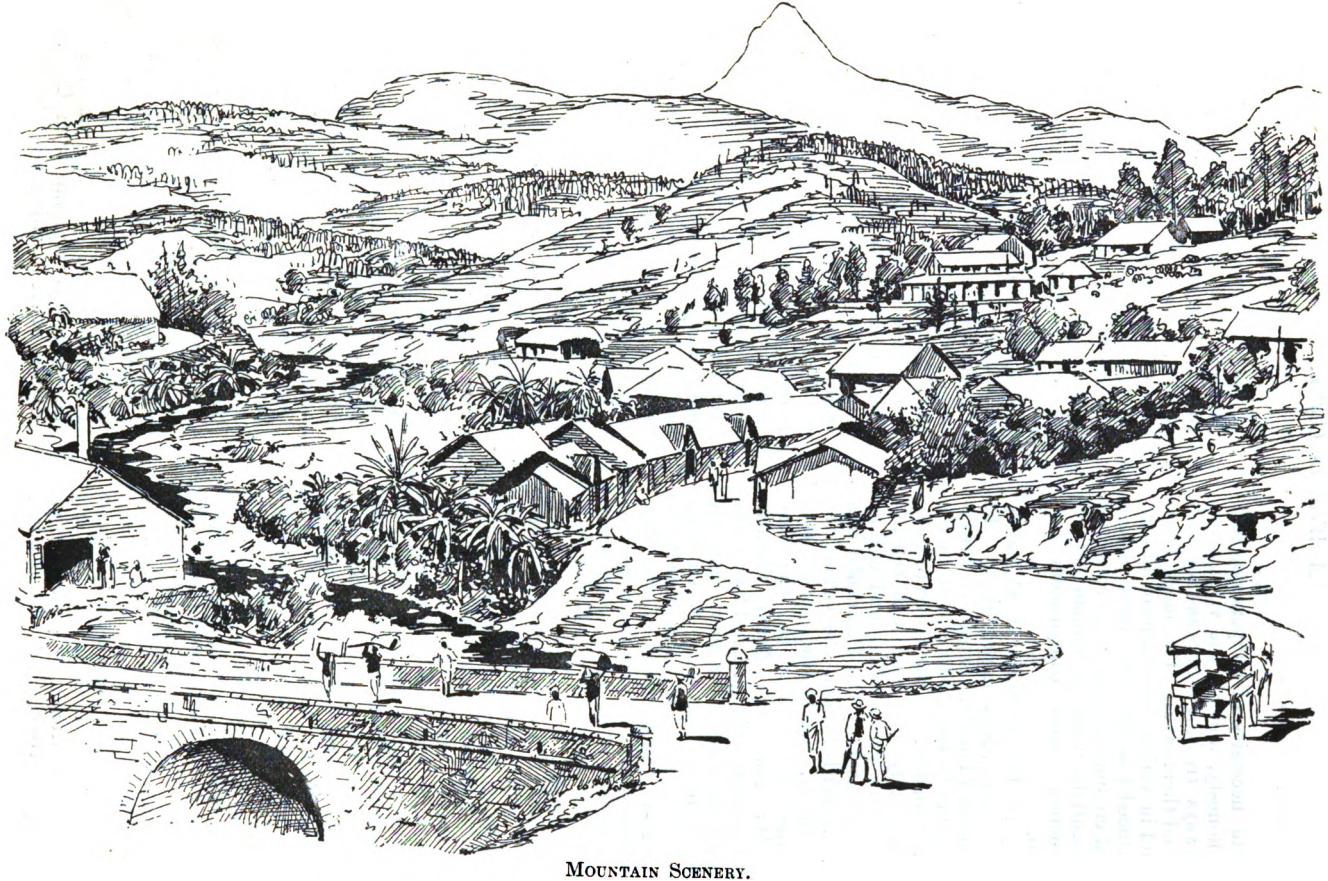
A WEEK IN CEYLON.

It is well to visit India before calling at Ceylon. In India everything is sufficiently strange to interest you: many scenes are picturesque and even beautiful, while the Himalayas are stupendously grand. But there are serious drawbacks in the continuous glare of the sunlight; and the ubiquitous dust which in the neighbourhood of every road makes travelling more or less disagreeable, and coats all the trees and foliage with a yellow powder. Until you come to the mountain ranges India also is one vast level plain. Nowhere is a hill to be seen; no undulations; not an elevation unless artificially made by the hand of man. Any variety in the landscapes is caused by the trees, by the rivers, by the fields, and by irrigation.

In Ceylon all is different. The island is a grand botanic garden. Situated within a few degrees of the Equator, it does not suffer from the burning heat of the plains of India, as its skies are frequently beclouded, and either frequent showers or heavy tropical rains cover it with an evergreen and most luxuriant vegetation. Sir Edwin Arnold truly says:—"It is impossible to exaggerate the natural beauty of Ceylon. Belted with a double girdle of golden sands and waving palm groves, the island is one vast green garden of nature, deliciously disposed into plain and highland, valley and peak, where almost everything grows known to the tropical world, under a sky glowing with an equatorial sun, yet tempered by the cool sea winds. Colombo itself, outside the actual town, is a perfect labyrinth of shady bowers and flowery streams and lakes. For miles and miles you drive about under arbours of feathery bamboos, broad-leaved bread fruit trees, talipot and areca palms, cocoanut groves, and stretches of rice fields, cinnamon, and sugar cane, amid which at night the fireflies dart in glittering clusters. The lowest hut is embosomed in palm fronds and bright crimson flowers of the hibiscus; while, wherever intelligent cultivation aids the prolific force of nature, there is enough in the profusion of nutmegs and allspice, of the india-rubbers and cinchonas, of cannas, dracænas, crotons, and other wonders of the Cingalese flora, to give an endless and delighted study to the lover of nature." This is not an overwrought description; indeed, no verbal description can adequately portray the arboreal and floral beauties of Ceylon. To all these superadd a wonderful variety of highland and mountain scenery, humanised, so to speak, by the brightening presence of the tea and coffee gardens far up on the mountain slopes, and by the rice fields and terraces in every valley. The Cingalese believe that the Garden of Eden was in Ceylon. The poet truly wrote—

> "the spicy breezes
> Blow soft o'er Ceylon's isle,
> Where every prospect pleases,
> And only man is vile,"

perhaps not more vile than elsewhere, although vile enough, as we learned when sitting for some time in a local Criminal Court. If the continued presence of the beautiful and sublime could elevate humanity, the Cingalese ought to have been the purest and noblest people on the face of the earth. If freedom from laborious toil and cankering anxiety in a land extraordinarily fertile and fruitful could develop perfection in virtue, peace, and happiness, then the people of Ceylon ought long to have been the most virtuous, peaceful, and blessed of mankind. Unfortunately, when life is easiest and most luxurious, vice, malignity, and wretchedness also superabound, and we found the Chief-Justice of the island holding a long Assize at Kandy, unravelling stories of every form of iniquity and crime. The preachers of the Gospel of Socialism, which aims at making every one share in the wealth of the world, will find themselves and their followers sadly disappointed unless they also inculcate



MOUNTAIN SCENERY.

the absolute necessity of temperance, self-restraint, honesty, and all the virtues implied in always treating others as they wish to be treated themselves. The more I see of mankind in various conditions of life the more convinced I am that the mere change of external circumstances will never rectify what is essentially wrong in human nature, or permanently secure contentment and satisfaction.

Arriving in the harbour at Colombo, which has been greatly improved by the construction of a long and expensive breakwater, and is to be further improved by the extension of another on the opposite side, one is immediately impressed with the importance of this great calling and coaling port. Here not only the Peninsular and Oriental, the British India, the Orient, the City, the Bibby, Brocklebank, and other English lines of steamers, but the Messageries - Maritimes, the North German Lloyd's, the Austro-Hungarian Lloyd's, the Japanese, and other lines now regularly call. As many as six and seven large passenger and mail steamers sometimes arrive or leave the harbour in one day. Other nations share without discrimination all the advantages of the port, which is now one of the great avenues of the Eastern and Australian traders.

Colombo itself is a very bright and cheerful town, with admirably-kept streets, roads, hotels, clubs, parks, lakes, and drives. One of the finest of these is through the Victoria Park, part of the famous Cinnamon Gardens. The Buddhist temples here as elsewhere in Ceylon are interesting, and far more accessible than the Hindoo temples in India. All the roads in and near Colombo are interesting and picturesque. In the mornings and evenings these drives are delightful, but the town itself during the day is hot and steamy, and, taking good advice, we went up to the hills the first day after our arrival, and remained there till the day before our departure. We had a week of intense enjoyment of the scenery as we travelled, and of the beautiful towns at which we briefly sojourned—Kandy, Bandarawella, Badulla, and Nuwara Eliya. The first of these is peculiarly beautiful for situation, and was further beautified by the construction of a fine lake by the last King of Kandy at the foot of the adjacent hills. There are some curious Buddhist temples, the High Priest of which requested the good offices of the writer to present a petition to Parliament respecting the revenues of the Temple lands. A very quaint scene we witnessed at Kandy, in the holding of the Assize by the Chief Justice in what was formerly the King's reception - hall, an ancient building the pillars and ceiling of which are of very curiously carved wood, and which is only enclosed from the outer air by louvre boards —the Judge, jury, counsel, witnesses, and audience practically sitting in an open-air enclosure with merely a roof over their heads. There we heard the disgusting details of the murder of a married woman by her paramour because she would not give up her husband for him. The jury having unanimously found the prisoner guilty, it was curious to hear his pleas for mercy interpreted to the Court, and the Judge's remarks in sentencing him to be hanged interpreted to him. The demeanour of the natives inside and the crowd outside when the culprit was removed was very like what is seen at home on such occasions.

While at Kandy we received—through an old friend, Mr Arthur Sinclair, who for some time was connected with Dundee—an invitation to call on Arabi Pasha, the once celebrated hero of the young Egyptian party. Arabi lives in a bungalow at a short distance from Kandy. We were first received by his son, a pleasant youth, who spoke with gratification of being the Captain of the Kandy Football Club. After a short time his father entered, and first shook hands with his neighbour, Mr Sinclair, who introduced us. Arabi said he felt honoured in being called upon by a Member of Parliament and by gentlemen from Scotland, who were always kind to him. In the course of conversation he mentioned that he had 15 grandchildren living with him, besides his own three children. He then ordered coffee, which, as if to show his comparative poverty, was served for five persons in three cups—himself and one of the visitors taking the second service. The Pasha indicated that he was well satisfied with his removal from Colombo to Kandy, where he enjoys much better health.

TRINCOMALEE STREET, KANDY.

A pleasant elderly gentleman, the fire of his youth is apparently extinguished, and he is not likely to become the head and front of any new revolutionary movement in Egypt.

About four miles from Kandy are the Royal Botanical Gardens at Peradeniya, 150 acrés in extent, on beautifully undulating ground, surrounded on three sides by the river Mahaweli. It is an ideal situation. Being 1540 feet above sea level, the climate, while hot and moist, is very equable. The temperature rarely descends below 60 degrees; the mean annual is about 77 degrees—December and January being the coolest and April and May the hottest months. Rain falls on about 150 days of the year, the annual rainfall being between 80 and 90 inches. Even in the first three months of the year, which are the driest, showers are not infrequent. It is, indeed, a climate of sunshine and showers, interspersed with tropical rains. Originally the grounds of one of the palaces of the Kings of Kandy, these gardens, under a succession of able gardeners—several of them Scotchmen—have now become perhaps the finest in the world. Not only are all the native trees and plants of Ceylon to be found here in perfection, but very fine specimens from all the tropical regions in Asia, Africa, and America. Some are exceedingly curious, others exceedingly handsome; while the colouring of the foliage and flowers is surpassingly brilliant. In the Museum there is a well arranged collection of specimens of the timbers of Ceylon. A visit to these gardens would delight some of the enthusiastic florists of Scotland, who would revel in the wealth of the finest varieties of the productions of the earth.

From Kandy to Bandarawella the railway journey of eight hours in a milder degree resembles that to Darjeeling. But the railway is the ordinary gauge, and there are no reversing loops. In many places, however, the line runs on the edge of very steep precipices, the result of falling down which would "depend on the previous lives" of those who fell. Between the summit and Bandarawella there have been several serious landslips, and a train with two engines was some time ago immured in a tunnel for a week. The scenery during the whole journey is excitingly varied in the curious mountain shapes, frequency of waterfalls, magnitude of tea gardens, and picturesqueness of bungalows. So exciting did we find the ascent that we did not regret plunging into a cloud mist near the summit, 6220 feet above the sea level, which effectually veiled the prospect till we reached

BANDARAWELLA,

which is about 1000 feet below the summit, and is said to have the finest and most equable climate in the tropics. The nights are not too cold, and we found a thin blanket very agreeable. The days are not oppressively hot, and there is frequently a very pleasant breeze. There is an excellent little hotel, in the bungalow form, better in every respect than any corresponding hotel we found in India. In the early morning we were taken by a well-travelled gentleman to see a small garden he has formed, in which he is growing successfully almost every vegetable and small fruit grown in England and Scotland. Notwithstanding the splendid Botanic Garden at Peradeniya and its four branch gardens at the Stations, too little attention has been paid to fruit and vegetable gardening in Ceylon; and Mr Jones, working on a small scale, is setting a good example to the colonists in this respect.

The drive down to Badulla, which occupied about two and a half hours, would be very trying to persons with weak nerves. To one in good health, and behind a good pair of horses, it is most exhilarating. The native driver does not believe in going slow, but rattles away downhill, round sharp curves, and frequently near the edge of a steep precipice. Here and there we pass at a moderate speed through native villages, crowded with people, and the roads often obstructed with bullock waggons, sometimes having four bullocks in a team, and carrying heavy loads under caravan-like roofs thatched with dried palm leaves. Near Badulla we came to fine avenues of trees. Badulla itself is beautifully placed at the foot of the hills, near a river running through an amphitheatre of mountains. The situation is not unlike that of Dunkeld, but on a grander scale. The mountains are all wooded, and on some slopes tea gardens climb high up towards the summits. Badulla nestles in a profusion

of foliage. It has a large and somewhat elegant hospital, Cutcherry (or Government Office), Agent's Residence, excellent Rest House, Episcopal Church, and Wesleyan Mission and Orphanage. This last we visited, and heard a young native minister, a B.A. from Calcutta University, deliver what seemed an impressive discourse in Cingalese to a congregation of about 50 evidently well cared for. The work of two of the ladies is largely educational in the thickly populated villages near Badulla. They are generally welcomed by the parents, and meet with very little opposition. In the Orphanage the girls are taught sewing, lace work, &c., in addition to the usual rudiments. The Rev. Mr Bray, who is at the head of the Mission, is well equipped for

Group of Native Women and Girls.

natives, the majority of whom were young women, a few mothers with their children also being present. They sang a Cingalese version of John Wesley's hymns very sweetly. We accompanied one of three young English ladies, who are mission workers, to the Orphanage, and saw the children, who appeared to be happy, and are his work, which extends over a large district. A visit to a Tea Factory, where we saw the various processes of sorting, drying, and winnowing the leaves, which are all done by machinery, was of much interest. Women and children find suitable employment in the several departments. These Tea Factories are rising up in every district, the

planters arranging to sell the green leaf to the factory, which prepares the tea for the market.

Early on a pleasant morning we started back to Bandarawella in the mail coach, which is really a lightly made waggonette, and which is driven up hill almost as fast as down hill with three horses. From Bandarawella we had another exciting railway journey to Nanu-oya—exciting in so far as every turn and bend of the line reveals some new aspect of mountains, ravines, rivers, waterfalls, forests, and tea, coffee, and cinchona gardens, seen from perilous heights; the line skirting precipices, to fall over which would be inevitably fatal. This mountain railway presents kaleidoscopic panoramas of all varieties of mountain scenery—except that there are no snow-clad peaks or ranges. Apart from these, it combines in one day's journey probably the most wonderful diversity of landscapes to be found in the world.

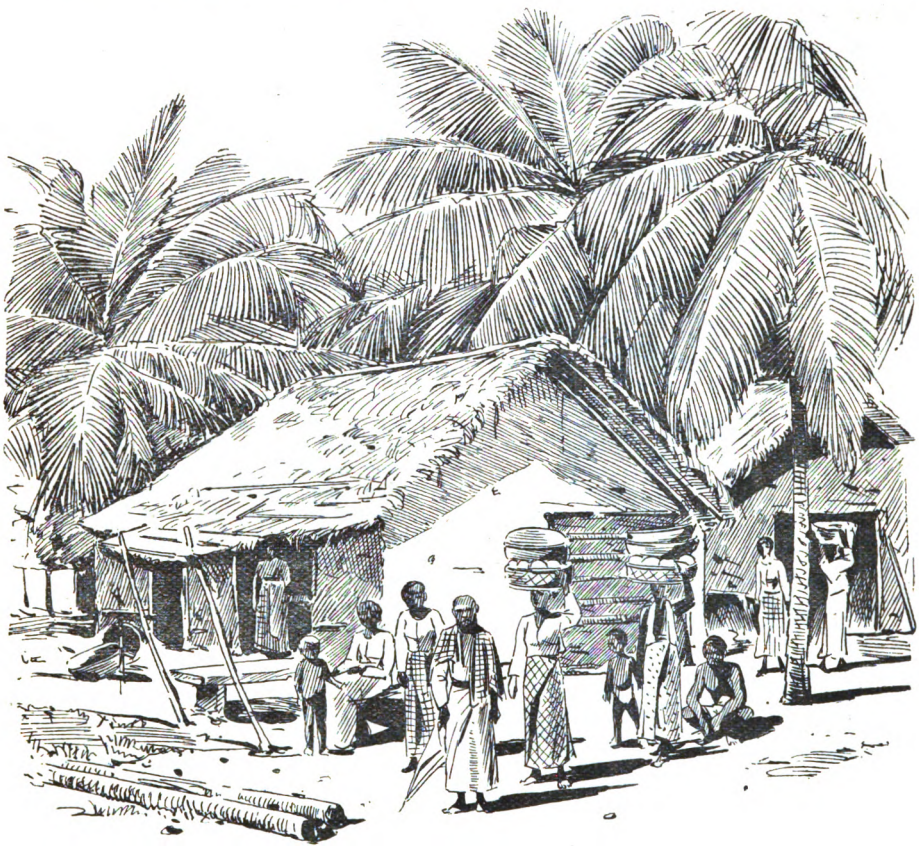
At Nanu-oya we leave the railway, and drive by a winding road, between four and five miles, up to Nuwara Eliya—pronounced Nuralia—which is not only the Sanitorium of Ceylon, but is now being resorted to by many Europeans from India. Both in situation and temperature it is not unlike Braemar. At Colombo, Kandy, and Badulla we were generally in a stream of perspiration. At Nuwara Eliya a fire is grateful in the mornings and evenings, and at some seasons all day long. Unless by experience, one could scarcely credit that such a climate is possible within six degrees of the Equator. But it is 6200 feet—just 1000 feet more than a mile—above the sea level. Frost, cold mists, and keen, sharp weather are luxuries here which can be enjoyed within nine hours of leaving Colombo, where the average temperature is about 80 degrees. This and similar places on the mountains, like Bandarawella, enable European women and children to live healthily in Ceylon who cannot live in India. There are some excellent schools at Nuwara Eliya, and we went up the line with a lot of boys returning from their Christmas holidays, who were as bright, lively, and noisy as any equal number of boys at home. All kinds of home games are rife, and there is a capital racecourse. Most of the planters keep very good horses, and there are frequent races at a number of large centres. We saw about 30 very likely quadrupeds exercising for the races to be held about a fortnight later. Among the attractions of Newara Eliya are its proximity to the Hakgalla Government Gardens, to Pidurutallagalla (the highest mountain in Ceylon—8295 feet, but only about 2000 feet above the hotel), and to the Moon and Elk Plains. When we left, after an early breakfast, it seemed just as if we were starting by the early coach from Braemar to Ballater. The possession of such a place with such a climate must be an immense advantage to all the Europeans in Ceylon. Many of them are stout, strong, and robust, bearing none of the usual signs of long residence in the tropics. Although Colombo itself is hot, its proximity to the sea is a great benefit. There is a delightful drive by the seaside known as Galle Face, at the end of which a large and handsome hotel is about to be erected. Seven miles away, and accessible either by an interesting road or by a railway which skirts the seashore, is Mount Lavinia, a delightful retreat standing on a cliff below which the swell of the Indian Ocean beats in long rolling waves on golden sands. The hotel here was built by a former Governor of the island for his own residence. Now all the amenities of its charming situation are open to every visitor. The passengers by the mail boats calling at Colombo generally run up to Mount Lavinia, while some remain a few days to visit Kandy or Nuwara Eliya.

I am indebted to the Hon. Lionel F. Lee, member of the Legislative Council of Ceylon—a very agreeable fellow-passenger to England—for the following interesting notes on the failure of Coffee, the growth of Cinchona, and the present prosperity of the Tea Plantations in the island :—

The zenith of its prosperity as a coffee-producing country was reached by Ceylon in the years from 1874 to 1876, when the total exports reached the maximum of 1,676,762 cwts. Already, however, in 1869 the signs had been seen of the disease which was to prove so speedily fatal to the very existence of the coffee tree, and words of warning had come from high authority. Spreading from the remote region in which it was first discovered, the disease quickly over-ran the country. Field after field, estate after

estate, district after district, came under its destructive influence, and coffee cultivation was gradually abandoned until the production fell to 531,028 cwts. in 1884-1886, and to 85,871 cwts. in 1892-1894.

Meanwhile the planters had not been idle, but with remarkable courage had applied themselves to other fields of labour, with almost miraculous results. Experimental efforts at the cultivation of the quinine tree, cinchona, had proved successful, and in all directions cinchona trees were being planted. For some years the result was sufficient to stay the ruin which was impending; but the rapid fall in the price of quinine, which was the consequence of over-production, soon showed that although cinchona might be a good crutch it could never be anything more. The production fell from 14,675,000 lbs. in 1886, with quinine at 2s 8d a lb., to 2,497,616 lbs. in 1894, with quinine at 1s 3d. But breathing time had been given, and while cinchona was proving itself not a lasting friend, the tea bush was rapidly spreading, and taking the place of coffee.



A Native Hut.

In 1877-78 the export of tea was only 3515 lbs., with a planted acreage of 4700 acres. In 1884-85 the export reached 3,796,684 lbs., and the acreage 102,000. In

GIRL PICKING COFFEE BERRIES.

1894 84,591,714 lbs. of tea were sent away from 288,000 acres, and in 1896 it is estimated that the production will be nearly 100 millions of lbs. from an acreage of 305,000 acres. Meanwhile the price of tea property has continued to rise; Companies have been formed of which the prosperity is assured. Tea estates in the higher districts have sold at from £90 to £105 sterling the acre, and shares in Companies are at an increasing premium.

Although it must be admitted that it is to the tea industry that Ceylon owes most of its present prosperity, other products are not lost sight of. Cocoanut cultivation is receiving increasing attention from European capitalists. The export of desiccated cocoanuts, largely used in confectionery in Europe and America, has risen from 1,416,330 lbs. in 1891 to 5,722,202 lbs. in 1894, while the exports of fibre and oil continue to increase. In cocoa and Liberian coffee there has also been considerable industry, while in the east of the island the manufacture of cutch has been successfully introduced.

The Customs returns of the last year give flattering evidence of general prosperity. The duty on grain shows an increase of 14 per cent., attributable to the larger consumption of rice by the indigenous population owing to their growing wealth, as well as to the larger immigrant population employed in tea cultivation. In cotton manufactures the increased consumption, showing an increase in duty recovered of 12 per cent., is strong evidence of the well-doing of the native population, to whom the tea industry affords constant employment, which coffee did not give. The increased duty recovered from kerosene oil points as well to larger consumption as to the higher rate of duty. The increase in harbour dues of 10 per cent. indicates the growing popularity of the port of Colombo as a port of transhipment of goods arriving from India, China, the Australian colonies, and Europe. The greater facilities which will be afforded by the larger protected area when the northern breakwater is completed will encourage the use of the port of Colombo as a place for the convenient interchange between steamers of their cargoes, and as a safe resort for coaling. Ceylon has undoubtedly the promise of a bright future before it, but that promise can only be fulfilled by a generous application of its revenues to the improvement of its means of communication and the extension of its railways. A niggardly policy will arrest its progress as surely as wise generosity will promote it.